A basic tenet of clinical medicine is that continuity of patient care is valuable and should be encouraged and taught.\textsuperscript{1,2} Absence of continuity of patient care in training programs has been cited as an emerging problem due to limitations of work hours for residency programs.\textsuperscript{3}

Multiple studies point to the benefits of continuity of care, including improved delivery of preventive services, decreased emergency room use, fewer emergent hospital admissions and shorter hospital stays, and better management of chronic diseases.\textsuperscript{4-8} Continuity of care also increases patient satisfaction.\textsuperscript{9,10} These findings may in part be due to management of illness in a context of trust and respect between physician and patient.\textsuperscript{11,12}

Teaching students about longitudinal care, the complexity of chronic disease, and the importance of continuity can be challenging. Traditional clerkships are short, 4 to 6 weeks in duration, and therefore may not provide an environment in which students can experience meaningful continuity. Benefits of early preclinical experiences with longitudinal patients include appreciation of the interplay between social environment, family, and a patient’s health and understanding the complexity of chronic disease management.\textsuperscript{13} Proponents of a longitudinal curriculum have also upheld the value of learning the natural history of a disease from a patient firsthand and forming a relationship with a patient rather than focusing learning on a complaint or disease.\textsuperscript{14} Many programs have implemented longitudinal preceptorships with a goal of teaching about continuity of care, but logistical challenges may prevent implementation for some medical schools.\textsuperscript{1,2}

Limited reports have described what students learn about continuity of care in longitudinal preceptorships that attempt to teach about continuity of care. Hadac et al analyzed student essays to ascertain the benefits of exposure to continuity of care in longitudinal preceptorships.\textsuperscript{15} In these essays, students identified important components of continuity of care, including the influence of family dynamics on medical management, integration of physical and psychosocial care, the importance of the physician-patient relationship, experience with preventive medicine, and the benefits of home visits. Others have surveyed students about skills and knowledge they acquired in longitudinal rotations.\textsuperscript{14,16}

---

From the School of Medicine (Ms Goodell and Ms James), Department of Pediatrics (Dr Smith), and Department of Family Medicine (Dr Maestas), University of Washington.

---

**First-year Medical Students’ Perspectives on Continuity of Care**

Laura Goodell; Sherilyn Smith, MD; Ramoncita R. Maestas, MD; Joan James

Background and Objectives: The objective of this research was to obtain and describe medical students’ perspectives about continuity of care while they are participating in a preclinical practice-based preceptorship. Methods: Within the context of a preclinical preceptorship, students completed directed readings, conducted patient and physician interviews, and wrote reflections about continuity of care. Two coders independently analyzed a randomly selected subset of de-identified reflections (78 of 170) to describe predominant themes. Results: During preceptorship, students interacted with patients affected by wide-ranging diseases, from diabetes to multiple sclerosis, within primary care and specialty clinical settings located in geographically diverse regions. Drawing on personal experience and interviews with patients and physicians, students reported benefits of continuity of care for patients and physicians concordant with claims from the literature, including improved medical management, better interpersonal communication, increased patient compliance, and higher levels of trust. Students also offered perspectives regarding challenges of and impediments to providing continuity of care, including managed care and work hour constraints, lack of comprehensive coordinated services, and specialty-driven care. Conclusions: Preclinical medical students are able to identify both benefits and barriers to continuity of care. These topics can provide a foundation for a future curriculum and may need to be explicitly addressed as students choose careers in medicine.

(Fam Med 2009;41(3):175-81.)
At the University of Washington, preclinical medical students participate in an 8–12 week preceptorship during their first year. One purpose of this experience is to provide early exposure to patients and engage students in a dialogue about the utility of continuity of care. This is achieved through a curriculum of directed reading, required patient and physician interviews, and written reflections about the continuity experience. The study reported here was a qualitative investigation at our medical school that examined themes that medical students identified about continuity of care in their written reflections.

**Methods**

**Participants**

Study participants were 170 first-year medical students from the University of Washington in the entering class of 2003, including students from the regional Washington-Wyoming-Alaska-Montana-Idaho (WWAMI) program who completed their first year of medical school in their respective state’s training institutions. Students in the WWAMI program participate in standardized medical training during their first year, sponsored by the University of Washington at various locations, including Seattle; Pullman, Wash; Cheyenne, Wyo; Anchorage, Alaska; Bozeman, Mont; and Moscow, Idaho. These locations are diverse, ranging from metropolitan to rural. The Institutional Review Board at the University of Washington approved this study’s methods.

**Curriculum Description**

During the 2003–2004 academic year, all first-year University of Washington medical students, including WWAMI students, were required to complete a structured patient-centered experience; the goal was for students to explore the importance of continuity from patients’ and physicians’ points of view. All students were asked to (1) develop a longitudinal relationship with a family/patient/child and explore the concept of continuity of care over time, (2) interview a patient with a chronic illness, (3) interview a faculty preceptor about continuity of care, (4) read selected literature about continuity of care, and (5) prepare and submit written reflections about these activities.

Students were instructed to ask patients and preceptors about both the positive and negative aspects of continuity of care, including what continuity of care was, why it was important, and what barriers exist to providing/receiving continuity of care (Table 1). Students submitted required written reflections focused on (1) the patient interview, (2) physician interview, (3) the longitudinal patient experience, and (4) personal experiences with continuity of care. The course instructor reviewed all reflections, but no grade was assigned. The written reflections submitted by each student comprised the student essay sets that were analyzed for this study.

**Analyses**

We collected 170 student essay sets and removed student and patient information from them. Copies of the essays were then made available to the study team of four researchers. The team consisted of two medical students who participated in the continuity of care curriculum and two faculty not directly involved in teaching. One faculty member helped develop the materials for the continuity curriculum in collaboration with the first-year Introduction to Clinical Medicine course chair.

We performed thematic analyses of student essay sets through an iterative coding process. We developed an initial coding sheet based on a review of relevant literature, individual review, and subsequent group

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Longitudinal patient relationship</td>
<td>Interact with a patient over time within the context of the preceptorship; four-meeting minimum was suggested.</td>
</tr>
<tr>
<td>Patient interview</td>
<td>Interview a patient with a chronic illness about continuity of care.</td>
</tr>
<tr>
<td>Physician interview</td>
<td>Interview faculty preceptor about continuity of care.</td>
</tr>
</tbody>
</table>
Students' Experiences

Students were paired with primary care providers, including family physicians (47.7%), internal medicine physicians (6.4%), or pediatricians (10.2%). The remainder of students completed preceptorships with specialists, including hospitalists, psychiatrists, obstetricians, surgical specialists, and medical subspecialists.

Most student essays addressed all four elements of the continuity curriculum. Students reflected on the patient perspective of continuity in 95% of essays and discussed the physician perspective in 81% of essays. The majority of students (77%) discussed their participation in a procedure or surgery, long-term relationship, or a conversation revealing an important diagnosis. A minority discussed their personal experience with continuity of care (27%).

Students wrote about a wide variety of patients encountered in their preceptorships. Many students followed a woman during pregnancy, participated in the delivery, and were involved in postpartum care. Others followed patients with common medical conditions such as diabetes, hypertension, chronic obstructive pulmonary disease, and congestive heart failure. This variability was paralleled in patients interviewed with chronic illnesses ranging from back pain and depression to human immunodeficiency virus infection, multiple sclerosis, infantile spasms, cystic fibrosis, and 13q-syndrome and lymphoma.

Results

Students Reflections About Continuity of Care

Most themes in the student essays mirrored those found in the literature. Students reported that patients value continuity because of (1) their physicians’ familiarity with the patient’s medical story (64% of essays), (2) improved trust between patient and physician (61% of essays), and (3) improved communication between patient and physician (51% of essays). Examples of quotes related to these themes are shown in Table 2. In addition, patients mentioned the unique role that their continuity physician fulfilled as patient advocate and care coordinator, as in the following quote from a reflection:

Ms M’s doctor communicates with all of her various doctors, handles all referrals, gets all test results, and coordinates all procedures...and has a complete picture of her health care needs.

The importance of relationships between patient and physician was also commonly reported:

JT adamantly thanked her physician for helping in the birth of her boy, but she seemed to also be thanking her physician for being a friend through the experience. By her physician’s reaction, I believe the feeling was reciprocal.

In discussions with their preceptors, students also described the benefits of continuity of care. Themes identified included (1) improved medical management (76% of essays), (2) physician understanding the illness in the context of the patient’s personal life (62% of patients), and (3) improved communication between the patient and physician (51% of essays). Examples are shown in Table 2.

Other themes identified from discussions with preceptors include decreased costs, more efficient care, and the benefit of seeing patients’ lives grow and change. Meaningful relationships and improved job satisfaction were noted as benefits of continuity of care by physicians (16.5% and 12.8%, respectively). There was no difference in themes between students who did preceptorships with primary care physicians and with specialty preceptors.

When asked to reflect on their own views of continuity of care, students appeared to integrate both physician and patient views within their own experiences. Few students (26.9%) described any prior personal experience with continuity of care. Additionally, continuity was mentioned as important for future career plans by 34.5% of students. While most students recognized the value of continuity of care, citing improved medical management (82% of essays), improved communication between patient and physician (80% of essays), and improved trust between patient and physician (72% of essays), these observations did not translate into explicit
career focus. A few students did comment on how continuity might influence them in the future.

Overall, I found that Dr W offered valuable insights into the value of continuity, as well as its perils. Because I want to promote my patients’ total health, I am certain continuity (or its absence) will play a critical role in my success as a healer.

Another student said:

Perhaps developing these types of relationships as I progress through my medical education will offer me insight as to what field or specialty in medicine ultimately to pursue.

In addition to describing the benefits of continuity of care, nearly three quarters of students (72%) reported challenges or difficulties in providing continuity of care. One third of students reported that health maintenance organizations (HMOs) or medical insurance policies hindered continuity, as in the following quotes:

Physicians retiring, relocating, or changing of their insurance company acceptance policies...this frustrates her [patient], and it is by her experience of this relative absence of continuity that she recognizes its importance.

Another student said:

...one of my own observations...is that continuity of care is being jeopardized by various insurance companies, Medicaid, and medical coupons....It seems like countless patients have come...complaining that they no longer qualify for certain insurance and will be unable to continue with their current provider.

A fifth of students (20.5%) commented on the difficulty of providing continuity because of time pressures and work-hour constraints. Lack of continuity with specialty care and poor comprehensive care was also cited, as in the following quote:

A roadblock in continuity of patient care is deficiencies in communication between doctors...referring patients to specialists and feeling as if he [the primary care provider] had sent them off into a black

---

Figure 1
Coding Scheme

<table>
<thead>
<tr>
<th>Essay Number</th>
<th>Coder Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coding Instructions: Coders will read through the entire essay once, then respond to the following questions. Content questions may be answered in any of the four components of the assignment (personal, longitudinal, chronic, physician). Note: CC = Continuity of Care, Y= Yes, I = Implied, N=No, NC=Not Clear</td>
<td></td>
</tr>
</tbody>
</table>

**CONTEXT**
Note: The "patient" in the following questions could refer to any discussed in the student's essay. If these experiences happened at any point with the patients in the reflection, circle “Yes”; if the experience was implied, please circle “I”.

1. Did the student report observing an interaction between the physician and patient?
   - Yes
   - No
   - Not Clear

2. Did the student report interviewing a patient?
   - Yes
   - No
   - Not Clear

3. Did the student participate in a medical experience defined as a) procedure or surgery, b) relationship, c) diagnosis & lab, d) other?
   - Yes
   - No
   - Not Clear

4. Did the student mention any prior personal experience (self or family) with CC?
   - Yes
   - No
   - Not Clear

5. Did the student make any comments, specific to continuity of care, about his/her own future professional role?
   - Yes
   - No
   - Not Clear

**CONTINUITY OF CARE REFLECTIONS**

7. Student noted benefits of continuity of care: (If Yes, circle all that apply. If possible write in words used):
   - Improved interpersonal communication
   - Promotes trust
   - Improved medical management
   - Improved patient compliance
   - Other:

8. Student ascribed value (marked as important or valuable) to any of the benefits above?
   - Yes
   - No
   - Not Clear

9. Student noted any challenges within continuity of care.
   - Examples may include a) added burden of responsibility, b) requires extra time, c) difficult to maintain professional boundaries, d) no primary care provider or lack of comprehensive care, e) unable to receive care.
   - (NOTE: Could be reported from patient perspective, physician/preceptor perspective, or student’s own observations):
     - Yes
     - No
     - Not Clear

**PATIENT CHARACTERISTICS:**

10. Longitudinal patient’s illness/diagnosis:
    - Diagnosis
    - No Interview

11. Chronic Illness patient’s illness/diagnosis:

(continued on next page)
hole. He had so many doctors that he couldn’t remember all of their names and that he did not identify one person as ‘his doctor.’

Some students described how personality conflicts and difficulty in maintaining professional boundaries can make continuity of care challenging. Other topics included the challenges of providing ongoing care for patients with chronic illness or drug-seeking behavior.

The depth of student reflection about the issues of continuity of care varied depending on the topic discussed. Essays discussing the patient and physician perspectives about continuity of care were more often rated in the comprehensive or excellent category (Table 3). In these essays students demonstrated understanding of the principles of continuity of care and made comments about its value. This was in contrast to essays related to their personal experience with continuity of care, where most essays (78%) were descriptive only. There was no difference in the depth of student reflection by preceptor specialty, physician noting benefit of continuity of care, or participation in a medically significant event.

Discussion

This qualitative study that analyzed themes emanating from first-year student reflections on continuity of care demonstrates that first-year medical students are able to identify important themes about continuity of care after participating in a structured experience during a preclinical preceptorship in a variety of practice settings. Drawing from students’ personal experiences and interactions with patients and physicians during preceptorships, a majority of students reported benefits concordant with claims from the literature: improved medical management, interpersonal communication, patient compliance, and trust. Students often described that continuity is the foundation of important relationships that lend themselves to improved quality of care, patient satisfaction, and a sense of fulfillment on the part of physicians.

Our curriculum was multi-faceted in an attempt to engage the students depending on their level of experience. While most students completed the assignment, it is unclear which component of curriculum was the most effective. From the analysis of the student essays, talking to patients and physicians about the topic of continuity of care was fruitful and resulted in more comprehensive writing. The requirement for multiple contacts with a patient in a preceptorship was logistically challenging for students and may have resulted in decreased satisfaction with this experience. There was no difference in the quality of reflection in those essays, identifying the benefits, value, or obstacles to continuity of care between students who did and did not have multiple visits with a patient. Thus, it would seem reasonable to focus on facilitating student-patient and student-preceptor discussion about continuity as a primary educational strategy.

In the past, a desire to provide continuity of care was an important element of career decision making. In our study, however, continuity was mentioned as important...
for future career plans by only 34.5% of students. This finding may represent a lack of personal previous experience with continuity of care and the developmental stage of the students. As first-year students, they may be less likely to fully envision the details of their career pathway, including how important providing continuity of care might be. Development of curricula to showcase positive aspects of continuity of care may help them understand the significance of continuity when making career decisions, provide an alternative to experiences they may see in their later clinical training, and help academic communities foster continuity of care as a

Table 2

Quotations Exemplifying Dominant Themes About Continuity of Care From Student Reflections

<table>
<thead>
<tr>
<th><strong>Physician’s familiarity with patient’s medical story</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>“Continuity of care allowed RB to receive...care from someone who knew her and her situation, who remembered what was going on in her life, as well as seeing someone who remembered what had happened at the previous visit.”</td>
</tr>
<tr>
<td>“Ms J felt Dr H’s understanding of her perspective and personal situation was very important in her care.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Improved trust between patient and physician</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>“KJ said she...would be hesitant to return to a physician’s office because she felt too old to try to build the level of trust she had with her current physician...Talking about her feelings and ailments with someone else would feel too awkward, which would cause her to be very restricted in what she would disclose to the [new] physician.”</td>
</tr>
<tr>
<td>“Having seen many of her teenage patients since they were much younger children, allows her to better connect with them as adolescents...open up more easily because there is already a sense of trust and confidence that has been built from previous years.”</td>
</tr>
<tr>
<td>“Ms S seemed unafraid or ashamed to bring up very personal and difficult issues...a comfort level that only continuity affords.”</td>
</tr>
<tr>
<td>“It is important that patients have a doctor they feel they know and can trust...it makes the situation better for both patient and provider; the patient will receive better care and the provider will spend less time trying to figure out what patients are trying to tell them.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Improved communication between patient and physician</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>“Perhaps it was the rapport she had with Dr B...he gave her the opportunity to express her hopelessness, fear, and sadness...Dr B went on to say that he’d seen her handle bad situations before and that it worried him to see her this down...it wasn’t like her, in his opinion.”</td>
</tr>
<tr>
<td>“My preceptor has seen his patients for years...he knows everything about them...he pays attention to details about how they are walking, talking, sitting, and functioning.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Improved medical management</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>“With continuity one does not need to accomplish everything in a single visit...doctors can set an agenda, allowing for long-term planning in a patient’s care.”</td>
</tr>
<tr>
<td>“Multiple visits allow a physician to break down different problems and address them one at a time, from most serious to least.”</td>
</tr>
<tr>
<td>“Because of these experiences...I was able to relate the importance of simply knowing your patients—their background, their family life, their passions, their personalities. It makes all the difference in successfully treating a whole person, not just a diagnosis.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Physician understands illness in context of the patient’s personal life</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>“For example, a patient suffering from RA may be hesitant to communicate an increase in pain...by knowing a patient enjoys bowling—an excellent way to measure how much pain one is experiencing—one can ask how their bowling game is going...absence of activity or reduction often suggests an increased amount of pain. This requires an intimate knowledge of the patient that can best be developed over a long patient-physician relationship.”</td>
</tr>
</tbody>
</table>

Table 3

Depth of Reflection of Student Essay Sets*

<table>
<thead>
<tr>
<th></th>
<th>Descriptive‡</th>
<th>Comprehensive‡</th>
<th>Excellent‡</th>
<th>Not Applicable§</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Experience with Continuity</td>
<td>78</td>
<td>5</td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>Longitudinal Experience</td>
<td>6</td>
<td>26</td>
<td>55</td>
<td>13</td>
</tr>
<tr>
<td>Interview with a patient who has a chronic illness</td>
<td>6</td>
<td>38</td>
<td>45</td>
<td>10</td>
</tr>
<tr>
<td>Preceptor interview</td>
<td>5</td>
<td>25</td>
<td>51</td>
<td>19</td>
</tr>
</tbody>
</table>

* Percentage of essays rated in the categories
‡ Descriptive: The student is reporting events, experiences, or an interview response without any application or assessment of the findings.
Comprehensive: Student understands the principles of continuity care and may make statements attributing value of continuity care.
Excellent: Student demonstrates exceptional understanding of continuity care to a situation outside the context of the PCP clinic, reference of continuity care to future professional practice, or modeling.
§ Element of assignment not done or not rated
core value to encourage students to consider primary care careers.

Students also described the difficulties in providing continuity of care in the current national health care system. One third of the essays described the difficulties that insurance policies and managed care pose for continuity. Work-hour constraints, lack of comprehensive coordinated services, and specialty-driven care were also cited as challenges. Specific comments about barriers to continuity of care encountered during student learning experiences have not been reported. These findings complement and add new perspectives to existing studies that documented students’ views of the effects of different health care systems on continuity of care. The specific examples arising from students’ personal experiences may ultimately influence their views of the ability of physicians to provide continuity of care. In the student essays there were few examples of how to address the barriers they saw during their preceptorships. Structuring specific discussions around the challenges of providing continuity of care and providing examples of methods for providing quality care may foster continued interest in primary care careers.

Limitations

Our study has several limitations. As with any qualitative study, the interpretation of student reflections was subjective. We addressed this by having two coders independently review all essays, assessed inter-rater reliability, and held discussions between raters to achieve consensus.

A second limitation is that our conclusions about student learning regarding continuity of care were based on students’ written reflections rather than on a formal course evaluation. The fact that the same essays are being used to assess student learning within a course and as a data source for a study of attitudes regarding continuity of care raises the concern that students wrote what they thought course instructors wanted to read, rather than what they actually learned. The required readings may have also influenced the nature and depth of their reflections. Regardless, we conclude that the students understood the assignment and directed their reflections appropriately based on the content of the essays. Understanding fundamental themes regarding treatment of patients in the context of continuity is the first step in acquiring these attitudes. Finally, the findings may reflect the specific curriculum instituted or the teaching approach used in our school, thus limiting the transferability to other settings.

Conclusions

A majority of students successfully identified benefits of continuity described in the literature. The challenges to continuity of care, as revealed in student reflections, offer additional meaningful new insights from students’ perspective. This work provides a foundation to assess students’ understanding of the importance and barriers of continuity of care. It also provides a framework to teach about health care systems designed to enhance continuity of care.

Acknowledgments: Many thanks to those involved in the development of the continuity curriculum, the students, patients, and preceptors at the University of Washington School of Medicine, and to Kelly Fryer-Edwards and Marjorie Wenchir for their support of the project and thoughtful review of this manuscript.

Corresponding Author: Address correspondence to Dr Smith, University of Washington, Department of Pediatrics, Box 356320, Seattle, WA 98006. 206-616-8501. Fax: 206-543-3184. ssmit1@u.washington.edu.

REFERENCES