

# Primary Care Clinicians' Use of Standardized Tools to Assess Child Psychosocial Problems

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**Background and Objectives.**—Children's psychosocial problems are prevalent but often inaccurately diagnosed. This study investigated primary care clinicians' (PCCs) use of standardized tools for psychosocial problems among children in whom they reported finding a problem.

**Methods.**—The data consisted of 21 065 unique visits by children ages 4 to 15 years in 204 practices. Parents completed questionnaires before seeing the PCCs, who completed a survey after the visit. This analysis included 3934 children who were recognized by PCCs as having one or more psychosocial problems. The primary outcome was the PCCs' usage of a tool to assess child psychosocial problems.

**Results.**—PCCs used a tool in 20.2% of visits where a psychosocial problem was recognized, whereas 50% of PCCs never used such tools. Tools were less likely to be used by female PCCs and family practitioners and were less likely to be used with girls and African American children. Tools were more frequently used with children with attention problems, during visits for psychosocial problems, and when the PCC knew about the problem before the visits.

**Conclusions.**—PCCs use standardized tools infrequently to screen for, confirm, or monitor psychosocial problems.

**KEY WORDS:** child; diagnostic techniques and procedures; mass screening; mental disorders; preschool; primary health care

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Mental disorders are common chronic conditions among children.<sup>1–5</sup> Most children with psychosocial problems see generalists rather than mental health specialists.<sup>6,7</sup> Unfortunately, the primary care clinicians (PCCs) frequently do not provide children with appropriate mental health treatments or referrals to specialists,<sup>8,9</sup> in part because of the PCCs' failures to accurately assess disorders.<sup>8,10–14</sup>

Many authors recommend assessment tools (eg, symptom checklists<sup>15–17</sup>) to improve assessment in primary mental health care in order to screen for disorders, confirm diagnoses, or monitor symptoms.<sup>18–24</sup> For example, the American Academy of Pediatrics clinical practice guideline on the evaluation of attention deficit hyperactivity disorder<sup>25</sup> strongly recommends the use of tools that are specific to that disorder. However, no study has examined whether PCCs use assessment tools. Therefore, using data from the Child Behavior Study (CBS),<sup>12</sup> we studied when PCCs used psychosocial assessment tools during child visits. Data were available only for children in whom PCCs recognized psychosocial problems; hence, we are concerned with the use of tools when PCCs suspect a

mental health condition. This is an important use of assessment tools, because the positive predictive value of a test is increased when the base rate of illness is increased.

We hypothesized that PCC factors suggesting greater comfort with and training in the management of psychosocial problems would be associated with greater tool use, including provider gender,<sup>26,27</sup> professional discipline,<sup>28</sup> mental health training,<sup>10</sup> or beliefs and attitudes about mental health care.<sup>29</sup> We also looked at child patient characteristics, including mental health symptoms, age, and gender.<sup>14</sup> Finally, we examined visit characteristics that could influence tool use, such as whether the child was the PCC's own patient,<sup>10,12,30</sup> and whether the visit was a mental health visit.<sup>31</sup>

## METHODS

### Sites and Settings

Several primary care research networks participated in the CBS: Ambulatory Sentinel Practice Network<sup>32</sup> and Pediatric Research in Office Settings,<sup>33</sup> the Wisconsin Research Network, and the Minnesota Academy of Family Physicians. The CBS patients and PCCs resembled those in national samples.<sup>12,34–38</sup>

### Sample

Each PCC enrolled a consecutive sample of approximately 55 children aged 4 to 15 years ( $\bar{X}$  = 8.8,  $SD$  = 3.2) presenting for non-emergency care with a parent or primary caretaker. We enrolled a child only once and excluded children who were seen for procedures only. There were 24 183 eligible children, of whom 21 065 participated in the study and contributed sufficient data for analyses

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**Table 1.** Clinician, Child Patient, and Visit Factors\*

Domain	Variable	Average or Percentage
Clinician factors	Male gender	57%
	High MC penetration	16%
	Family practitioner	17% of visits, 26% of providers
	Belief in MH	$\bar{X} = 12.3, SD = 3.4$
	Burden of MH	$\bar{X} = 15.5, SD = 4.8$
	MH fellowship or rotation	8%
Child patient factors	MH specialist on site	34%
	Age	$\bar{X} = 8.8 \text{ years}, SD = 3.2$
	Male gender	64%
	College-educated parents	17%
	Hispanic ethnicity	8%
	African American ethnicity	7%
	PSC-17 internalizing	$\bar{X} = 3.1, SD = 2.4$
	PSC-17 externalizing	$\bar{X} = 5.7, SD = 3.2$
Visit factors	PSC-17 attention	$\bar{X} = 5.1, SD = 2.8$
	My patient	83%
	Previously recognized problem	66%
	Visit for a psychosocial problem	15%

\*MC indicates managed care; MH, mental health; PSC, pediatric symptom checklist.

(see previous publications for details<sup>14,31</sup>). For this analysis, we selected children whom PCCs had identified as having a psychosocial problem (N = 3934 unique child visits with 379 PCCs; Table 1). To minimize respondent burden, PCCs were not asked questions about tool use for children without recognized psychosocial problems.

## Procedure

Before we began collecting visit data, each PCC completed a questionnaire about his or her training and practice. They each signed an agreement to participate, an alternative to standard informed consent that was approved by our IRBs. Parents completed a Parent Visit Questionnaire after giving informed consent and before they saw the PCC. The PCC completed a Clinician Visit Questionnaire after the visit and did *not* see the Parent Visit Questionnaire data.

## Measures

### *Clinician Practice Questionnaire*

This survey included questions about whether the PCC had completed a residency rotation or fellowship that included mental health training and if there had been a mental health specialist at the practice site. The survey also included the Physician Belief Scale, which measures PCCs' comfort with and beliefs about the treatment of psychosocial issues rather than attitudes toward specific child and adolescent mental health conditions.<sup>39,40</sup> This scale has been used previously in studies of adult mental illness.<sup>41,42</sup> We constructed 2 scales (details provided elsewhere<sup>29</sup>) that measured PCCs' attitudes about mental health care. The first scale measured PCCs' beliefs that they lacked the ability to treat psychosocial problems and that patients would not want these problems to be investigated ("Belief in MH"), that is, higher scores reflected a lesser orientation toward psychosocial problems (representative item: "I focus on organic problems because I cannot treat psychosocial problems"). The second scale

measured PCCs' belief that investigating psychosocial problems required too much time and effort ("Burden of MH," representative item: "Evaluating/treating psychosocial items will cause me to be overburdened"). The scales have good internal consistency ( $\alpha = .75$  and  $.76$ ).

### *Parent Visit Questionnaire*

This survey included the Pediatric Symptom Checklist, a 35-item questionnaire for parents about child symptoms and behaviors.<sup>43,44</sup> We used 3 recently developed subscales of a 17-item version of this questionnaire<sup>45</sup>: 1) attention and hyperactivity problems, 2) externalizing problems (primarily conflicts with others), and 3) internalizing problems (inner distress on the part of the child). These subscales have high internal consistency ( $\alpha \geq .79$ ) and good agreement with criterion instruments.<sup>45</sup>

### *Clinician Visit Questionnaire*

After seeing the patient, the PCC checked whether the child "is my primary care patient" and recorded the perceived reason for the visit. The survey also included a checklist of child psychosocial problems that the PCC found. For this analysis, we included "family dysfunction," "attention deficit/hyperactivity problems," "behavior or conduct problems," and internalizing problems (either "adjustment reaction/reaction to stress" or "other emotional problems [eg, anxiety, sadness]"). The PCC also indicated whether checked problems had been previously recognized.

For PCCs who indicated that they had found a psychosocial problem, the Clinician Visit Questionnaire included the following question: "What assessment technique(s) did you use to determine the above psychosocial problem(s)?" Among the options was "Standardized assessment tools (eg, behavior checklist)."

## Statistical Analysis

We calculated logistic or ordered logistic regressions using STATA Version 7.<sup>46</sup> The outcome variable was the

**Table 2.** Adjusted Odds Ratios for Factors Associated With Tool Use During Office Visits\*

Factor†	Adjusted Odds Ratio	(95% CI)
Clinician factors		
Male gender	1.21	(1.00, 1.47)
High MC penetration	1.17	(0.70, 1.94)
Family practitioner	0.54	(0.31, 0.95)
Burden of MH	0.94	(0.90, 0.99)
Belief in MH	0.95	(0.89, 1.02)
MH fellowship or Rotation	1.29	(0.87, 1.89)
MH specialist on site	1.16	(0.78, 1.74)
Child patient factors		
Age	1.02	(1.00, 1.05)
Male gender	1.66	(1.34, 2.06)
College-educated parents	1.02	(0.80, 1.31)
Hispanic ethnicity	0.82	(0.40, 1.65)
African American ethnicity	0.55	(0.32, 0.96)
PSC-17 internalizing	0.94	(0.90, 0.98)
PSC-17 externalizing	0.97	(0.93, 1.00)
PSC-17 attention	1.28	(1.22, 1.35)
Visit factors		
My patient	1.21	(0.80, 1.31)
Previously recognized problem	1.91	(1.45, 2.50)
Visit for a psychosocial problem	2.92	(2.27, 3.77)

\*CI indicates confidence interval; MC, managed care; MH, mental health; PSC, pediatric symptom checklist.

†The regression equation also included covariates coding for the season in which the visit took place and whether the visit occurred early or late in series of patients seen by the clinician. The latter covariate tested for whether clinicians habituated to the research procedure, which would suggest that their performance was affected by the procedure. None of these terms were statistically significant.

PCC's use of a tool during a visit, with corrections to the standard errors of the regression coefficients for clustering of visits among PCCs.<sup>47</sup> Thus, we were able to analyze tool use on a visit as the variable of interest and to include physician, patient, and visit factors that may affect tool use. Odds ratios are reported with 95% confidence intervals.

## RESULTS

### Tool Use

PCCs reported that they used a tool in 796 (20%) of visits in which a mental health problem had been recognized. Half the PCCs reported no tool use. Less than 7% of PCCs reported using tools on 50% or more of visits.

### Factors Predicting Tool Use

Table 2 presents the results of a logistic regression in which the dependent variable was whether a tool was used during a visit. The PCC, child, and visit factors were used as covariates. Physicians who perceived mental health care as a burden, female PCCs, and family practitioners were less likely to use tools. Tool use was not associated with having had mental health training or a mental health specialist onsite. Tools were less frequently used with girls, African American children, and children whose parents reported symptoms of internalizing problems. Tools were more frequently used with children whose parents

reported attention symptoms (tools were used with 37% of children with attention problems but with only 4% of children without attention problems), when the visit was for a mental health problem, and when the PCC knew about the problem from a previous visit.

## DISCUSSION

This study examined PCCs' use of psychosocial assessment tools in children with a recognized psychosocial problem. The PCCs used tools infrequently in this circumstance. Although we lack data on tool use during other visits, it seems unlikely that tools were used more frequently when PCCs did not suspect a psychosocial problem to be present. Moreover, if a PCC used tools for routine screening, tool use would have been mentioned for all identified cases for a given PCC. Because this was true for very few PCCs, we infer that routine screening with tools was uncommon. Our study did not consider *why* tools were not used more often. It is possible that tools have not been marketed in ways that would reach most PCCs. In addition, it may be that the time and administrative costs of paper and pencil instruments make tools inefficient and poorly feasible in pediatric offices.<sup>48</sup>

Tool use with children who have recognized psychosocial problems was more likely when the visit was for a mental health problem or when the problem had been recognized by the PCC on a previous visit. Therefore, some of the children who were not assessed with a tool during the visit we observed were probably assessed during subsequent visits. Tool use was strongly associated with the finding of attention problems, perhaps because PCCs are more willing and better trained to address these issues than other pediatric psychosocial problems. Conversely, lack of tool use with children who have other problems may reflect a lack (in the early 1990s) of office-based treatments for or knowledge about those conditions. Several of our findings likely relate to the markedly increased tool use for attention problems. Family practitioners were less likely to use tools, perhaps because their training emphasizes different approaches to attention problems compared with the training of pediatricians. The PCCs were less likely to use tools with African American children, an unexpected finding because there were otherwise few racial disparities in the primary mental health care of children.<sup>31,49</sup> We speculate that PCCs may perceive African American parents as being less willing to allow their children to be medicated, which might inhibit PCCs from using tools designed to find or monitor attention problems. Tools were less likely to be used with girls. Noting that tools seem to be most commonly used for attention problems, this is consistent with our previous finding that PCCs are more likely to find attention problems in boys, even when parents report the same level of attention problems or symptoms.<sup>14</sup>

Male PCCs were more likely to use tools. Female PCCs often practice in settings that provide less support for continuity of care.<sup>26,30,31</sup> If tools are typically used to confirm a diagnosis after a period of watchful waiting or to monitor symptoms over time, then the difference may result

from female PCCs' reduced opportunities for continuous care relationships.

### Limitations

The CBS was designed to obtain a large sample size from working offices. Therefore, we asked PCCs as few questions as possible, and our questionnaire had a skip pattern such that we do not know whether PCCs used tools with children in whom they did not detect problems. Similarly, we do not know what tool the PCCs used, including whether it was a screening, diagnostic, or monitoring tool, or whether PCCs' reports about tool use were valid. Finally, because PCCs noted the reason for the visit after the visit, their reports may have been affected by whether a problem was found.

### Conclusions

PCCs rarely use assessment tools to screen, confirm the diagnoses of psychosocial problems in children, or monitor symptoms. The first use is particularly rare. If tools are a cost-effective means of improving diagnoses of mental health problems of children seen in primary care—which remains to be proved—then tools may be underused.

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