Development of a Brief Questionnaire to Identify Families in Need of Legal Advocacy to Improve Child Health

David Keller, MD; Nathan Jones, MD; Judith A. Savageau, MPH; Suzanne B. Cashman, ScD

Objective.—To determine whether the medical-legal advocacy screening questionnaire (MASQ), a simple 10-item questionnaire, is able to screen families in a primary care setting for possible referral to legal services more effectively than the clinical interview alone.

Methods.—Family Advocates of Central Massachusetts (FACM) is a medical-legal collaboration that assists low-income families with legal issues that affect child health. A convenience sample of parents seen at each of 5 medical practices associated with FACM was recruited to complete the MASQ prior to a routine child health care visit. Physicians blinded to the result assessed family need for referral to FACM after their usual clinical encounter. The sensitivity and specificity of both the MASQ and provider assessment were calculated.

Results.—Two hundred fifty-five parents from 5 practices participated in the study. The MASQ identified 85 patients in need of legal services. Prior to reviewing the MASQ, the primary care providers identified 35 families in need of referral to the FACM. After completion of both the MASQ and the medical encounter, 37 families agreed to referral. The MASQ had sensitivity of 0.81 and specificity of 0.75 in predicting program referral. Provider assessment had sensitivity of 0.65 and specificity of 0.95 of predicting program referral.

Conclusions.—Routine use of the MASQ would likely identify more patients in pediatric practices who would accept referral to legal assistance than reliance on provider impression alone after a routine clinical encounter.

KEY WORDS: advocacy; child health; medical-legal partnership; social history

AMBULATORY PEDIATRICS 2008;8:266–269

Despite many efforts to improve children’s health through timely, effective clinical care, poverty continues to exert a strong negative impact on the health of children in America. Moreover, when local, state, and federal programs (often with a variety of case management and care coordination programs) are in place, regulatory barriers pose significant hurdles to families attempting to access those services. To overcome these obstacles, Boston Medical Center developed an innovative model of medical-legal partnership in 1993, in which public interest lawyers work with clinicians serving low-income children in an outpatient setting. This model program has been viewed as a successful innovation and has been replicated in more than 60 communities throughout the country.

Despite their initial success at building partnerships between the medical and legal communities, programs have noted a lack of appropriate screening instruments to identify children and families who could benefit from focused legal advocacy. Although validated surveys exist that address psychosocial issues in children, these instruments were designed to identify children who need mental health and traditional social services rather than legal advocacy.

In 2003, the Legal Assistance Corporation of Central Massachusetts and the Department of Pediatrics of the University of Massachusetts Medical School developed a medical-legal partnership. This collaboration, termed Family Advocates of Central Massachusetts (FACM), partnered attorneys of Legal Assistance Corporation of Central Massachusetts with staff and providers at 5 pediatric and family practices caring for children living in poverty in 4 different communities in Worcester County. Referral to the program required only that the program be explained to the family by a provider or another staff person and that the family agreed to the referral. The program coordinator then conducted an intake interview by telephone to assign the family to the appropriate attorney.

To address the unmet legal needs of children and their families, FACM developed the medical-legal advocacy screening questionnaire (MASQ), a simple 10-item questionnaire used to screen families for possible referral to legal services. We sought to determine whether, in a primary care setting, the MASQ or the clinical interview was better able to identify families who were willing to
use legal advocacy to address social issues that affect their child’s health.

METHODS

Questionnaire Development

The survey used questions taken verbatim from a series of clinical practice guideline queries developed for legal advocacy at Boston Medical Center (a copy of the questionnaire is available from the authors).7 The 10 questions covered 4 topic areas: housing (1 question), financial stability (4 questions), dignity and safety (2 questions), and access to services (3 questions). The questionnaire was pretested by 15 parents in waiting rooms of the participating clinical sites and modified, upon subsequent cognitive interviewing, to reflect their suggestions for readability and clarity. Each item allowed response along a 4-point Likert-type scale ("no," "not really," "sort of," or "yes"). According to the Flesch-Kincaid Index, the instrument’s readability level was 7.1; Spanish and English versions were made available.

Fielding the Questionnaire

In June and July 2005, one of the authors (NJ) approached parents at each of the 5 partnering clinical sites of FACM to invite their participation in the study. Because the questionnaire was considered to be a low-risk activity, verbal assent was obtained. Children presenting without a custodial parent and families in which the parent could not read English or Spanish were excluded from the study. In addition to the MASQ, parents completed a brief survey regarding parent and child age, race and ethnicity, family size, and family income category. The project’s protocol was reviewed and approved by the Medical School Human Subjects Committee of the University of Massachusetts.

After their parents completed the MASQ, children were seen within the practice in the usual manner. At the end of the encounter and before reviewing the results of the MASQ, the research assistant asked the provider (physician, resident physician, or nurse practitioner) a single question: “Do you think that this family needs a referral to Family Advocates?” After recording the provider’s response, the research assistant reviewed the results of the MASQ with the provider. The family then determined whether they wanted a referral to FACM.

For the purposes of the study, a positive outcome was considered to be a parental acceptance of a referral to FACM for legal advocacy at the time of the visit. In scoring the MASQ, the response to any single item was considered to be positive if the response indicated a potential legal issue for the child or family (ie, in the case of question 1 regarding housing needs, a response of “sort of” or “yes” was considered positive; in the case of question 5 regarding food, a response of “no” or “not really” was considered positive). Each positive response received a score of 1; negative responses received a score of 0. The MASQ score was the sum of the results of all 10 questions. Provider response of the family’s need for referral was based on the provider’s response to a single question: “Do you feel that this family needs a referral?” at the end of the encounter before discussion of the MASQ results with the family.

Statistical Analysis

Data from the MASQ, the demographic survey, the provider response sheet, and referral status were entered into SPSS version 12 (SPSS, Inc, Chicago, Ill). In addition to computing an unweighted MASQ score, the MASQ sensitivity, specificity, and positive predictive value (PPV) scores were calculated using different cutoff values to maximize sensitivity and specificity. These MASQ values as well as the provider response in predicting patient referral were computed using parental request for or acceptance of referral to FACM as a proxy for a gold standard. The association between a positive MASQ score and the provider response was also examined. Differences of clinical site and family demographics among families with positive and negative MASQ scores were compared using bivariate statistics (eg, chi-square tests, correlations, and t tests) as appropriate.

RESULTS

Two hundred fifty-five (95.5%) of 267 parents who were invited to participate in the study completed the MASQ. Seven were excluded due to language concerns or lack of a parent or guardian, and 5 declined to participate. The mean age of the parent completing the survey was 33.7 years. The mean age of the child being seen was 5.7 years. The mean family size was 4.1. Nearly one half (48%) of families reported a total annual family income of less than $30,000 per year. Just over one half (58%) of parents identified themselves as white, and one quarter (24%) identified themselves as Hispanic. About 25% of the parents elected not to complete race and ethnicity questions. Ten percent of the questionnaires were completed in Spanish. Thirty-seven parents who participated in the study accepted referral to FACM.

To determine the optimal cutoff point for the MASQ as a screening instrument, the number of positive responses on the questionnaire was used as a summative score. Scores of 2 or greater (85 questionnaires) were associated with a higher likelihood of acceptance of a program referral (35%); 114 questionnaires scored 0 (3% accepted referral), 56 questionnaires scored 1 (7% accepted referral).

The sensitivity, specificity, and PPV of the MASQ as a function of the cumulative MASQ score are shown in Table 1. The maximum MASQ sensitivity and specificity were seen with a cutoff of ≥2.

Table 1. Sensitivity, Specificity, and PPV† of the MASQ†

<table>
<thead>
<tr>
<th>MASQ Cutoff</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>PPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥1</td>
<td>0.92</td>
<td>0.51</td>
<td>0.24</td>
</tr>
<tr>
<td>≥2</td>
<td>0.81</td>
<td>0.75</td>
<td>0.35</td>
</tr>
<tr>
<td>≥3</td>
<td>0.57</td>
<td>0.86</td>
<td>0.40</td>
</tr>
<tr>
<td>≥4</td>
<td>0.46</td>
<td>0.91</td>
<td>0.46</td>
</tr>
<tr>
<td>≥5</td>
<td>0.41</td>
<td>0.94</td>
<td>0.56</td>
</tr>
</tbody>
</table>

*PPV indicates positive predictive value.
†MASQ indicates medical-legal advocacy screening questionnaire.
With 2 as a cutoff, the MASQ identified 30 of the 37 families who had accepted referral to the partnership for legal advocacy. Clinicians seeing those patients only identified 24 of these 37 families as needing referral. The MASQ had a sensitivity of 0.81, a specificity of 0.75, a PPV of 0.35, and a negative predictive value of 0.96. Clinical judgment had a sensitivity of 0.65 and a specificity of 0.95, a PPV of 0.69, and a negative predictive value of 0.94. The MASQ and the provider independently identified many of the same children needing referral for legal services—an association with a high degree of statistical significance (Table 2; \( P < .0001 \)).

Families that identified themselves as Hispanic, families with lower incomes, and families seen at community health centers were independently more likely than families without those characteristics to be screened positive by the MASQ and referred for legal counsel (data not shown; \( P < .001 \) for each of these variables independently). Positive screens and program referral were not associated with the age of the index child, age of the parent (respondent), family size, or race. Multivariate analysis was not carried out, as several variables, including income, race, and ethnicity, were missing for 20% to 29% of the respondents.

**DISCUSSION**

The MASQ, a 10-item parent-completed survey, identified more families that accepted referral to the medical-legal partnership than were identified by the clinician’s judgment, suggesting that formal screening may be helpful in assuring access for legal services. The MASQ was more sensitive and much less specific than the clinician’s judgment, resulting in a lower PPV for the MASQ in the population screened. Identifying a legal need may not result in a program referral. Families may not be willing to be identified to the attorneys or lack interest in trying to address the identified issues. Many of the families screened identified multiple concerns, including domestic violence and immigration, two areas of law that families will often not discuss outside the family. Further study is needed to determine if using a screen such as the MASQ can result in opening a conversation that will allow sensitive issues to be addressed in a future encounter. These data only suggest that the MASQ can help practitioners identify who would likely accept referral to a medical-legal partnership.

Recent work by Garg and colleagues in Baltimore suggested that screening is an effective way of linking families with needed social services. In their practice, screening was done with We Care, an instrument designed to capture a broad array of social needs, including several that were amenable to legal intervention. Instead of referral to legal assistance, however, their study examined mothers’ willingness to connect with other community agencies after screening and discussion within the primary care encounter. The study found an overall connection rate of 50% in their intervention group, but most of the referrals were made for smoking cessation, adult education classes, and employment services. Although these services are important, they are not problems that require a medical-legal partnership. The study reported only a single referral for intimate partner violence and did not report on rates of referral for homelessness, lack of food, or the loss of benefits, issues that typically require legal services. We Care did not seem to identify the array of needs found in the population screened by the MASQ.

This study has several limitations. First, study sample was limited to a single medical-legal partnership in central Massachusetts, which limits generalizability. Second, the child and family demographics are incomplete, making it difficult to assess the MASQ performance in specific subpopulations. Finally, the lack of a gold standard to determine the presence of legal issues makes it difficult to know with certainty whether or not the instrument missed children with important unaddressed legal problems. The low specificity of the MASQ may mean that the questions may overestimate the presence of legal needs in high-risk families or that the family is not ready to seek legal counsel at the time of the screening.

With the proliferation of medical-legal partnerships in the United States, screening surveys such as the MASQ may help providers focus their efforts on patients who will accept referral to legal assistance. Further studies to more accurately identify families that are ready for referral and effective ways to approach them may improve the ability of medical-legal partnerships to help families address these important social determinants of health.

**ACKNOWLEDGMENTS**

This work was support by grant HRSA 1 H17MC02515-01-00 (DK) from the Healthy Tomorrows Partnership for Children, Bureau of Maternal and Child Health, Health Resources and Services Administration. We thank the partners of FACM (Legal Assistance Corporation of Central Massachusetts, Pediatric Primary Care Associates, Family Health Center of Worcester, CHC Family Health Center/Fitchburg, Community Pediatrics of Milford, and South County Pediatrics), without whose enthusiastic cooperation this study would have been impossible. We also thank Christopher Siille, MD, MPH, Onesky Aupont, MD, PhD, and Mark Hansen, MPH, for their thoughtful critiques of this manuscript.

**REFERENCES**