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Barriers to the Identification and Management of Psychosocial Problems: Changes from 2004 to 2013

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Abstract

Objective—Pediatricians report many barriers to caring for children with mental health (MH) problems. The American Academy of Pediatrics (AAP) has focused attention on MH problems but

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Sarah McCue Horwitz, Ph.D.: Dr. Horwitz participated in the development of both Periodic Surveys, conducted the analyses, drafted sections of the article, critically reviewed all drafts, and is accountable for all aspects of the work.

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the impact on perceived barriers is unknown. We examined whether perceived barriers and their correlates changed from 2004 to 2013.

Methods—In 2004, 832/1600 (52%) and in 2013, 594/1617 (36.7%) of randomly selected AAP members surveyed responded to Periodic Surveys, answering questions about socio-demographics, practice characteristics, and 7 barriers to identifying, treating/managing and referring child/adolescent MH problems. To reduce non-response bias, weighted descriptive and logistic regression analyses were conducted.

Results—Lack of training in treatment of child MH problems (~65%) and lack of confidence treating children with counseling (~60%) did not differ across surveys. Five barriers (lack of training in identifying MH problems, lack of confidence diagnosing, lack of confidence treating with medications, inadequate reimbursement and lack of time) were less frequently endorsed in 2013 (all p<.01), although lack of time was still endorsed by 70% in 2013. In 2004, 34% of pediatricians endorsed 6 or 7 barriers compared to 26% in 2013 (p<.005). Practicing general pediatrics exclusively was associated with endorsing 6 or 7 barriers in both years (p <.001).

Conclusion—Although fewer barriers were endorsed in 2013, most pediatricians believe that they have inadequate training in treating child MH problems, a lack of confidence to counsel children, and limited time for these problems. These findings suggest significant barriers still exist, highlighting the need for improved developmental and behavioral pediatrics training.

What's New—This study compares reported barriers from the 2004 and 2013 Periodic Surveys. Although pediatricians report fewer barriers in 2013, 66% continue to report lack of training in counseling or medication of children with MH problems, suggesting deficits in developmental and behavioral pediatrics training.

Keywords

Barriers; child psychosocial problems; primary care

Introduction

Mental health (MH) problems in children and adolescents are prevalent (US range 9%-13%) and produce immediate and long lasting morbidity.[1, 2] However, despite increased recognition of these problems in pediatric primary care,[1, 3] the majority of youth with MH problems go undiagnosed and untreated.[1, 4, 5]

Early studies suggested that provider characteristics, such as training and confidence,[6-8] physician specialty, self-rated knowledge of the child and family, [9, 10] perceived lack of time and availability of MH services, [6-8] as well as family characteristics and severity of the child's problem,[10, 11] affect recognition and management of youth MH problems. In 2004, the American Academy of Pediatrics (AAP) fielded a Periodic Survey (PS) to examine the perceived barriers to care for child MH problems and the physician, patient, practice and organizational issues related to different types of barriers.[4] Results from that survey suggested that barriers to identifying and managing children's problems fell into three areas (organizational issues, maternal issues and child issues) with child barriers most often endorsed. Additional analysis of these data[12] identified that while 80% of pediatricians

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agreed that they should be responsible for identifying youth MH problems and 70% agreed that they were responsible for treating/managing ADHD, few pediatricians agreed that they were responsible for treating/managing other MH problems. The only predictor of endorsing treatment across the 7 MH problems in the survey was whether a pediatrician practiced general pediatrics exclusively.[12]

In 2007 the AAP, as a part of its Graduating Residents' Survey, assessed attitudes towards and training in MH issues.[13] Although more than 90% of graduating residents completed a rotation (usually 4 weeks) in developmental and behavioral pediatrics (DBP), fewer than half rated their competencies as very good or excellent. As the length of DBP rotation increased, residents were more likely to rate their competence as high, and self-rated competency increased if residents reported being trained in a specific skill area. Similar to the 2004 PS, residents often agreed that they should be responsible for treating/managing ADHD (67%) but rarely agreed that they should be responsible for treating/managing the other MH problems.[13]

Recognizing the prevalence of MH problems, their importance for children's optimal functioning and pediatricians' unique strengths for identifying and managing MH problems, the AAP has focused considerable attention on these issues over the past 15 years.[14-17] However, the impact of these efforts on perceived barriers for caring for MH problems is unknown. Thus, the AAP again surveyed members on the diagnosis and management of children's MH problems in 2013. Using data from the 2004 and 2013 PSs, this study sought to answer two questions: (1) Have perceived physician-child barriers changed between the two PSs? (2) Have the physician, patient and practice/organization characteristics associated with endorsing physician-child barriers changed over time?

Methods

Periodic Survey (PS) Administration

The study populations consisted of the US non-retired members of the AAP in 2004 (N=50,818) and 2013 (N=54,491) (www.AAP.org). The PS has been conducted multiple times yearly since 1987 to inform policy, develop new initiatives or evaluate current projects. Each questionnaire was pretested for clarity and approved by the AAP Institutional Review Board.

The 2004 questionnaire was sent 7 times to 1600 randomly selected members beginning in March 2004 with the final mailing in August 2004. An email reminder was sent to those with and email address and a postcard reminder was sent to those without one. The 2013 questionnaire was sent 7 times to 1617 randomly selected members beginning in July, 2013 and ending in December, 2013. An email reminder was sent with a link to an electronic version of the survey. Neither the sample selection process nor the survey administration procedures changed between the two surveys. Samples are selected randomly based on the last three digits of the AAP Membership identification numbers that are also randomly assigned. In 2004, 832 (52.0%) responded and in 2013, 594 (36.7%) responded. These analyses included only pediatricians who completed their residency training and provide patient care (687 in 2004 and 510 in 2013).

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Survey Questionnaires

Both surveys asked questions used in previous PSs about socio-demographic characteristics (e.g., age, sex, race/ethnicity, years in practice) and practice characteristics (e.g., type of practice, percentage of time spent in general pediatrics, number of ambulatory visits per week, patient race/ethnicity and insurance). Questions were asked about child, adolescent and adult MH, including residency and fellowship training, interest in further education in identifying and treating common MH problems, and availability of MH services in their community. Also included were 7 questions with responses on a 5-point Likert scale ranging from strongly agree to strongly disagree to assess physician's perceptions of barriers to identifying, treating/managing and referring common MH problems in children and adolescents, originally developed for the Williams et al and Olson and colleagues studies.[18, 19]

Measures

For each of the 7 items measuring perceived barriers to identifying, referring and treating/managing child/adolescent MH problems, pediatricians who responded strongly agree or agree were coded as endorsing the barrier. Pediatricians who endorsed many barriers, defined *apriori* as 6 or 7 barriers, were compared to those who endorsed 0-5 barriers. Pediatricians who reported completing a fellowship in DBP, child psychiatry, adolescent medicine, and/or behavioral sciences were coded as completing a fellowship in a child MH-related area. Physicians were coded as providing MH services to children/adolescents in 2004 if they answered "yes" to a yes/no question about whether they provided medication, counseling or psychotherapy to children/adolescents. In 2013, physicians were coded as providing child/adolescent MH services if they reported usually treating/managing/co-managing ADHD, child or adolescent depression, behavior management problems, learning disabilities, anxiety disorders, substance abuse, and/or eating disorders.

Analysis

Although both samples reflect the AAP membership at the time of the surveys (data not shown; samples are extremely similar to the full membership on sex, age and region), non-response was considerable. For each survey, sample weights were created to minimize potential bias due to differential non-response and to ensure that the respondents were representative of the membership. Logistic regression was used to estimate the probability of responding to each survey to create a propensity score; auxiliary information available for both responders and non-responders were included as predictors (age, sex, region, and membership status). The methods used to create the sample weights for the 2004 survey are described elsewhere.[4] For the 2013 survey, the final logistic regression model included the three-way interaction of age, sex, and region as well as their two-way interactions and main effects; those who did not respond were more likely to be younger females practicing in the Northeast or Midwest. Ten groups were created using deciles of the propensity score distribution, and the average propensity score ($\overline{ps}$) was calculated for each group. The inverse of the average propensity score ($\frac{1}{\overline{ps}}$) for each group was used to create the sample

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weights. For each survey, the sample weights were rescaled such that the average was 1 and the sum was equal to the analytic sample size.

Like the analyses for the 2004 survey, weighted means and standard errors were used to summarize continuous measures, while weighted proportions were used to describe categorical measures. Bivariate comparisons were assessed using weighted linear regression, weighted logistic regression, and the Rao-Scott chi-square test. Multivariable weighted logistic regression was used to examine physician and practice characteristics associated with endorsing 6 or 7 barriers to caring for child/adolescent MH problems. After fitting models by survey year, we tested whether physician and practice characteristics associated with endorsing 6 or 7 barriers differed in 2004 and 2013 by including data for both years and examining two-way interactions with survey year. The results are summarized using odds ratios (OR) and 95% confidence intervals, and statistical significance was set at $p<.05$. Analyses were performed using procedures appropriate for survey data in SAS version 9.3 (SAS Institute, Inc., Cary, NC).

Results

Compared to respondents in 2004, significantly more respondents in 2013 were female (52% in 2004 vs. 61% in 2013), practicing in an urban area (44% vs. 52%), spent no time practicing general pediatrics (18% vs. 27%), had <100 ambulatory visits per week (50% vs. 70%), and had <80% of patients with private insurance (51% vs. 62%). Additionally, significantly fewer respondents in 2013 compared to 2004 were in a 1-2 physician practice (2004 vs. 2013: 15% vs. 9%) or reported that >75% of their patients were Caucasian (31% vs. 19%).

In 2004 and 2013, about 60% of physicians reported providing MH treatment to children/adolescents, and over 80% reported referring at least one patient for MH treatment in the past year (Table 2). In 2013, more physicians reported that children's MH services in their communities were either not available or they did not know the availability of these services (10% in 2004 vs. 22% in 2013). Compared to physicians in 2004, a smaller proportion of physicians in 2013 reported completing a fellowship in a MH-related area (child psychiatry, behavioral sciences, adolescent medicine) (27% in 2004 vs. 5% in 2013) or having attended a lecture/conference on child MH in the past 2 years (56% vs. 39%). A lower percentage in 2013 reported that they were very interested in further education on identifying (65% in 2004 vs. 44% in 2013) or treating/managing/co-managing (56% vs. 40%) child MH problems, and those who reported that they were not at all interested doubled from 7% to 15% for identifying and from 12% to 24% for treating/managing.

Fewer respondents in 2013 compared to 2004 endorsed 6 or 7 child barriers to identifying, treating/managing and referring child/adolescent MH problems (34% in 2004 vs. 26% in 2013, $p=.005$) (Table 3). Examination of the individual child barrier items revealed that fewer respondents in 2013 compared to 2004 endorsed 5 of the 7 barriers: lack of training in identifying, lack of confidence in diagnosing, lack of confidence in treating with medication, lack of time to treat, and inadequate reimbursement for treating child/adolescent MH problems (all p-values < .01), though the absolute percentages remained >50% for lack of

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time and lack of confidence in treating with medicines. The proportion of respondents in 2004 and 2013 was similar regarding endorsing lack of training in treatment with counseling or medications (65% in 2004 vs. 66% in 2013) and lack of confidence treating with counseling (62% vs. 58%) as barriers.

As shown in Table 1 (right side), physician and practice characteristics that were positively associated with endorsing 6-7 child MH barriers in 2004 were: practicing for 5-9 years, suburban practice, pediatric group practice, practicing general pediatrics exclusively, having ≥100 ambulatory visits per week, and <75% of their patients are Caucasian. In 2013, the only physician/practice characteristic that was positively associated with endorsing 6-7 barriers was exclusively practicing general pediatrics.

Child/adolescent MH experiences that were positively associated with endorsing 6-7 child barriers in both 2004 and 2013 were referring at least 1 child for MH treatment in the past year and not completing a fellowship in a child MH-related area (Table 2). Additionally, in 2013, there was a positive association between reporting providing MH treatment to children and endorsing 6-7 child barriers.

Findings from the weighted multivariable logistic regression models are shown in Table 4. The only physician/practice characteristic that was significantly associated with endorsing 6-7 child barriers in both 2004 and 2013 was exclusively practicing general pediatrics. For the 2004 survey, the odds of endorsing 6-7 barriers were significantly higher for physicians practicing in a suburban setting compared to an urban setting (OR=1.84, 95% CI: 1.24, 2.74) and for physicians who referred at least one child for MH treatment in the past year (OR=3.04, 95% CI: 1.45, 6.39), and significantly lower for physicians who provide MH treatment to children (OR=0.60, 95% CI: 0.40, 0.88). For the 2013 survey, attending a child MH lecture/conference in the past 2 years (OR=0.65, 95% CI: 0.42, 0.98) was associated with significantly lower odds of endorsing 6-7 barriers. Results from the regression model that included data from both survey years showed that in 2013 but not in 2004, pediatricians practicing in a pediatric group practice had significantly lower odds of endorsing 6 -7 barriers compared to those practicing in other settings (2013 OR=0.42, 95% CI: 0.27, 0.65). Associations of the other physician and practice characteristics with endorsing 6-7 barriers did not significantly vary by survey year.

Discussion

These data on perceived barriers to the identification and management of child MH problems collected about a decade apart show considerable change in pediatricians, their practices, their perceptions of barriers and the factors related to perceived barriers. The changes in pediatrician and practice characteristics are consistent with those reported by the AAP. [20] There was a substantial decline in self-reported fellowship training in any child MH-related area, including DBP (27% vs. 5%). The lack of fellowship training in any child MH area may be due to the fact that 57% of individuals surveyed in 2013 (compared to 33% in 2004) completed residency in 1998 or after, when the four week rotation in DBP became mandatory, thus theoretically not requiring any post residency training to gain basic skills in DBP. It also could be due to pediatricians with this subspecialty aligning with other

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professional organizations rather than the AAP or that DBP fellowship training, which formerly could be 1 to 3 years, is now mandated to be 3 years. Finally, prior to formal DBP fellowship training, pediatricians reported any number of fellowships in MH areas, the content of which is undefined.

The results of this survey also point to declining pediatrician interest in child MH problems even though they are prevalent and debilitating problems affecting health and optimal functioning.[1] In 2013, significantly fewer pediatricians reported attending a lecture or conference on child MH in the past two 2 years or being very interested in further education in identifying or treating/managing child MH problems. Furthermore, the percentage of pediatricians who were not at all interested in these problems doubled. This suggests that although the AAP has strongly emphasized the unique position of pediatricians to address MH issues in both children and their families, and MH issues as the most prevalent problems seen by pediatricians,[16] practicing pediatricians have not yet either fully embraced the importance of MH problems in the lives of their young patients or their potential role in identifying and treating these issues.

Endorsing 6 or 7 barriers decreased from 34% in 2004 to 26% in 2013, suggesting that pediatricians perceived somewhat fewer impediments to addressing these issues, but many barriers are still reported. The decrease in the barriers, lack of time to treat and inadequate reimbursement for treating, is likely due to changes in practice and patient characteristics. More pediatricians report serving fewer than 100 patients weekly which may be related to the decrease in endorsement of the perceived time to treat barrier. Regardless of the decrease, lack of time to treat MH problems remains the single most endorsed barrier in both surveys. The decrease in endorsement of the barrier of perceived inadequate reimbursement may be related to treating more patients insured by Medicaid. Although there are documented differences in access for individuals insured by Medicaid,[21, 22] on average, having any insurance , public or private, improves access.[23-25] The remaining barriers that pediatricians perceive as less important in 2013 as compared to 2004 may reflect the impact of DBP residency training and the efforts of the AAP to address child MH issues. Fewer pediatricians report that they perceive that they lack training in identifying children/adolescents with MH problems, that they lack confidence in their ability to diagnose child/adolescent MH problems and that they lack confidence in their ability to treat these problems with medication. These changed are likely due to the 4 week mandated DBP rotation. What has not changed over almost a decade is that the majority of pediatricians still perceive that they are not adequately trained in or confident in treating children and adolescents with counseling and medication. Given the short length of DBP rotations (4 weeks), and the amount of practice necessary to become competent in evidence-based MH treatments, this finding is not surprising and suggests that if pediatricians are to become competent counselors for children/adolescents with MH problems, additional education will be necessary.

The multivariable models show different characteristics driving endorsement of physician-child barriers across the two surveys. In 2004, practicing in a suburban versus urban location, having fewer than 75% Caucasian patients, practicing general pediatrics exclusively, not providing MH treatment, and referring at least one child for MH treatment

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were related to high perceived barriers. In 2013, only two factors were related to high perceived barriers: attending a child MH lecture/conference, which was inversely related to high perceived barriers, and exclusively practicing general pediatrics, which was positively associated. It is likely that those who are interested in and more competent in child MH problems choose to attend child MH conferences and lectures and also are likely to perceive few barriers to addressing those problems. The model with data from both surveys confirms the importance of the relationship of working in a pediatric group practice to high perceived barriers. In both surveys, respondents practicing general pediatrics exclusively are significantly more likely to have referred at least one child for MH services in the last year, compared to those working part-time or not at all in general pediatrics (data not shown) suggesting that barriers are perceived when pediatricians try to arrange mental health services for children they believe need them.

These data have limitations. Both surveys have suboptimal response rates although they are not unusual for surveys of physicians.[26, 27] Analysis of response bias in AAP surveys shows little non-response bias. [28] Examination of the survey samples and AAP membership shows no differences on a limited set of characteristics and both surveys were weighted for non-response. However, it is unlikely that all of the non-response bias was corrected since we have only a limited number of characteristics on which to compare the responders and non responders and it is likely that those pediatricians interested in the topic were most likely to respond.[29] Thus, we would anticipate that this study underestimates endorsement of child barriers. Additionally, an examination of early versus late responders, a common technique to estimate response bias in social science surveys found, with the exception that early responders were older, a factor adjusted for in the weights, no differences in pediatrician characteristics and no differences in the endorsement of barriers, the main outcome of interest. [30, 31] These data are cross-sectional with both correlates and barriers measured at the same point in time. Therefore, these results present associations and do not imply causality. Although many of the questions in the 2004 and 2013 surveys were identical, some had slight wording differences that could have influenced pediatricians' responses and the content of the questions was not explained in detail. Thus, questions could have been interpreted differently by respondents. Lastly, given the possibility of response bias for professionally desirable behaviors, respondents may have overestimated some of the behaviors or actions asked about in the survey.

Conclusion

Although fewer pediatricians endorsed barriers to the diagnosis and treatment of children's MH problems in 2013 as compared to 2004, nearly 66% of pediatricians continue to report that lack of training in treatment of children with MH problems with medication or counseling is a barrier, 58% lack confidence to treat children/adolescents with counseling, and 70% continue to report that lack of time to treat child MH problems is a barrier. These findings point to continuing problem of practice barriers (time) and considerable deficits in DBP training including the lack of interest in and direct diagnosis and management of child MH problems. Further, fewer pediatricians in 2013, compared to 2004, expressed interest in furthering their education on children's mental health. These issues exist despite the emphasis that the AAP has placed on the importance of child MH for optimal growth and

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development. An examination of both the content and length of the DBP residency training is warranted in order to improve the skills of those in training. For pediatricians in practice, there are several training models available, such as New York State's Project Teach initiative, to encourage the interest of pediatricians in child MH problems, and to improve the detection and management of these important problems.[32]

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Abbreviations

MH	mental health
AAP	American Academy of Pediatrics
DBP	Developmental and Behavioral Pediatrics
PS	Periodic Survey

References

1. Health UDo. Services H. Report of the Surgeon General's Conference on Children's Mental Health: A national action agenda. 2000
2. Ringeisen H, Oliver KA, Menvielle E. Recognition and treatment of mental disorders in children. Pediatric Drugs. 2002; 4(11):697–703. [PubMed: 12390041]
3. Kelleher KJ, McInerny TK, Gardner WP, et al. Increasing identification of psychosocial problems: 1979–1996. Pediatrics. 2000; 105(6):1313–1321. [PubMed: 10835074]
4. Horwitz SM, Kelleher KJ, Stein RE, et al. Barriers to the identification and management of psychosocial issues in children and maternal depression. Pediatrics. 2007; 119(1):e208–e218. [PubMed: 17200245]
5. Hogan MF. New Freedom Commission report: The president's New Freedom Commission: recommendations to transform mental health care in America. Psychiatric Services. 2003; 54(11): 1467–1474. [PubMed: 14600303]
6. Rushton JL, Fant KE, Clark SJ. Use of practice guidelines in the primary care of children with attention-deficit/hyperactivity disorder. Pediatrics. 2004; 114(1):e23–e28. [PubMed: 15231969]
7. Shaw K, Mitchell G, Wagner I, Eastwood H. Attitudes and practices of general practitioners in the diagnosis and management of attention-deficit/hyperactivity disorder. Journal of paediatrics and child health. 2002; 38(5):481–486. [PubMed: 12354265]
8. Williams J, Klinepeter K, Palmes G, et al. Diagnosis and treatment of behavioral health disorders in pediatric practice. Pediatrics. 2004; 114(3):601–606. [PubMed: 15342827]
9. Glied S. Too little time? the recognition and treatment of mental health problems in primary care. Health services research. 1998; 33:891. 4 Pt 1. [PubMed: 9776941]
10. Kelleher KJ, Childs GE, Wasserman RC, et al. Insurance status and recognition of psychosocial problems: a report from the Pediatric Research in Office Settings and the Ambulatory Sentinel Practice Networks. Archives of pediatrics & adolescent medicine. 1997; 151(11):1109–1115. [PubMed: 9369872]
11. Rushton J, Bruckman D, Kelleher K. Primary care referral of children with psychosocial problems. Archives of pediatrics & adolescent medicine. 2002; 156(6):592–598. [PubMed: 12038893]
12. Stein RE, Horwitz SM, Storfer-Isser A, et al. Do problems? Results of the AAP periodic survey. Ambulatory Pediatrics. 2008; 8(1):11–17. [PubMed: 18191776]

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13. Horwitz SM, Caspary G, Storfer-Isser A, et al. Is developmental and behavioral pediatrics training related to perceived responsibility for treating mental health problems? Academic pediatrics. 2010; 10(4):252–259. [PubMed: 20554260]
14. Coleman WL, et al. Policy Statement—The Future of Pediatrics: Mental Health Competencies for Pediatric Primary Care. Pediatrics. 2009; 124(1):410–421. [PubMed: 19564328]
15. Pediatrics AAo. Addressing mental health concerns in primary care: A clinician's toolkit. American Academy of Pediatrics; Elk Grove Village: 2010.
16. Pediatrics TAAo. Committee on Psychosocial Aspects of Child and Family Health. Accessed http://www.aap.org/en-us/about-the-aap/Committees-Councils-Sections/Pages/Committee-on-Psychosocial-Aspects-of-Child-and-Family-Health.aspx, December 22, 2014
17. Wolraich, M.; Felice, ME.; Drotar, D. The classification of child and adolescent mental diagnoses in primary care: diagnostic and statistical manual for primary care (DSM-PC) child and adolescent version: American Academy of Pediatrics. Elk Grove Village, IL: 1996.
18. Olson AL, Kelleher KJ, Kemper KJ, et al. Primary care pediatricians' roles and perceived responsibilities in the identification and management of depression in children and adolescents. Ambulatory Pediatrics. 2001; 1(2):91–98. [PubMed: 11888379]
19. Williams JW Jr, Rost K, Dietrich AJ, et al. Primary care physicians' approach to depressive disorders: effects of physician specialty and practice structure. Archives of Family Medicine. 1999; 8(1):58. [PubMed: 9932074]
20. www.AAP.org/en-us/professional-resources/Research/pediatrician-surveys/Pages/personal-and--practice-characteristics-of-pediatricians-US-only-2010.ASPX. Accessed June 8, 2015
21. Berk ML, Schur CL. Access to care: how much difference does Medicaid make? Health Affairs. 1998; 17(3):169–180. [PubMed: 9637973]
22. Kataoka SH, Zhang L, Wells KB. Unmet need for mental health care among US children: Variation by ethnicity and insurance status. American Journal of Psychiatry. 2002; 159(9):1548–1555. [PubMed: 12202276]
23. Newacheck PW, Hughes DC, Stoddard JJ. Children's access to primary care: differences by race, income, and insurance status. Pediatrics. 1996; 97(1):26–32. [PubMed: 8545220]
24. Newacheck PW, Pearl M, Hughes DC, Halfon N. The role of Medicaid in ensuring children's access to care. Jama. 1998; 280(20):1789–1793. [PubMed: 9842958]
25. Starfield B, Shi L. The medical home, access to care, and insurance: a review of evidence. Pediatrics. 2004; 113(Supplement 4):1493–1498. [PubMed: 15121917]
26. Asch DA, Jedrziewski MK, Christakis NA. Response rates to mail surveys published in medical journals. Journal of clinical epidemiology. 1997; 50(10):1129–1136. [PubMed: 9368521]
27. Cummings SM, Savitz LA, Konrad TR. Reported response rates to mailed physician questionnaires. Health services research. 2001; 35(6):1347. [PubMed: 11221823]
28. Cull WL, O'Connor KG, Sharp S, Tang SfS. Response rates and response bias for 50 surveys of pediatricians. Health services research. 2005; 40(1):213–226. [PubMed: 15663710]
29. Groves RM, Presser S, Dipko S. The role of topic interest in survey participation decisions. Public Opinion Quarterly. 2004; 68(1):2–31.
30. Keeter S, Kennedy C, Dimock M, Best J, Craighill P. Gauging the impact of growing nonresponse on estimates from a national RDD telephone survey. Public Opinion Quarterly. 2006; 70(5):759–779.
31. Holbrook A, Krosnick J, Pfent A. The causes and consequences of response rates in surveys by the news media and government contractor survey research firms. Advances in telephone survey methodology. 2007:499–528.
32. Kerker BD, Hoagwood KE, Radigan M, et al. Detection and treatment of mental health issues by pediatric PCPs in New York State: An evaluation of Project TEACH. Psychiatric Services. 2014 In press.

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Table 1

Physician and Practice Characteristics By Survey Year, and Bivariate Associations with Percent Positively Endorsing 6-7 Barriers to Identifying, Treating/Managing and Referring Child MH Conditions by Survey Year (Weighted Percentages)

				2004 (n=687)		2013 (n=510)	
	2004 (n=687)	**2013 (n=510)**	**p-val**	**Endorsed 6-7 barriers**	**p-val**	**Endorsed 6-7 barriers**	**p-val**
Total:	100%	100%		34.1%		26.4%	
Physician characteristics							
Sex							
Male	47.8	38.8	**.0022**	31.9	.2507	25.3	.6505
Female	52.2	61.2		36.1		27.2	
Age (yrs)							
<40	37.0	32.5	.1681	37.7	.1478	27.2	.6597
40-49	28.3	31.1		36.3		27.9	
50-59	23.6	22.1		27.9		21.9	
≥60	11.1	14.3		29.4		28.7	
Race/Ethnicity							
Caucasian	71.6	71.9	.8044	34.6	.2882	25.6	.4457
Asian	14.6	13.5		37.7		32.8	
Other/Unknown	13.8	14.6		27.4		24.9	
Years in Practice							
1-4	26.7	21.8	.2406	30.1	**.0215**	27.3	.8011
5-9	16.9	16.7		46.4		28.7	
10-19	27.2	28.5		37.7		28.1	
≥20	29.2	33.1		31.2		23.8	
Year completed residency training							
<1998	67.1	43.1	**<.0001**	34.9	.5116	25.3	.6113
≥1998	32.9	56.9		32.4		27.3	
Practice characteristics							
Area							
Urban	44.3	51.8	**.0205**	27.0	**.0003**	24.8	.0985
Suburban	42.5	38.9		43.5		30.9	

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				2004 (n=687)		2013 (n=510)	
	2004 (n=687)	**2013 (n=510)**	**p-val**	**Endorsed 6-7 barriers**	**p-val**	**Endorsed 6-7 barriers**	**p-val**
Rural	13.2	9.3		33.6		16.2	
Region							
Northeast	27.3	22.0	.2181	37.2	.3915	27.9	.7293
Midwest	20.8	21.7		31.5		22.7	
South	33.0	36.4		36.0		28.4	
West	18.9	19.9		29.1		25.5	
Type of Practice							
1 or 2 physicians	15.4	8.6	**.0006**	38.8	**.0003**	26.2	.9312
Pediatric group practice	36.0	34.1		42.8		27.6	
Multi-specialty	11.0	16.0		25.3		27.9	
Other	37.6	41.3		26.4		25.0	
Time in general pediatrics							
None (0%)	17.7	27.4	**<.0001**	18.7	**<.0001**	14.2	**<.0001**
Some (1%-99%)	15.1	9.3		24.0		14.9	
Exclusively (100%)	67.2	63.3		41.5		33.1	
<100 ambulatory visits per week							
No	50.3	29.6	**<.0001**	40.1	**.0247**	29.3	.4874
Yes	49.7	70.4		31.6		26.1	
≥75% of patients are Caucasian							
No	69.5	81.5	**<.0001**	38.1	**.0468**	26.6	.7663
Yes	30.5	18.5		29.9		28.1	
Patient insurance							
<80% have private insurance	51.3	61.6	**<.0001**	35.4	.0596	25.9	.1302
≥80% have private insurance	28.7	17.9		37.6		34.2	
Unknown	20.0	20.5		25.6		21.5	

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Table 2

Child Mental Health Experiences By Survey Year, and Bivariate Associations with Percent Positively Endorsing 6-7 Barriers to Identifying, Treating/ Managing and Referring Child MH Conditions by Survey Year (Weighted Percentages)

				2004 (n=687)		2013 (n=510)	
	2004 (n=687)	**2013 (n=510)**	**p-val**	**Endorsed 6-7 barriers (34.1%)**	**p-val**	**Endorsed 6-7 barriers (26.4%)**	**p-val**
Physician provides MH treatment to children							
No	39.2	42.6	.2427	34.5	.8621	21.8	**.0405**
Yes	60.8	57.4		33.8		29.9	
Referred ≥1 child for MH treatment in past year							
No	11.6	16.3	**.0185**	16.2	**.0004**	12.3	**.0016**
Yes	88.4	83.7		36.4		29.2	
Availability of children's MH services							
Very available	14.3	13.1	**<.0001**	25.6	.0936	23.6	.6869
Somewhat available	75.9	64.8		37.3		29.0	
Not available / Do not know	9.8	22.2		33.7		27.3	
Completed fellowship in child MH-related area							
No	73.0	94.7	**<.0001**	36.3	**.0442**	27.9	n/a*
Yes	27.0	5.3		28.1		0	
Completed fellowship in DBP							
No	81.5	97.3	**<.0001**	35.1	.2559	27.2	n/a*
Yes	18.5	2.7		29.8		0	
Attended child MH lecture/conference in past 2 years							
No	44.2	61.3	**<.0001**	35.1	.6059	28.5	.1910
Yes	55.8	38.7		33.2		23.2	
Interest in further education on identifying child MH problems							
Very interested	64.7	44.2	**<.0001**	37.6	.1412	30.0	.3654
Somewhat interested	27.9	40.9		34.5		26.0	
Not at all interested	7.4	14.9		23.2		21.9	

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				2004 (n=687)		2013 (n=510)	
	2004 (n=687)	**2013 (n=510)**	**p-val**	**Endorsed 6-7 barriers (34.1%)**	**p-val**	**Endorsed 6-7 barriers (26.4%)**	**p-val**
Interest in further education on managing/treating child MH problems							
Very interested	56.4	39.7	**<.0001**	36.9	.0549	29.6	.2947
Somewhat interested	31.7	35.9		37.8		28.4	
Not at all interested	11.9	24.4		23.2		21.8	

*
n/a not calculable due to zero cell

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Table 3

Endorsement of Perceived Barriers to Identifying, Treating/Managing and Referring Child/Adolescent Mental Health Problems by Survey Year (Weighted Percentages)

	2004 (N=687) Wtd %	2013 (N=514) Wtd %	p-val
Endorsed 6 or 7 of the items below as barriers*	34.1	26.4	**.0048**
Lack of training in the treatment of children/adolescents with MH problems with counseling or medications	65.0	65.9	.7414
Lack of training in identifying child/adolescent MH problems	47.1	39.1	**.0056**
Lack of confidence in my ability to diagnose child/adolescent MH problems	43.7	32.5	**<.0001**
Lack of confidence in my ability to treat children/adolescents with counseling	62.0	57.5	.1137
Lack of confidence to treat children/adolescents with medication	59.3	50.5	**.0032**
Lack of time to treat child/adolescent MH problems	77.0	70.0	**.0065**
Inadequate reimbursement for treating child/adolescent MH problems	50.6	42.0	**.0031**

*Endorsement: strongly agree or agree that it is a barrier to their identifying, treating/managing or referring for child/adolescent MH problems.

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Table 4

Weighted Multivariable Logistic Regression Models: Physician, Practice and Child MH Experiences Associated with the Odds of Positively Endorsing 6-7 Child MH Barriers by Survey Year and for Both Survey Years

	2004			2013			Both 2004 and 2013		
	OR	**95% CI**	**p-val**	**OR**	**95% CI**	**p-val**	**OR**	**95% CI**	**p-val**
Physician Characteristics									
Area									
Suburban vs. Urban	1.84	1.24, 2.74	**.0097**	--	--	n.s.	1.44	1.06, 1.95	**.0156**
Rural vs. Urban	1.33	0.74, 2.38					0.86	0.54, 1.37	
Suburban vs. Rural	1.39	0.81, 2.38					1.68	1.07, 2.64	
Practice Characteristics									
Time spent practicing general pediatrics									
Some vs. None	1.11	0.55, 2.27	**.0012**	1.40	0.60, 3.25	**<.0001**	1.09	0.63, 1.90	**<.0001**
Exclusively vs. None	2.35	1.31, 4.19		3.20	1.85, 5.54		2.42	1.56, 3.74	
Exclusively vs. Some	2.11	1.24, 3.59		2.29	1.12, 4.70		2.21	1.40, 3.48	
<75% White patients	1.64	1.10, 2.45	**.0154**		n.s.		1.47	1.06, 2.04	**.0210**
Two-way interaction: Survey year									
X pediatric group practice*									
2004: Yes vs. No	--	--	n.s.	--	--	n.s.	1.19	0.83, 1.72	**.0153**
2013: Yes vs. No							0.42	0.27, 0.65	
Child MH Experiences									
Physician provides MH treatment to children	0.60	0.40, 0.88	**.0093**	--	--	n.s.	--	--	n.s.
Refer ≥1 child for MH treatment in the past year	3.04	1.45, 6.39	**.0033**	--	--	n.s.	2.47	1.45, 4.22	**.0009**
Attended child MH lecture or conference in the past 2 years	--	--	n.s.	0.65	0.42, 0.98	**.0415**	0.71	0.54, 0.94	**.0144**

Variables that were not statistically significant (n.s.) were excluded from the model. were

*Interaction of survey year and pediatric group practice compares pediatric group practice vs. 1-2 group practice, multi-specialty group, medical school/parent university and other (e.g., HMO, government facility).