ABSTRACT: Identifying and managing issues of child development and behavior is a crucial part of primary care pediatrics. Despite its importance, many pediatricians do not receive adequate training in developmental and behavioral pediatrics (DBP). In a Web-based survey, general pediatric faculty reported a need for improved resident education and additional faculty development. Only 4 percent of respondents felt the quality of current residency training in DBP was excellent and most (64%) felt that too little time was devoted to training in this subject. Nearly all the respondents agreed that increasing faculty skills in this area would significantly improve residents' training but cited the lack of release time (67%) and funding (74%) to attend continuing education as important barriers. To improve faculty skills and resident training, the authors recommend expanding the scope of DBP fellowship programs to include faculty development and making faculty development a regular expectation within academic pediatrics.

BACKGROUND
Despite the fact that child development plays a central role in the field of pediatrics, it is well known that pediatric education is deficient in preparing practitioners to recognize and manage developmental and behavioral problems. There have been important advances in pediatric training, including the mandated inclusion of a one month educational experience in development and behavioral pediatrics (DBP) during pediatric residencies, and the availability of curricula and resource materials to support that training. The creation of a subspecialty in DBP, in addition to the existing subspecialty in neurodevelopmental disabilities, will make more faculty available to provide this required education to residents.

However, many pediatric leaders feel that even these advances are inadequate to provide general pediatricians with the knowledge of children's
development and behavior and with the skills needed to provide good quality care. Managing issues of development and behavior is core to preventive pediatric care and to treating many acute and chronic health conditions. Recent requirements for residency education in pediatrics call for “an integrated experience that incorporates developmental/behavioral issues into ambulatory and inpatient experiences throughout the three years.”

Faculty members from divisions of general pediatrics are responsible for most pediatric education in ambulatory and inpatient settings. These faculty members are best positioned to integrate and reinforce DBP into patient care and training in academic clinical settings, but may not have the expertise to perform this role. This report, based on a survey of pediatric professionals, found that members of general pediatric faculty see a need for improved resident education. They also recognized their own need for enhanced knowledge and skills, especially in the identification and management of children’s developmental and behavioral problems.

Fulfilling these needs will require faculty development in DBP. As a first step toward creating a faculty development process, we surveyed academic general pediatric faculty to ascertain their perception of the need for such a program, their likely participation, the content they would like to see in a program, and the preferred formats.

**METHODOLOGY**

In November 2003, directors of the nine federally funded fellowship programs in DBP met via a telephone conference call to discuss the general content of the survey. The members of the group suggested specific subject matter and then commented on a draft questionnaire, derived from recommended content of pediatric residency training in DBP and DBP fellowship training. A final questionnaire was posted on the Web site of SurveyMonkey, an electronic survey service (www.surveymonkey.com).

In mid-March 2004, e-mail messages with links to the survey Web site were sent to the members of the Ambulatory Pediatric Association who had e-mail addresses available (N=1,678). Two additional e-mail messages were sent during the first and second weeks of April to those who did not respond to the previous messages. The e-mail messages failed to reach 148 people; sixteen people responded saying they did not think they were appropriate recipients (e.g., they were not pediatricians in academic settings or not pediatricians at all, or were pediatricians who were too specialized, retired, or practicing outside of the United States); and four people reported problems with the survey Web site. Excluding these three groups, there were 437 responders (28.9%).

**RESULTS**

From the larger sample of respondents, a subsample was selected of those who taught residents in continuity clinics (N=326). These individuals were thought to be best positioned to reinforce and enhance residents’ education in DBP and the most appropriate participants in a faculty development program. Among this group, 95.8 percent were members of an academic division of general pediatrics. On average, they spent about 30 percent of their time teaching, an equal amount in direct patient care, and the remainder in research, administration, and other activities. About one-third of the responding faculty had completed a fellowship or
post-graduate training in general academic pediatrics. Overall, 78.8 percent had completed some form of post-graduate training. On average, respondents in this subgroup had graduated from medical school 19.6 years earlier and 59 percent were female.

**Quality of DBP resident education**
Regarding the quality of current residency training in DBP, only 4 percent of respondents felt the quality was excellent and 21 percent felt it was very good, while 38 percent felt it was fair or poor (Figure 1). The majority (64%) of respondents felt there was too little time devoted to this training, and none thought there was too much time devoted. In about one-half (50.6%) of the residency programs, faculty members with expertise in DBP are not present in continuity clinic sites. When these faculty members are present, it is only for one to two sessions per week.

**Personal competency of generalist faculty in DBP**
Respondents felt they were most competent in “identifying developmental and behavioral problems” and least competent in “intervening therapeutically with families and children with DBP problems” (Figure 2). The ability to “assess identified developmental and behavioral problems” and to “use available community resources to assist families and children” were also areas in which respondents saw themselves as only somewhat skilled or not very skilled. In each of these skill areas, respondents’ assessments of their preparation to teach residents followed a similar pattern, though ratings were slightly lower.

**Interest in improving personal and teaching competencies**
Only 19 percent of respondents felt they did not need additional training in DBP. Faculty members were generally very interested (64%) or somewhat interested (28.8%) in improving their clinical competencies in DBP and were similarly interested in improving their abilities to supervise residents in screening and managing problems.

*Michigan pediatrician:* “DBP is bread-and-butter pediatrics. Every general pediatrician needs to know it well and be comfortable incorporating it into every office visit.”
developmental or behavioral problems and in providing anticipatory guidance to parents.

**Preferred educational modality and duration**

Faculty members were least predisposed toward mini-fellowships, collaborative office rounds, and structured independent study as potential methods to enhance DBP skills. They were most likely to engage in grand rounds and faculty development workshops at regional or national meetings (Figure 3). Joint participation with pediatric practitioners in the community was neither an incentive nor a deterrent to participation of faculty members in educational programs (Figure 4). Although the availability of time was a reported barrier, about one-quarter of the respondents were willing to devote one week or more to an intensive educational experience, and about one-half (53%) were willing to devote one or two days during the year to educational programs in DBP (Figure 5).

**Ohio pediatrician:**  
“I think the best way to improve skills is to have faculty with these skills available in the institution, as this helps knowledge trickle down to the general practitioner.”

**Content areas for faculty development in DBP**

Respondents were offered a choice of clinical topics drawn from the recommended content for resident training in DBP. Only one-quarter of the respondents were definitely interested in learning about the theoretical foundations of child development (26%), but there was considerable interest in additional training in more applied topics. Clinical topics that were of interest to at least one-half of the respondents are shown in Table 1.

In terms of clinical approaches to developmental and behavioral problems, respondents were most interested in receiving additional training in behavioral treatment methods (73%) and developmental/behavioral surveillance and screening (62%). Nearly all respondents (95%) were interested in improving their ability to access and use teaching materials.
Incentives and barriers to participating in faculty development in DBP

Interest in learning more DBP was very high and nearly all the respondents agreed that their participation in faculty development in this area would significantly affect residents’ training. The greatest barriers to participating were the lack of release time (67%) and funding (74%) to attend continuing education of this sort. About two-thirds felt that the absence of local DBP faculty was a barrier to participating.

DISCUSSION

While many general pediatric academic faculty members felt DBP training within their institutions was good, most thought it was fair or poor and that too little time was devoted to it. This was at least partially due to the fact that faculty members with expertise in DBP were not often present in continuity clinics—the settings most favorable to ongoing training. General pediatric faculty members reported their own clinical skills and abilities to enhance residents’ skills were not at the desired level. These faculty members expressed a strong interest in DBP topics and training.

New York pediatrician: “A review of community resources and laws of our individual state on developmental delays would be helpful.”

Table 1. Clinical Topics of Definite Interest to Respondents

<table>
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<tr>
<th>Clinical Topic of Interest</th>
<th>Percent of Faculty with Definite Interest in Clinical Topic</th>
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<tbody>
<tr>
<td>Basic psychopharmacology</td>
<td>80%</td>
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<tr>
<td>Language and learning disorders</td>
<td>76%</td>
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<tr>
<td>Diagnostic classification schemes</td>
<td>74%</td>
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<tr>
<td>School problems</td>
<td>71%</td>
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<tr>
<td>Internalizing/emotional/mood difficulties</td>
<td>66%</td>
</tr>
<tr>
<td>Cognitive and adaptive disabilities</td>
<td>65%</td>
</tr>
<tr>
<td>Family systems and family functioning</td>
<td>64%</td>
</tr>
<tr>
<td>Negative/antisocial/externalizing behaviors</td>
<td>63%</td>
</tr>
<tr>
<td>Feeding/eating problems</td>
<td>61%</td>
</tr>
<tr>
<td>Sleep problems</td>
<td>60%</td>
</tr>
<tr>
<td>Impulsive/hyperactive or inattentive behavior</td>
<td>59%</td>
</tr>
<tr>
<td>Somatic symptoms</td>
<td>51%</td>
</tr>
<tr>
<td>Biologic, psychological and social processes, and mechanics of development</td>
<td>51%</td>
</tr>
</tbody>
</table>

Faculty members expressed considerable interest in improving their clinical competencies in various aspects of DBP. Faculty members were interested in receiving additional training in many areas, including basic science of child behavior and development, as well as specific clinical conditions and therapeutic modalities. Respondents indicated preferences for a wide range of types and formats of continuing education or faculty development programs. Predictably, traditional academic grand rounds were reported as the most likely to be attended, despite general agreement that this approach is ineffective in improving clinical skills. However, more experiential, ongoing local educational meetings and workshops at national and regional meetings were also of substantial interest. Respondents showed a lack of interest in two to four week mini-fellowships, most likely due to time and money constraints.

**CONCLUSIONS**

The quality of resident education in DBP remains poor, despite decades of appeals for its improvement and despite the emergence of a subspecialty in DBP. It is unlikely, in the current academic and fiscal climate, that additional time will be earmarked for resident education in this area. If residents’ skills in DBP are to be enhanced, then better use will have to be made of existing educational settings and experiences. General pediatric faculty members have the most consistent and continuous contact with pediatric residents in inpatient and ambulatory care settings, including continuity clinics. These teachers are well positioned to support and encourage residents’ attention to developmental and behavioral aspects of child health, but their own clinical skills and knowledge in DBP must be enhanced. This need for additional education in DBP was acknowledged by the vast majority of general pediatric faculty members surveyed and was accompanied by a corresponding interest in continuing education and faculty development programs.

The following are recommended changes to the current pediatric training and care systems to support better skill acquisition among pediatric faculty members and trainees:

1. Fellowship programs in DBP should expand their scope of responsibilities to include providing faculty development to general pediatric faculty in their institutions and regions.

2. Federal primary care training grants should require a more specific definition of DBP experiences that will be provided to pediatric residents.

3. Residency program accreditation should adopt more stringent criteria regarding the exposure to DBP required of trainees.

4. Pediatric board certification and recertification should give greater emphasis to developmental and behavioral content.

5. Ongoing faculty development should be a standard feature of faculty appointment and status, specifying the acquisition of specific skills and knowledge based on the needs of the faculty member and the training program.

6. Barriers to reimbursement for developmental and behavioral services by general pediatricians should be addressed by academic medical centers and their community partners.

7. Demonstration of quality assessment and quality improvement regarding preventive services in general, and developmental and behavioral
services specifically, should be a required component of contracts with academic medical centers that provide publicly funded health care.

8. For a finite number of years, child psychologists and psychiatrists should be allowed to bill third parties for supervision they provide to pediatricians caring for children with developmental, behavioral, and mental health problems.

NOTES


4 Broadly speaking, DBP pediatrics emphasizes normal variations of child development, while neurodevelopmental pediatrics deals with children with diagnosable abnormalities of the nervous system.


6 Copies of the survey instrument are available from the authors.
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