Barriers to Care Coordination and Medical Home Implementation

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ABSTRACT

BACKGROUND: Pediatricians are central in leading the family-centered medical home (FCMH), yet little is known about how provider-perceived barriers to and attitudes toward the FCMH affect implementation. This study aims to assess the relationship between pediatrician-perceived barriers to and attitudes toward FCMH and reported care coordination.

METHODS: Pediatricians working in ambulatory care responded to the American Academy of Pediatrics Periodic Survey of Fellows #79 (N = 572, response rate, 59%). Our primary care coordination outcomes were whether pediatricians were: (1) leading a multidisciplinary team; (2) developing care plans; and (3) connecting with support services. Independent variables included barriers to FCMH implementation (lack of communication skills, support services, and time). Associations between outcomes and barriers were assessed by multivariate logistic regression, controlling for pediatrician and practice characteristics.

RESULTS: Lack of sufficient personnel was significantly associated with fewer care coordination activities: leading a multidisciplinary team (odds ratio [OR], 0.53), developing care plans (OR, 0.51), and connecting with support services (OR, 0.42). Lacking communication skills was significantly associated with lower odds of development of care plans (OR, 0.56) and assistance with support services (OR, 0.64). Lack of time was significantly associated with lower odds of leading a multidisciplinary team (OR, 0.53). A pediatrician’s belief that the FCMH encourages the use of preventive services was significantly associated with increased support services (OR, 2.06).

CONCLUSIONS: Pediatricians report a need for sufficient personnel and communication skills to provide care coordination, a core component of the FCMH. Interventions to boost FCMH implementation should focus on providing resources to develop these characteristics.

WHAT’S KNOWN ON THIS SUBJECT: Although pediatricians play a vital role in leading the family-centered medical home (FCMH), little is known about how provider-perceived barriers to and attitudes toward the FCMH affect care coordination and FCMH implementation.

WHAT THIS STUDY ADDS: Pediatricians who reported lacking sufficient personnel and communication skills reported fewer care coordination activities, which is a core component of FCMH. Report of patient-centered medical home certification was not associated with higher odds of a pediatrician performing care coordination activities.
The pediatric family-centered medical home (FCMH) model is emerging as a standard of primary care practice transformation in efforts to improve health care quality, enhance patient and family experience, and promote cost-effective care.¹ The FCMH model encompasses care aligned with the patient’s family and community that is accessible, continuous, patient-centered, team-based, and comprehensive.² A growing body of literature demonstrates improved health outcomes, such as reduced emergency department (ED) use, family burden, and out-of-pocket expenses.³⁻⁵ Thus, the FCMH has been endorsed by the American Academy of Pediatrics (AAP)² and the Maternal and Child Health Bureau as a mechanism to reform pediatric practice.

Care coordination, defined by the AAP as “a process that facilitates the linkage of children and their families with appropriate services and resources in a coordinated effort to achieve good health,”⁶ is a multidisciplinary process that is an essential component of the FCMH.⁶⁻⁸ The AAP Care Coordination Policy Statement further emphasizes that care coordination must be family-centered and team-based.⁹ Although most pediatricians think they provide care coordination services, many do not provide specific care coordination activities.¹⁰ Care coordination has been associated with higher patient satisfaction, improved family-provider relationships, and reduced ED visits and hospital admissions.¹¹⁻¹³ Care coordination may provide a measure to assess how physician attitudes and perceived barriers toward the FCMH impact practice implementation of FCMH.

Despite the promise of the FCMH, pediatrician-perceived barriers to and attitudes toward FCMH implementation may hinder efforts to transform primary care practices. Previous studies assessing physician perspectives have documented significant challenges to transformation, including availability of resources for change, competing demands, time constraints, change fatigue, compensation, and resistance to team-based approaches.¹⁴,¹⁵ Attributes that have emerged as facilitators of pediatric practice transformation to the FCMH include a culture of family-centered care with parents as partners, team-based care, and care coordination.¹⁶ Among adult providers, drivers of positive attitudes toward the FCMH were organizational emphasis on patient-centered care and incentives for patient-centered medical home (PMCH) recognition/accreditation.¹⁷⁻¹⁹ Using survey data from a nationally representative sample of pediatricians, the primary aim of our study was to identify pediatrician-perceived barriers and attitudes associated with the provision of care coordination as well as broader adoption of the FCMH model of care. We hypothesized that reported barriers to FCMH implementation are associated with the provision of fewer care coordination activities, and that positive attitudes toward the FCMH are associated with greater provision of care coordination. Secondly, we aimed to determine if perceived barriers to and pediatrician attitudes toward adopting the FCMH model of care were related to reported pursuit of PCMH recognition. We hypothesized that positive attitudes and fewer perceived barriers would be associated with pursuit of PCMH recognition.

**METHODS**

**Survey**

We performed descriptive and multivariable analyses of a single cross-sectional survey of a nationally representative sample of pediatricians practicing primary care in the United States. The AAP Periodic Survey of Fellows #79 was initiated by the AAP National Center for Medical Home Implementation to examine pediatric practices’ approaches to the FCMH. The survey was an 8-page, self-administered, forced-choice questionnaire mailed to a unique random sample of nonretired AAP members between September 2011 and February 2012. Six follow-up mailings were sent to nonrespondents. After the first and fourth mailings, nonresponders received an e-mail reminder with the option to respond online. A $2 bill was enclosed with the first mailing as a token of appreciation. Original survey questions included in these analyses are detailed in Supplemental Figs 2–5.

**Primary Outcome: Care Coordination as Marker of FCMH Delivery**

Three care coordination activities were assessed as dependent variables: (1) physician leading a multidisciplinary team; (2) developing plans with families; and (3) connecting families with needed support services. Care coordination was measured on a 3-point Likert scale with options for services provided to patients: “all patients,” “some patients,” and “not provided.” Each variable was dichotomized as provided to all plus some patients versus not provided.

**Secondary Outcome: Seeking PCMH Recognition**

Seeking PCMH recognition was measured by a single survey item, “Have you/your practice applied for family-centered medical home recognition/accreditation via one of the currently available programs (National Committee for Quality Assurance (NCQA), the Joint Commission, Insurer or health plan recognition program, or other program)”? Reports of application for PCMH recognition/accreditation were divided into: (1) yes, have
applied, (2) have not applied, and (3) did not know.

**Primary Independent Variables**

**Barriers to FCMH Implementation**

Barriers were assessed through 3 survey items centered on the pediatrician’s perception of barriers to FCMH implementation: (1) not enough or appropriate personnel to facilitate FCMH; (2) lack of communication skills to lead coordinated care efforts; and (3) not enough time to adopt FCMH. These 3 barrier items were chosen because they represented different types of pediatrician and practice-level barriers, including practice personnel, skill, and time limitations described in previous studies assessing barriers to practice transformation.14,20 Barriers were measured on a 5-point Likert scale: “strongly agree,” “agree,” “neutral,” “disagree,” and “strongly disagree.” These variables were dichotomized as strongly agree/agree versus neutral/disagree/strongly disagree.

**Attitudes Toward FCMH Implementation**

Attitudes were assessed through 3 survey items focused on the pediatrician’s perception of the ability of the FCMH to: (1) increase use of preventive care, (2) improve child health, and (3) decrease emergency and hospital use. These 3 survey items were selected because they align with current guiding principles for FCMH centered on health care quality, health outcomes, and cost reduction.21 Attitudes were measured on a 5-point Likert scale: “strongly agree,” “agree,” “neutral,” “disagree,” and “strongly disagree.” These variables were dichotomized as strongly agree/agree versus neutral/disagree/strongly disagree.

**Covariates**

Pediatrician characteristics consisted of sex, age, and race/ethnicity. Physician type was categorized as general pediatrician versus subspecialist. We used the criteria of ≥50% time in general pediatrics as a “general pediatrician” and <50% in general pediatrics as “subspecialist.” Practice characteristics consisted of practice location, practice setting, number of physicians in practice, insurance payer mix (portion publicly versus privately insured), and hours worked per week. Insurance payer mix was dichotomized for analyses into caring for >80% vs ≤80% publicly insured. Eighty percent publicly insured was chosen as the dichotomization cut because of practice insurance distribution. Practice location was categorized by self-report of location as: urban inner city, urban not inner city, suburban, or rural. Practice setting was grouped into: solo or 2-physician practice, pediatric group/multispecialty group, health maintenance organization, and medical school/hospital/clinic/community health center.

**Statistical Analysis**

We used χ² analysis to describe differences in survey respondents’ pediatrician and practice characteristics and assess differences in responses regarding FCMH barriers and attitudes according to pediatrician and practice characteristics. Logistic regression was used to identify the individual pediatrician or practice characteristics that were descriptive of perceived barriers or positive attitudes to FCMH implementation. Multivariable logistic regression, controlling for pediatrician and practice characteristics, was used to test the association between barriers and attitudes to FCMH implementation and reported care coordination activities. χ² analysis was used to describe differences between barriers and attitudes to FCMH implementation and application for PCMH recognition or accreditation. All data were analyzed using SPSS version 21.0 (IBM SPSS Statistics, IBM Corporation, Armonk, NY). The survey was exempt from human subject review by the AAP institutional review board.

**RESULTS**

**Pediatrician Population Surveyed**

Eight hundred and seventy-four paper surveys and 83 online surveys were received (n = 957; response rate, 59%). This analysis was based on 572 respondents who provide primary care (ie, well child/preventive care) in an ambulatory office- or clinic-based care setting (Fig 1). The majority of respondents were female (61%) and non-Hispanic white (74%) with a mean age of 47.4 years. The majority practiced full time (70%), in an urban setting (50%), and were in a pediatric group (65%) (Table 1).

**Barriers to FCMH Implementation**

Sixty-one percent of respondents reported that they have the necessary communication skills to lead coordinated care efforts and 30% were unsure (Table 2). A higher percentage of subspecialists who provide primary care in an ambulatory setting relative to generalists reported they had the necessary communication skills to lead coordinated care (79% vs 60%; P < .05).

Fifty-eight percent of respondents reported that they lacked sufficient/appropriate personnel to facilitate the components of the FCMH (Table 2). A larger percentage of pediatricians from solo and 2-physician practices reported a lack of appropriate personnel (78% solo/2-physician vs 51% group vs 64% hospital/clinic; P < .001). Pediatricians caring for a higher percentage (>80%) of publically insured patients more frequently reported not having sufficient/appropriate personnel to facilitate the components of the FCMH than those who cared for fewer publically insured patients (73.4% vs 57.9%;...
A higher percentage of solo and 2-physician practices reported time as a barrier compared with other practice types (55% solo/2-physician vs 45% group vs 27% hospital/clinic; P < .001).

Attitudes Toward FCMH Implementation

Most pediatricians surveyed agreed that FCMH activities improve child health and health care including: encouraging patient use of preventive care (76%), improving children’s health care (80%), and decreasing unnecessary or preventable use of the ED or hospitalizations (74%). Few disagreed with these statements (Table 2). A higher proportion of younger pediatricians (<47 years) agreed that having a FCMH decreases unnecessary or preventable use of the ED or hospitalizations (79.4% vs 69.7%; P < .001). A higher percentage of female than male pediatricians agreed with the positive benefits on FCMH on children’s health care (82.7% vs 75.2%; P < .05). There was no variation in response by practice characteristics.

Barriers, Attitudes, and Care Coordination

Lack of sufficient personnel was associated with significantly decreased odds of performing all 3 care coordination activities, including leading a multidisciplinary team (odds ratio [OR], 0.53; 95% confidence interval [CI], 0.33–0.86), developing care plans with families (OR, 0.51; 95% CI, 0.3–0.87), and assisting families with support services (OR, 0.42; 95% CI, 0.26–0.68). Lacking needed communication skills was associated with significantly decreased odds of developing care plans with families (OR, 0.56; 95% CI, 0.33–0.94) and assisting families with support services (OR, 0.64; 95% CI, 0.42–0.97). Not having enough time was associated with decreased odds of leading a multidisciplinary team (OR, 0.53; 95% CI, 0.33–0.87) (Table 3).

Only 1 of 3 positive attitudes was associated with provision of a care coordination service. Pediatricians who agreed that having an FCMH encourages the use of preventive services had twice the odds of assisting families in getting connected with needed support services relative to those who disagreed (OR, 2.06; 95% CI, 1.10–3.86) (Table 4).

DISCUSSION

To our knowledge, this is the first study using national survey data to identify relationships between pediatrician perspectives on the FCMH and report of care coordination activities conducted in their primary care practice. The study uncovers a number of associations between pediatrician barriers and attitudes regarding FCMH implementation and how they relate to reported provision of care coordination at the practice level. Our results highlight pediatricians’ current reported need to develop improved communication skills in leading an FCMH team and for a sufficient number and training of practice personnel to facilitate components of the FCMH care model. Overall, pediatrician attitudes toward the FCMH were generally favorable; however, positive
Similar positive attitudes have been documented in other specialties. Our findings that younger pediatricians had more favorable attitudes toward FCMH may relate to more exposure to the FCMH concept in training, a greater willingness to adopt change through practice transformation, or more ease with health information technology aspects of FCMH transformation.

An alternative hypothesis is that younger pediatricians may have less FCMH practice transformation experience tempering their views of the challenges.

Among our study sample, perceived barriers to FCMH implementation were associated with less provision of care coordination activities. Importantly, lacking needed communication skills to lead coordinated care efforts was associated with not providing 3 coordination activities and lack of sufficient/appropriate personnel to facilitate the components of the FCMH approach was associated with failure to provide 2 of those 3 activities. This suggests that in addition to assistance with structural changes that have traditionally been thought to drive practice transformation, pediatricians may need both additional training and personnel resources to accomplish successful care coordination.

Interestingly, a significantly lower percentage of generalists than subspecialists who provide primary care reported that they had the necessary communication skills to lead coordination of care. This may be driven by subspecialists’ greater comfort with complex medical care, or more experience with team-based care among specialists. Several previous studies on practice transformation have demonstrated that individuals working in practices need support in identifying ways...
TABLE 2 Barriers and Attitudes to FCMH Implementation

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Strongly Agree, %</th>
<th>Disagree, %</th>
<th>Neutral, %</th>
<th>Agree, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have the necessary communication skills to lead coordinated care</td>
<td>1.1</td>
<td>8.5</td>
<td>28.8</td>
<td>46.6</td>
</tr>
<tr>
<td>efforts (eg, FCMH practice team, comangement with subspecialists)</td>
<td>(N = 554)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My practice does not have sufficient/appropriate personnel to</td>
<td>5.6</td>
<td>16.6</td>
<td>20.2</td>
<td>41.1</td>
</tr>
<tr>
<td>facilitate the components of the FCMH approach to care (N = 555)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practice changes necessary to adopt FCMH are too time consuming (N =</td>
<td>2.2</td>
<td>18.4</td>
<td>38.2</td>
<td>31.6</td>
</tr>
<tr>
<td>553)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Attitudes

| Having an FCMH encourages patient use of preventive care (N = 557)     | 2.7               | 1.8         | 19.7       | 51.2     |
| Having an FCMH improves children’s health care (N = 554)               | 2.5               | 1.1         | 16.6       | 49.6     |
| Having an FCMH decreases unnecessary or preventable use of the ED or   | 3.4               | 3.1         | 19.1       | 45.6     |
| hospitalizations (N = 555)                                            |                   |             |            |          |

*Pediatricians who spend <50% in general pediatrics (<.05) were more likely to agree or strongly agree.
*Significant difference in primary employment setting and having a high proportion (>80%) of publically insured patients (<.001).
*Older physicians (≥47 y; <.05) were more likely to agree or strongly agree and significant differences in primary practice area (<.01) and primary employment setting (<.001).
*Younger physicians (<47 y; <.05) and female physicians (<.05) were more likely to agree or strongly agree.
*Female physicians (<.05) were more likely to agree or strongly agree.
*Younger physicians (<47 y; <.01) and female physicians (<.01) were more likely to agree or strongly agree.

TABLE 3 Association Between Perceived Barriers to FCMH Implementation and Care Coordination Activities

<table>
<thead>
<tr>
<th>Barriers to FCMH</th>
<th>Multidisciplinary Teama</th>
<th>Care Planb</th>
<th>Supportc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not enough personneld</td>
<td>0.53 (0.33–0.86)</td>
<td>.01*</td>
<td>0.51 (0.30–0.87)</td>
</tr>
<tr>
<td>Lack skillsd</td>
<td>0.66 (0.42–1.03)</td>
<td>.07</td>
<td>0.58 (0.35–0.94)</td>
</tr>
<tr>
<td>Not enough timed</td>
<td>0.53 (0.33–0.87)</td>
<td>.01*</td>
<td>0.65 (0.37–1.13)</td>
</tr>
<tr>
<td>Sex: female (1) versus male (0)</td>
<td>0.59 (0.36–0.95)</td>
<td>.05*</td>
<td>0.87 (0.51–1.48)</td>
</tr>
<tr>
<td>Public insurance</td>
<td>0.99 (0.98–1.00)</td>
<td>.09</td>
<td>1.00 (0.98–1.01)</td>
</tr>
</tbody>
</table>

*The personal physician leads a multidisciplinary team at the practice level for ongoing care and prevention (all plus some patients versus none).
*a Care coordination plans are developed with patients/families that specify who will perform each care coordination task (all plus some patients versus none).
*b Families are assisted with needed support services (ie, financial services, transportation, equipment, home care, etc) (all plus some patients versus none).
*c My practice does not have sufficient/appropriate personnel to facilitate the components of the FCMH approach to care (Stronlgy Agree + Agree versus Neutral - Strongly Disagree).
*d Question Likert inverted to be framed as barrier (I have the necessary communication skills to lead coordinated care efforts (eg, FCMH practice team, comangement with subspecialists).
*e Practices necessary to adopt FCMH are too time consuming (Strongly Agree + Agree versus Neutral - Strongly Disagree).
*f Demographics controlled for: age, sex (female versus male), race, public insurance (continuous), practice location, number of physicians in practice, part time, practice setting, and time in generalist practice. Those not listed in the table were not significant.
*g Students who spent <50% in general pediatrics (<.05) were more likely to agree or strongly agree.

To engage and collaborate with colleagues. Communication and team leadership skill building may be relatively inexpensive interventions to improve implementation of FCMH.

Our finding that smaller practice size is associated with higher perceived barriers to FCMH activities supports the results reported by Zickafoose et al. They describe practice size as a key factor in FCMH transformation with smaller pediatric practices being less likely to have an infrastructure to support the medical home than larger practices. Large practices’ infrastructure could include robust quality improvement programs, more support personnel, greater electronic medical record functioning, or other levers for practice transformation.

It has been postulated that children enrolled in public insurance may be at a disadvantage for FCMH implementation given that the pediatric practices where they seek care may have limited resources due to Medicaid’s lower reimbursement relative to private insurers. Practices we surveyed that serve a majority of publicly insured patients reported more perceived barriers to FCMH implementation. This suggests practices serving a majority of publicly insured patients may be an important target for enhanced FCMH transformation support. Some studies have found that being in a practice with a higher proportion of publicly insured patients was not associated with a lower ability to transform into a FCMH. However, 1 study that specifically assessed medical home prevalence by insurance type
did find lower parental report of medical home characteristics among the publicly insured.32 Given the importance of public insurance to pediatric health care delivery, more research is needed in this area.

Partnering with families is a central concept to both care coordination and FCMH implementation. Increased time, skills, and personnel training may be applied toward building relationships to partner with families and collaboration in the practice team to deliver more proactive and comprehensive family-centered care.33 In addition, to maximize care coordination and implementation of the FCMH, research needs to be centered around what time should be used for, what kinds of skills specifically need to be developed, and which personnel need to be part of the care team.

Of note, only a small percentage (9%) of pediatricians reported that their practice had applied for PCMH recognition/accreditation, whereas a large number (26%) reported not knowing whether their practice had applied. Although our results are consistent with other reports of national PCMH recognition/accreditation,34 there were only a small number of practices who had applied for PCMH recognition/accreditation, which limits the power in this study. Practice-level barriers, such as reported lack of sufficient/properly trained personnel and not enough time, were associated with reports of not applying for PCMH recognition/accreditation. These results suggest that positive attitudes or clinician-dependent actions are insufficient without practice-level support to drive applying for accreditation. In addition, the results highlight the urgent need for mechanisms to help facilitate primary care transformation, such as the Primary Care Extension

### TABLE 4 Association Between Attitudes Toward the FCMH and Care Coordination Activities

<table>
<thead>
<tr>
<th>Attitudes toward FCMH</th>
<th>Multidisciplinary Team</th>
<th>Careplan</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use preventive care</td>
<td>1.28 (0.67–2.43)</td>
<td>.46</td>
<td>1.94 (0.90–4.20)</td>
</tr>
<tr>
<td>Improve child health</td>
<td>1.42 (0.89–2.90)</td>
<td>.34</td>
<td>1.05 (0.46–2.39)</td>
</tr>
<tr>
<td>Decrease ED visits/hospitalizations</td>
<td>0.95 (0.51–1.76)</td>
<td>.87</td>
<td>1.07 (0.55–2.18)</td>
</tr>
</tbody>
</table>

Demographics:
- Sex: female (1) versus male (0)
- Public insurance

<table>
<thead>
<tr>
<th>OR (CI)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex: female (1) versus male (0)</td>
<td>0.60 (0.37–0.97)</td>
</tr>
<tr>
<td>Public insurance</td>
<td>0.89 (0.98–0.89)</td>
</tr>
</tbody>
</table>

### TABLE 5 Association Between Perceived Barriers to and Attitudes Toward FCMH Implementation and Seeking FC MH Recognition or Accreditation

<table>
<thead>
<tr>
<th>Practice Applied for FCMH Recognition/Accreditation (n = 555)*</th>
<th>Yes (12%, n = 67)</th>
<th>No (61%, n = 336)</th>
<th>Unsure (27%, n = 152)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barriers to FCMH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not enough personnel</td>
<td>34.33% (n = 23)</td>
<td>67.46% (n = 228)</td>
<td>46.62% (n = 69)</td>
<td>&lt;.01*</td>
</tr>
<tr>
<td>Lack skills</td>
<td>70.15% (n = 47)</td>
<td>60.42% (n = 203)</td>
<td>56.38% (n = 84)</td>
<td>.17</td>
</tr>
<tr>
<td>Not enough time</td>
<td>38.81% (n = 26)</td>
<td>49.55% (n = 167)</td>
<td>29.93% (n = 44)</td>
<td>&lt;.01*</td>
</tr>
<tr>
<td>Attitudes toward FCMH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use preventative care</td>
<td>80.60% (n = 54)</td>
<td>72.92% (n = 245)</td>
<td>80.26% (n = 122)</td>
<td>.28</td>
</tr>
<tr>
<td>Improve child health</td>
<td>80.30% (n = 53)</td>
<td>78.81% (n = 284)</td>
<td>82.12% (n = 124)</td>
<td>.32</td>
</tr>
<tr>
<td>Decrease ED visits/hospitalizations</td>
<td>76.12% (n = 51)</td>
<td>71.94% (n = 241)</td>
<td>79.47% (n = 120)</td>
<td>.51</td>
</tr>
</tbody>
</table>

* The personal physician leads a multidisciplinary team at the practice level for ongoing care and prevention (all plus some patients versus none).
* Families are assisted with efforts to connect with needed support services (ie, financial services, transportation, equipment, home care, etc) (all plus some patients versus none).
* Having an FCMH encourages patient use of preventive care (Strongly Agree + Agree versus Neutral - Strongly Disagree).
* Having an FCMH improves children’s health care (Strongly Agree + Agree versus Neutral - Strongly Disagree).
* Having an FCMH decreases unnecessary or preventable use of the ED or hospitalizations (Strongly Agree + Agree versus Neutral - Strongly Disagree).
* Demographics controlled for: age, sex (female versus male), race, public insurance (continuous), practice location, physician number in practice, part time, practice setting, and time in generalist practice. Those not listed in table were not significant.
* P ≤ .05.

References excluded if results were missing.
* My practice does not have sufficient/appropriate personnel to facilitate the components of the FCMH approach to care (Strongly Agree + Agree versus Neutral - Strongly Disagree).
* Question Likert inverted to be framed as a barrier: I have the necessary communication skills to lead coordinated care efforts (eg, FCMH practice team, comanagement with subspecialists) (Strongly Agree + Agree versus Neutral - Strongly Disagree).
* Practice changes necessary to adopt FCMH are too time consuming (Strongly Agree + Agree versus Neutral - Strongly Disagree).
* Having an FCMH encourages patient use of preventive care (Strongly Agree + Agree versus Neutral - Strongly Disagree).
* Having an FCMH improves children’s health care (Strongly Agree + Agree versus Neutral - Strongly Disagree).
* Having an FCMH decreases unnecessary or preventable use of the ED or hospitalizations (Strongly Agree + Agree versus Neutral - Strongly Disagree).
* P ≤ .05.
Program, which was authorized by the Affordable Care Act but remains unfunded.35

One of the strengths of this study is that it is a nationally representative sample of practicing pediatrician AAP members that examined self-perceived barriers and attitudes simultaneously with reported behaviors of care coordination that are central to the FCMH. A limitation of the study, which must be considered when interpreting the results, is response bias; pediatricians who feel strongly positive or negative toward the FCMH may have been more likely to respond. Given possible social desirability, the self-report of attitudes and care coordination activities introduce additional response bias. However, the response to this survey (59%) is similar to other recent Periodic Surveys of Fellows.36 Response bias sensitivity analyses showed that survey respondents did not differ from the targeted survey population on sex or US region; however, respondents were slightly older (47.9 years vs 46.7 years; \(P < .001\)) than the targeted survey population. At the time of the survey, 64% of Board-certified pediatricians belonged to the AAP. In addition, in dichotomizing results, some differences between response categories may have been obscured. This survey was not designed to capture any clinical data and therefore cannot draw conclusions regarding actual provision of care coordination activities or clinical outcomes. However, the study does provide insight to attitudes toward FCMH and reported frequency of important care coordination process measures.

Although interventions and supports to enable FCMH functioning, such as sufficient number and training of personnel and increased time for care coordination, require resources, the growing body of literature suggests potential FCMH-driven cost savings through improved outcomes and reduction of costly ED visits.3–5 In the context of developing alternative value-based payment models, such as accountable care organizations, decreased overall cost of care may result in higher reimbursement to primary care practices. Thus, the investment in resources to support improved FCMH functioning would be important for both the health of pediatric patients and the fiscal health of practices in a changing environment.

CONCLUSIONS

Pediatricians report a need for sufficient personnel and communication skills to provide care coordination and other central components of the FCMH. Interventions to boost FCMH implementation should focus on resources to develop pediatricians trained in leadership skills to lead a FCMH team and providing practices with a sufficient number of appropriately trained personnel to facilitate components of the FCMH care model. Although resource allocation is important for FCMH implementation, less costly interventions to develop pediatrician communication skills and train personnel could potentially improve care coordination activities and enhance practice transformation to FCMH.

ABBREVIATIONS

AAP: American Academy of Pediatrics
CI: confidence interval
ED: emergency department
FCMH: family-centered medical home
OR: odds ratio
PCMH: patient-centered medical home

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