The specialty of family medicine is undergoing a process of transformation and renewal. As part of this process, the content and length of family medicine training programs are being reevaluated. The recent Future of Family Medicine report advocates “active experimentation in family medicine education” and urges the relative merits of 3-year versus 4-year training programs be evaluated. Recently, a combination of factors has created more interest in extended training, including the advent of work-hour limitations, the increasing complexity of inpatient and outpatient medicine, increased volume of medical knowledge, and the growing need for training in practice management, information management, quality improvement methods, and research methodology. Further, current residents are expressing concerns about the ability of the existing residency model to provide the training they need to practice the full scope of family medicine. Opposition exists, however, to changing residency to a 4-year model. A 2000 study by Duane et al found that only 24.5% of residency program directors and 22.6% of family medicine residents thought a 4-year training program was optimal.

Program directors have raised concerns about the effect of longer training on their ability to recruit medical students both into the specialty in general and...
into their programs in particular. Fifty-one percent of program directors in the earlier Duane study thought they would lose at least half of their residents if training was extended. However, the later Duane study found that 63.2% of current residents reported that they would still have chosen family medicine as a specialty if the residency was extended to 4 years. This finding is consistent with previous work examining medical student choice of specialty, which has found that length of training is only one of many factors influencing specialty choice.

Before family medicine begins to actively experiment with 4-year training programs, we need to examine how such a change will affect recruitment of medical students into the specialty. This background work is particularly important in light of the declining number of US medical students entering family medicine residencies. To address this question, we conducted a cross-sectional, descriptive, self-administered survey of residency interviewees at the three Oregon family medicine residency programs to determine (1) the acceptability of a 4-year residency program and (2) the specific features of such programs that would be most desirable to applicants.

Methods
The Institutional Review Board of the Oregon Health and Science University approved the procedures used in this research.

Subjects
All residency applicant interviewees during the 2004–2005 interview season at Oregon’s three family medicine residency training programs were eligible to participate in the study. The three sites consist of an urban academic training program (Oregon Health and Science University [OHSU] Family Medicine Residency), a suburban community-based program (Providence Milwaukie Family Medicine Residency), and a rural residency (OHSU Cascades East Residency Program in Klamath Falls). Interviewees interviewing at more than one participating program were asked not to complete duplicate surveys.

Survey Procedures
The survey was administered at the first informational session of the interview day at the urban and rural site and at the end of the interview day at the suburban site. The survey was accompanied by an informational sheet that contained the reason for the study, assurances of voluntary participation and confidentiality of responses, and contact information for questions. Surveys contained no link to the subject, thus maintaining anonymity of responses.

Survey Instrument
The four-page survey included questions concerning the respondent’s age, gender, level of educational indebtedness, and planned practice location. Respondents were asked about the factors influencing their specialty choice, their likeliness to choose family medicine as a specialty if the training period were 4 years, and whether certain types of additional training would increase their likeliness to choose a 4-year family medicine training program. Multiple choice, open-ended, and Likert scale-type questions were used.

Data Analysis
Data were single entered into an Excel database, checked for accuracy, and analyzed with the Statistical Program for the Social Sciences (SPSS 13.0) using frequencies and chi-square analyses.

Results
The three programs conducted 207 interviews of 174 interviewees during the 2004–2005 interview season. The applicants to these programs were from more than 50 medical schools and represented more than 35 states and eight foreign countries. A total of 155 non-duplicative surveys were returned, for an overall response rate of 89.1%. Sixty-nine respondents were from the urban academic program, 24 from the suburban community-based program, and 62 from the rural program. Table 1 describes the demographic characteristics of the respondents.

Reasons for Specialty Choice
The respondents were given a variety of reasons for choosing a specialty and asked which were important in their decision to enter family medicine. Their responses are shown in Table 2. The respondents were also allowed to write in other reasons for choosing family medicine as a specialty. The most-common written reasons cited were “ability to work with underserved populations” or “provide population-based health

Table 1
Respondent Demographics

<table>
<thead>
<tr>
<th></th>
<th>All Respondents (n=155)</th>
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<tbody>
<tr>
<td>Female (#, %)</td>
<td>90 (58.1%)</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>25–29</td>
</tr>
<tr>
<td>$100,000+ educational debt (#, %)</td>
<td>87 (56.1%)</td>
</tr>
<tr>
<td>Plan rural practice (#, %)</td>
<td>65 (41.9%)</td>
</tr>
<tr>
<td>Plan private practice (#, %)</td>
<td>86 (55.5%)</td>
</tr>
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</table>
care” (six responses), “continuity of care” or “quality of patient relationships” (four responses), and “the comprehensive approach” or “the integrative, holistic approach of the field” (four responses).

Attitudes Toward 4-year Residencies

Responses to the two questions regarding the likelihood of choosing family medicine as a specialty with a 4-year training program are shown in Figures 1 and 2. Respondents were also asked what type of family medicine residency training program would be their first choice. Eleven (7.2%) respondents indicated a 4-year residency regardless of content, 119 (77.8%) indicated a 4-year program with specific additional training they desired, and 23 (15.0%) indicated that a three-year program regardless of content would be their first choice.

Desirability of Additional Training Content

Responses to the question about how particular additional training content of a lengthened residency would affect their decision to apply to a 4-year family medicine residency are shown in Table 3, which indicates the percentage of respondents stating that they would be “very likely” to choose a 4-year family medicine residency with particular extended training opportunities. Interviewees in the 25–29 year age group were significantly more likely to choose a residency with prolonged current types of training than older interviewees (28.0% versus 4.8%, \( P = .002 \)). The respondents were allowed to write in other desired training modalities. The most common written responses were “alternative/integrative medicine training” (five responses) and “policy/political activism training” (four responses).

Discussion

The results of this study suggest that extending family medicine residency training to 4 years would have a neutral or a positive effect on student interest in the specialty. The majority (77.2%) of respondents indicated that increasing training to 4 years would
either make them more likely to choose family medicine or would not affect their decision. A similar number (79.3%) indicated that a 4-year residency would not make them less likely to choose family medicine over other primary care specialties. In addition, the length of residency training was rarely (6.0%) cited as a “very important” reason for entering the specialty. Respondents appeared to choose family medicine based on the unique attributes of the specialty, such as patient contact time and ability to do procedures, rather than the length of training. When given the choice between 3- and 4-year programs, the majority (85.0%) of respondents indicated that they would choose a 4-year family medicine residency. These findings should, to some degree, allay the fears of program directors concerned about the ability to recruit students into the specialty and/or into their programs if training were extended to 4 years.

Our finding that lengthened residency training appeals to many interviewees may reflect a growing sense among medical students that the specialty of family medicine has become too broad and complex to be adequately taught in a 3-year training period, particularly given the reduced work hours now available for training. Two recent surveys found that an important factor discouraging medical students from entering family medicine was a feeling that they could not master the content of the specialty. This growing sense of unease among students may explain why we found a sharp increase in the number of respondents who indicated interest in training beyond the traditional 3 years compared to the Duane et al study in 2000. In our study, 77.8% of interviewees indicated interest in training beyond 3 years compared to only 22.5% of first-year residents in the earlier Duane study. This jump in interest may reflect the particular programs or geographical region in our study or the difference in opinions between medical student applicants and first-year residents. It is also possible that the attitudes of students and residents are changing in the current turmoil of US medicine.

If family medicine training was extended to 4 years, applicants appeared to be most interested in additional training that was specific to their unique interests or needs. The majority (77.8%) of respondents indicated interest in a 4-year program with specific additional training rather than generically increased training time. Pregnancy care, trauma care, adolescent/child health, and procedural skills were the most commonly desired additional training, followed by public health/preventive medicine training. These findings are consistent with the results of a previous national survey that found that women’s health, emergency care, care of children and infants, and sports medicine were the most desired additional training areas for residents. The apparent appeal of public health training in this study likely reflects the fact that one program (OHSU) offers a joint family medicine/preventive medicine training program and thus recruits applicants with an interest in this area.

It is interesting to note that there is a disconnect between the types of additional training that have been found to be most attractive to students and residents in recent studies, such as maternity care, trauma, and sports medicine and the types of augmented training outlined in the Future of Family Medicine report. That report described increased training in complex chronic illness, practice management, information management, continuous quality improvement, and similar areas. The ability of extended training programs to both incorporate the additional training envisioned in this report and the experiences desired by applicants is unknown. Further discussion is needed to reconcile the needs of future family physicians as perceived by the authors of the Future of Family Medicine report and the desires of applicants to the specialty as expressed in the current study and other recent surveys.

Several of the types of increased training experiences most often selected as desirable in both this and previous studies are already available to residents through the current fellowship system. At present, residents can choose to complete a fourth-year fellowship in maternity care, sports medicine, geriatrics, or adolescent health. Augmentation of the current fourth-year fellowship system was suggested by several respondents in the current study and by previous authors. The question

<p>| Table 3 |</p>
<table>
<thead>
<tr>
<th>Percentage of Respondents Reporting Being “Very Likely” to Choose a 4-year Family Medicine Residency With Particular Extended Training Opportunities</th>
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</thead>
<tbody>
<tr>
<td>Extended adolescent/child health</td>
</tr>
<tr>
<td>Additional office procedures</td>
</tr>
<tr>
<td>Emergency medicine/trauma care</td>
</tr>
<tr>
<td>Additional maternity care</td>
</tr>
<tr>
<td>Masters of Public Health</td>
</tr>
<tr>
<td>Sports medicine</td>
</tr>
<tr>
<td>Geriatrics</td>
</tr>
<tr>
<td>More of the current types of training</td>
</tr>
<tr>
<td>Practice management</td>
</tr>
<tr>
<td>Masters of Business or Health Administration</td>
</tr>
<tr>
<td>Faculty development</td>
</tr>
<tr>
<td>Research</td>
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of whether to expand the current fellowship model or to extend residency length is an important question that should be addressed by leaders in the specialty.

Limitations
This study has several important limitations. One limitation relates to the fact that the family medicine department chair at one of the three residencies participating in this study has previously published a paper regarding lengthened residency training in family medicine. It is possible that some of the interviewees surveyed at that program were aware of this paper and may have altered their answers based on this information. We attempted to limit this potential bias by explicitly informing participants in writing and in the oral introduction to the survey that their responses would not be connected to them in any way and would not have any effect on their interview score or Match list ranking.

This survey is also limited by the sample surveyed. We surveyed only fourth-year students interviewing for family medicine residency positions. As a group already showing a level of commitment to family medicine, the opinions of these students may not adequately reflect how extension of training would affect overall medical student recruitment.

Additionally, the study sample included only students interviewing at programs in Oregon. While these programs reflect three diverse training situations (academic, community based, and rural) and tend to attract a national applicant pool, the students they interview may not be representative of all medical students applying to family medicine programs. To better determine how extending family medicine residency length would affect medical student interest in the specialty, we plan to conduct a nationally representative survey of third-year allopathic medical students. This follow-up study should result in more-generalizable information about medical student attitudes on this subject.

Conclusions
This study is the first to date examining how medical students perceive a proposed extension of family medicine training. Medical students interviewing at family medicine residencies in Oregon reported that extension of training to 4 years would have a neutral or positive effect on their interest in the specialty. To further investigate this intriguing finding, we are planning a more-generalizable follow-up national survey of third-year medical students. It is our hope that the information from the current study and future studies can be used by program directors in designing program curricula and by national policy makers contemplating changes to family medicine training requirements.

Acknowledgment: This paper was presented as a research poster at the Society of Teachers of Family Medicine 2005 Annual Spring Conference in New Orleans.

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