

Point-of-Care Child Psychiatry Expertise: The Massachusetts Child Psychiatry Access Project

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abstract

OBJECTIVE: Since 2005, after a pilot program, the Massachusetts Child Psychiatry Access Project (MCPAP) has provided point-of-care psychiatry expertise and referral assistance by telephone to primary care providers. We examined its adoption and use and the practice characteristics associated with different adoption timelines and use patterns.

METHODS: We merged data on calls to MCPAP in 2005 to 2011 with practice data (enrollment year, panel size, regional team assignment). We categorized practices' days from enrollment to first call (adoption) (0–100, 101–365, >365 days) and quartile of call frequency (use) (annual highest, middle, and lowest quartiles of number of calls per 1000 empanelled patients). We determined associations between adoption and use and practice characteristics using multivariate models.

RESULTS: Among 285 practices, adoption and use varied: 55% called 0 to 100 days from enrollment and 16% called >365 days from enrollment. Practices in the highest quartile of use made a mean 15.5 calls/year per 1000 patients, whereas the lowest quartile made 0.4 calls/year per 1000 patients. Adoption within 100 days was associated with enrollment during or after 2007 (odds ratio [OR] 4.09, 95% confidence interval [CI] 2.23–7.49) and assignment to the team at the pilot site (OR 4.42, 95% CI 2.16–9.04 for central Massachusetts). Highest-quartile use was associated with team assignment (OR 3.58, 95% CI 1.86–6.87 for central Massachusetts) and panel size (OR 0.10, 95% CI 0.03–0.31 for $\geq 10\,000$ vs < 2000 patients).

CONCLUSIONS: Adoption and use of MCPAP varied widely. Timing of enrollment, assignment to the team from the program's pilot site, and panel size were associated with patterns of adoption and use. Findings may help other programs design effective implementation strategies.



WHAT'S KNOWN ON THIS SUBJECT: A program to support pediatric primary care providers in mental health care using point-of-care, telephone-based advice from specialists has been available since 2005 in Massachusetts. Other US states are implementing similar models. Little is known about how providers use this service.

WHAT THIS STUDY ADDS: There is wide variability in adoption and use of this program. Patterns are associated with panel size, enrollment timing, and assignment to the program team at the pilot site. Findings will help new programs establish expectations and design implementation interventions.

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Caring for children and youth with mental health conditions in primary care is challenging for many reasons, among them a shortage of child mental health specialists,^{1,2} growing complexity³ and perceived risk⁴ of treatment regimens, and a fragmented system of mental health services delivery.⁵ However, the proportion of primary care visits that involve mental health is increasing,^{6,7} and many patients prefer to receive basic mental health care from their primary care provider (PCP).⁸ Although most PCPs feel confident as managers of attention deficit hyperactivity disorder (ADHD), they feel unprepared and unsupported when a comorbidity is present with ADHD and with other mental health conditions.⁹

Innovative programs or service delivery models that aim to increase the capacity of PCPs to deliver mental health care help address this issue. The Massachusetts Child Psychiatry Access Project (MCPAP), established in 2005 after a successful pilot, connects PCPs with mental health specialists to provide advice and coordinate referrals to community-based therapists.¹⁰ Practices enroll in MCPAP by meeting with MCPAP staff and signing an agreement acknowledging scope of services; then, PCPs call as needed. Several states have implemented or are considering similar programs, and a national network of programs has recently been formed.¹¹⁻¹³

Little is known about how programs such as MCPAP are adopted and used. Sarvet et al¹⁰ reported a 6-fold increase in monthly MCPAP encounters between 2005 and 2008. PCPs remained as primary managers of mental health problems for most patients discussed with MCPAP. PCPs indicated that their ability to meet the needs of patients with mental health problems improved after enrolling in MCPAP. Evaluation of a similar program in Washington reported congruent findings.¹¹

These previous studies did not examine patterns of use or investigate reasons for any variability in use. A greater understanding of how practices and PCPs vary in their adoption and use of programs such as MCPAP may help with future program design and implementation strategies. Primary care practices are heterogeneous in the way mental health care is delivered,^{14,15} and tailoring programs to practice patterns or characteristics may accelerate use, increase perceived value, and more quickly expand capacity of primary care to manage mental health problems.

In this study, we aimed to understand the speed and intensity with which MCPAP was adopted and used among primary care practices. First, we examined to what degree time to adoption and ongoing use of MCPAP varied among practices. Second, we examined call-level and practice-level characteristics to explain variation in adoption and use. Specifically, we asked the following research questions: What was the mean, median, range, and distribution of adoption and frequency of use among practices? Were patterns of adoption and use associated with the reason for the call, the diagnosis discussed, or the outcome of the call? Were patterns of adoption and use associated with practice type, patient volume, number of clinicians, or distance from the practice to the regional MCPAP office? Did adoption and use vary with the regional team to which the practice was assigned? These questions will characterize and inform the complicated process of introducing new models of mental health care in primary care.

METHODS

Design

We performed a cross-sectional analysis of 29 202 calls to MCPAP from May 2005 to July 2011 merged with practice-level data from 285 primary care practices.

Description of MCPAP

In 2005, MCPAP was established by the Executive Office of Health Services in Massachusetts to enhance patient access to child psychiatry and community mental health resources. MCPAP began as a pilot with 22 practices in central Massachusetts in 2003¹⁶ and expanded to 6 teams at regional sites across the state. Practices are assigned to regional teams based on geographic proximity. Each team consists of a psychiatrist, a mental health social worker, and a care coordinator. Teams establish formal relationships with practices by contacting the practice to set up an enrollment visit in which the team gives a short presentation to PCPs and answers questions. When a PCP from an enrolled practice sees a patient in the office with a mental health problem and is uncertain about an aspect of care, he or she can call MCPAP. MCPAP can offer advice regarding a patient's diagnosis, comorbidities, or psychopharmacology and can assist with a referral to a mental health therapist or psychiatrist. If needed, the MCPAP psychiatrist offers a single-visit, in-person evaluation and renders a detailed, timely report to the PCP. MCPAP staff maintain lists of mental health specialists, their availability, and insurance plans they accept and can contact the family directly for referral assistance. Currently, the program is funded by both the Commonwealth of Massachusetts and commercial insurers and receives some additional reimbursement from billable procedures (eg, in-person patient evaluations). MCPAP aimed to enroll every primary care practice serving children, and currently >95% of children in Massachusetts have PCPs in practices enrolled in MCPAP.

Database Development

We merged 2 databases. The first contained calls from PCPs to MCPAP from May 18, 2005, to July 31, 2011. MCPAP documents each phone call

with PCPs using a structured electronic form that includes the date, the practice from which the call originated, the reason for calling, the mental health condition discussed, and the outcome of the call. The second database included data collected by MCPAP as part of the enrollment process and yearly communication with practices. At enrollment, MCPAP collected from each practice the number of full-time provider equivalents (FTEs), estimated number of patients aged 0 to 21 years, and practice type (eg, family medicine or pediatrics). The information was typically given by the practice's director or practice manager. Practices' enrollment dates and addresses were added from a separate database. For this study, we included practices that had been enrolled in MCPAP for ≥ 1.5 years. We merged call-level and practice-level databases, linked by practice identifier.

Outcome Variables

We created variables that represented adoption (how soon after enrollment a PCP from the practice called MCPAP) and use (how frequently MCPAP received calls from a practice). We created 4 categories of adoption: (1) practices with a PCP calling before enrolling or on the day of enrollment; (2) practices for which the first call was 1 to 100 days after enrollment; (3) practices for which the first call was 101 to 365 days from enrollment; and (4) practices for which the first call was >365 days after enrollment. We then created a variable ("use") that described frequency of calling. To standardize frequency to patient panel size, we calculated the mean number of calls per 1000 pediatric-aged patients empanelled in each practice per year. We then categorized frequency of use by quartiles and created 3 categories: highest quartile, middle quartiles, and lowest quartile.

Practice Characteristics

Because adoption of innovative programs and tools can vary with

practice characteristics such as specialty, size, and organizational structure,¹⁷⁻²⁰ we created the following variables: practice type (pediatric or family medicine); number of FTEs providing primary care (1-2 or >2); and panel size (<2000 , 2000-9999, or $\geq 10\,000$ empanelled child-aged patients). We hypothesized that adoption in newly enrolled practices may be faster among those enrolling after the program was well known across the state. Therefore, we categorized practices as enrolling in 2005 or 2006 and 2007 or later. Because practices located closer to MCPAP regional offices might use the program differently, we determined travel time by car from the practice to the MCPAP office using practice and MCPAP office addresses and Google Maps, and categorized this as ≤ 35 or >35 minutes. In addition, a pilot program similar to MCPAP was delivered to 22 practices in central Massachusetts from 2003 to 2005, which might affect use of the subsequent program. We categorized practices as being assigned to the central Massachusetts site or another site.

Missing Data

Approximately 25% of practices making calls to MCPAP had incomplete data and therefore were not included. Practices with complete data made 87% of all calls to the program, cared for 85% of all patients in practices enrolled in MCPAP, and made a mean of 102 calls to MCPAP over the study period, versus 32 calls for practices with incomplete data. Missing data were primarily due to incomplete information collected from practices at the time of enrollment as well as practices that had called MCPAP but had not ever officially enrolled.

Data Analysis

We generated descriptive statistics (mean and median values for annual calls per 1000 patients, proportions for other variables) for outcomes and

TABLE 1 Characteristics of Practices ($n = 285$)

Characteristic	n (%)
Practice type	
Pediatric	238 (82)
Family medicine	47 (18)
Travel time from practice to MCPAP regional site by car, min ^a	
≤ 35 min	217 (77)
> 35 min	68 (23)
Pediatric-age patients in practice, n	
< 2000	77 (28)
2000-9999	142 (50)
$\geq 10\,000$	66 (23)
FTE PCPs in practice, n	
≤ 2	86 (30)
> 2	199 (70)
MCPAP region	
Central Massachusetts	56 (20)
Boston area or Western Massachusetts	229 (80)
Year of enrollment in MCPAP	
2005 or 2006	190 (67)
2007 or later	95 (33)

^a Range 0-100 min, median 21 min.

practice and call characteristics. We created graphical representations of the adoption and frequency of use variables and call volume over time. We tested associations between practice and call characteristics and time to adoption (3 categories: adopting either before or during the first 100 days, 101-365 days, and >365 days after enrollment) and frequency of use (3 categories: lowest quartile, middle quartiles, and highest quartile) using Pearson χ^2 test. Using multivariate logistic regression models, we then tested associations between practice characteristics and the following 4 specific outcomes: adoption < 100 days of enrollment; adoption > 365 days after enrollment;

TABLE 2 Adoption of MCPAP By Practices ($n = 285$)

Time Until Adoption, d ^a	n (%)	Proportion of All Calls, %
0-1 ^b	43 (15)	19.6
2-100	113 (40)	36.3
101-365	82 (29)	33.5
> 365	47 (16)	10.5

^a Time elapsed between enrollment and a practice's first call.

^b First call made before enrollment or on the day of enrollment.

highest quartile in frequency of use; and lowest quartile in frequency of use. Covariates practice type (pediatric, family medicine), travel time by car to MCPAP office (≤ 35 , > 35 minutes), pediatric patient volume (< 2000 , $2000-9999$, $\geq 10\,000$ patients), number of full-time equivalent providers (1-2, > 2), MCPAP region (central Massachusetts site, other sites), and year of enrollment (2005 or 2006, 2007 or later) were included in the models. Regression diagnostic tests assessed goodness of fit; we found no undue influence by collinearity of independent variables, interaction terms, or outliers. As a sensitivity analysis, we analyzed the data without the practices assigned to the central Massachusetts MCPAP team, and main findings from the study were largely maintained.

RESULTS:

Characteristics of Practices Participating in MCPAP

Of 285 practices, 82% were pediatric (Table 1). Three-fourths were located ≤ 35 minutes' driving time from their regional MCPAP office (range 0-100 minutes). Most practices (67%) enrolled in MCPAP in 2005 or 2006. Practices ranged in size: 28% of practices cared for < 2000 pediatric-aged patients, and 23% had $\geq 10\,000$ patients. Thirty percent had 1 to 2 FTE PCPs.

Adoption and Frequency of Use of MCPAP

The mean time to a practice's adoption of MCPAP was 178 days (median 78 days). More than half (55%) called within the first 100 days (Table 2). By 1 year after enrollment, 84% of practices had made at least 1 call (Fig 1), and all practices included in this analysis had adopted by the end of the study period. Frequency of use varied: 14% had call volumes of > 10 calls/year per 1000 patients, with the majority of practices calling much less frequently (Fig 2). The mean call frequency was 15.5 calls/year per

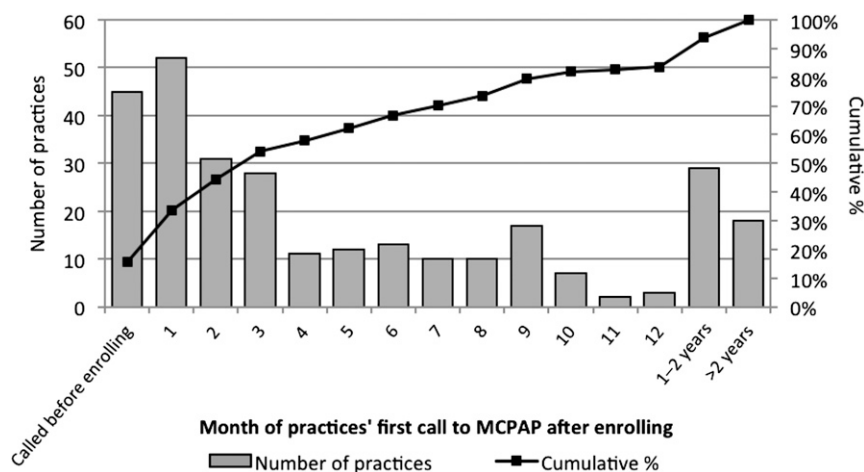


FIGURE 1
Time from enrollment to practices' first call to MCPAP.

1000 patients for practices in the highest quartile and 0.4 calls/year per 1000 patients for the lowest quartile, a 38-fold difference (Table 3).

Call Volume Over Time and Characteristics of Calls

Call volume overall increased over time to > 600 calls per month in 2011 (Fig 3). The most common reason for calling was medication questions (31%) (Table 4), and ADHD was the most common diagnosis discussed (33%). Call characteristics varied among practices with different adoption and use patterns. In call outcome, for example, patients prompting calls from practices in the lowest use quartile were less likely to remain in the care of the PCP and less likely to be referred to the MCPAP

care coordinator or a community-based therapist, but more likely to be referred to a community-based psychiatrist.

Association of Practice Characteristics With Adoption and Use of MCPAP

In bivariate (Table 5) and multivariate (Table 6) analyses, adoption within 100 days was positively associated with assignment to the central Massachusetts site (adjusted odds ratio [aOR] 4.42, 95% confidence interval [CI] 2.16-9.04) and enrollment in 2007 or later (OR 4.09, 95% CI 2.23-7.49), and these characteristics were negatively associated with adoption > 365 days. Practices with large panels were less likely to have adopted late (> 365 days) (aOR 0.21,

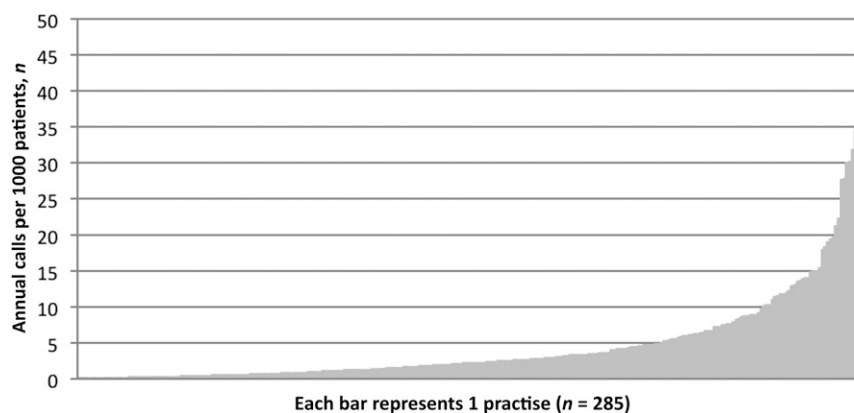


FIGURE 2
Variation in frequency of calls by practices to MCPAP.

TABLE 3 Frequency of use of MCPAP by practices (*n* = 285)

Frequency of Use ^a	Mean	Median	SD	Proportion of All Calls, %
All practices	5.2	2.2	11.6	100
Quartile				
Highest	15.5	10.3	19.7	60.0
Middle	2.4	2.2	1.2	37.6
Lowest	0.4	0.4	0.2	3.1

^a Annual number of calls per 1000 empanelled patients.

95% CI 0.07–0.74, vs <2000 patients), but panel size was not associated with adoption within 100 days.

Frequency of use was associated with panel size, assignment to the central Massachusetts MCPAP site, and travel time to the MCPAP regional office. Only 8% of practices with ≥10 000 patients were in the highest quartile of use, compared with 38% of practices with <2000 patients (*P* = .004). As with early adoption, practices assigned to the central Massachusetts MCPAP office were more likely to be in the highest quartile of use (aOR 3.58, 95% CI 1.86–6.87). Practices with a travel time of >35 minutes to the regional MCPAP site were more likely to be in the lowest quartile of use (aOR 1.95, 95% CI 1.05–3.65).

DISCUSSION

We examined data from calls to a novel program that provides PCPs with point-of-care child psychiatry

expertise to determine variation in adoption and use and practice characteristics associated with different patterns. We present several main findings. First, adoption of this program and use of MCPAP varied considerably among practices, including a 38-fold difference in call frequency between practices in the lowest and highest quartiles. Second, several practice characteristics were associated with early or late adoption and high or low use, such the timing of enrollment, panel size, and distance from the MCPAP office. Third, assignment to a particular MCPAP office that had served as the program's pilot was associated with early adoption and higher use. Fourth, practices with low call frequency were less likely to call about resources and referral to community therapists.

This is one of the first reports describing practices' adoption and use of this model. We report a large degree of variability in adoption and

use among practices that probably cannot be explained by any natural variation in mental health conditions or patient-level preferences for treatment among patients of different practices. Variation in health services not explained by variation in disease prevalence or patient preference deserves examination because it can reflect discretionary utilization by physicians and health care organizations.²¹ Optimal use of MCPAP and desired range among practices are not known, and whether variability translates to differences in quality or scope of mental health care as experienced by patients could not be concluded. Beliefs and attitudes about a PCP's role in mental health differ,^{9,22} as do local mental health resources,² likely explaining some variation. However, children and youth experience long delays in treatment.²³ Therefore, it is likely this model is not used optimally in some practices with very low call volumes.

Previous research helps to further explain this variation. Limited access to mental health care might influence use of MCPAP, and perceived access varies geographically.^{4,24} Among practices, some exhibit greater eagerness to change; others are more stagnant.²⁵ Such contextual differences have been found to be related to variable success in implementing quality improvement and complex organizational changes such as team-based care.²⁶ Practices have different structural resources for mental health. For example, some have colocated mental health specialists, streamlined referral processes, and comanagement arrangements,^{27–29} and for such practices MCPAP may be less relevant. Finally, PCPs are likely heterogeneous in reasons for using MCPAP. Early adoption of MCPAP may signify a PCP's unmet need for assistance with mental health issues. For some providers, MCPAP may represent a tool that replaces a less efficient process. For example, a physician might call MCPAP in lieu

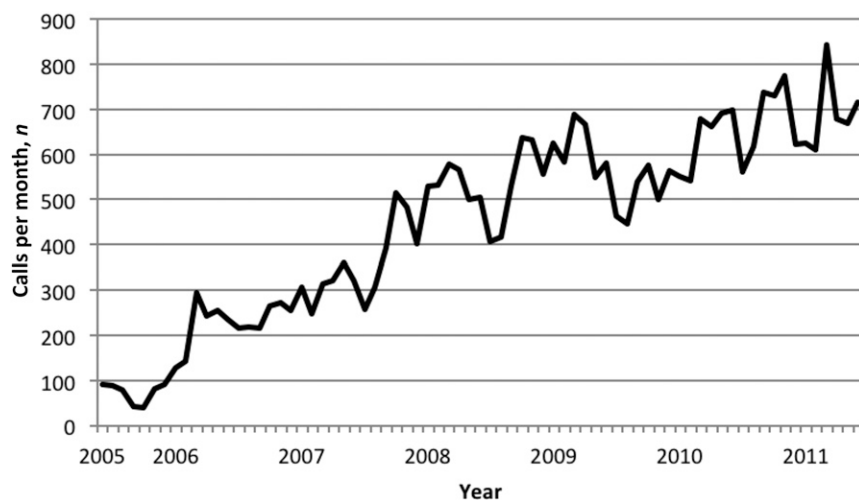


FIGURE 3 Number of calls per month to all MCPAP sites by PCP, May 2005 to July 2011.

TABLE 4 Characteristics of Calls to MCPAP (*n* = 29 202) and Association With Adoption and Frequency of Use of Practice Making the Call

Characteristic	All Practices	Time Until Adoption, d			Quartile		
		<100	100–365	>365	Highest	Middle	Lowest
Reason for call^a							
Medication question/evaluation	31	33	30	28 ^d	30	33	33 ^d
Resources question	27	28	22	30 ^d	28	25	26 ^d
Diagnosis question	27	24	27	32 ^d	25	28	28 ^d
Parent guidance	5	6	4	3 ^d	5	5	6
Diagnosis^b							
ADHD	33	34	32	32 ^d	33	33	26 ^d
Anxiety	24	25	24	24 ^c	25	25	26
Depression	23	23	24	21 ^c	23	24	25 ^c
Deferred	12	12	11	13 ^c	13	10	10 ^d
Other	11	10	12	12 ^d	11	11	9
Oppositional defiant disorder	10	11	8	9 ^c	11	10	8 ^c
Outcome							
Refer back to PCP	54	53	52	57 ^d	53	53	46 ^d
Refer to MCPAP care coordinator (e.g., for identifying resources)	25	28	20	26 ^d	27	22	21 ^d
MCPAP psychiatrist 1-time evaluation	21	22	22	17 ^d	22	22	21
Community-based therapist appointment	17	16	18	19 ^d	20	14	12 ^d
Refer to community psychiatrist	6	6	7	6 ^d	5	8	12 ^d
Emergency department/inpatient	2	2	1	2 ^d	1	2	3 ^c

Values are expressed as proportion of all calls (%). Categories of call characteristics are not mutually exclusive.

^a The following reasons, collectively, were <5% of all calls: patient in crisis, follow-up of previous patient, school issues, and second opinion.

^b The following diagnoses, collectively, were <5% of all calls: Asperger syndrome, conduct disorder, developmental delay, pervasive developmental disorder, and posttraumatic stress disorder.

^c *P* < .05 for group comparison.

^d *P* < .001 for group comparison.

of referring to a psychiatrist with a long wait. For other providers, MCPAP might signal an uncomfortable expansion of one's

scope of care (e.g., prescribing antidepressants when one has never done so) and this can be a complex decision.⁴ Thus, for some, relative

advantage over alternatives would likely be a more influential driver, and for others, innate personality differences and evolving practice norms may play a role.³⁰

We examined practice and call characteristics and adoption and use and found several patterns. First, practices enrolling during or after 2007, after MCPAP was more established, were more likely to adopt the program in the first 100 days, consistent with previous work that examined importance of visible use by others and local leaders' opinions before adopting a new tool.³¹ Large panel size was associated with more rapid adoption but overall lower use. Large practices likely encounter patients with mental health problems more frequently simply because of exposure and may be able to support a greater internal structure to handle mental health problems,³² and therefore may need MCPAP's support less often.

Practices assigned to the central Massachusetts MCPAP office were more likely to be early adopters and frequent callers. This was the site of the pilot program, which ran for 18 months in 2003 to 2005, and ~30%

TABLE 5 Association Between Practice Characteristics and Adoption and Frequency of Use of MCPAP

Characteristic	Time Until Adoption, d			<i>P</i>	Frequency of Use, Quartile			<i>P</i>
	<100	100–365	>365		Highest	Middle	Lowest	
Practice type				.064				.476
Pediatric	24 (15)	10 (12)	13 (27)		15 (15)	21 (15)	16 (21)	
Family medicine	132 (85)	72 (87)	34 (72)		56 (85)	123 (85)	60 (79)	
Travel time from practice to MCPAP regional site by car, min				.331				.031
≤35 min	114 (73)	67 (82)	35 (77)		56 (78)	115 (81)	46 (65)	
>35 min	42 (27)	15 (18)	11 (23)		16 (22)	27 (19)	25 (35)	
Pediatric-age patients in practice, <i>n</i>				.015				.004
<2000	39 (25)	17 (21)	21 (45)		27 (38)	32 (23)	18 (25)	
2000–9999	81 (52)	40 (49)	21 (49)		39 (54)	73 (51)	30 (32)	
≥10 000	36 (23)	25 (31)	5 (11)		6 (8)	37 (26)	23 (42)	
FTE PCPs in practice, <i>n</i>				.126				.894
≤2	44 (28)	22 (27)	20 (43)		21 (29)	42 (30)	23 (32)	
>2	112 (71)	60 (73)	27 (57)		51 (70)	100 (70)	48 (68)	
MCPAP region				.001				<.001
Central Massachusetts	43 (27)	9 (11)	4 (9)		27 (38)	24 (17)	5 (7)	
Boston area or Western Massachusetts	113 (72)	73 (89)	43 (91)		45 (62)	118 (83)	66 (93)	
Year of enrollment in MCPAP				<.001				.491
2005 or 2006	88 (56)	64 (78)	38 (81)		51 (69)	95 (67)	45 (63)	
2007 or later	68 (44)	18 (22)	9 (19)		22 (31)	47 (33)	26 (37)	

Values are expressed as *n* (%).

TABLE 6 Multivariate Logistic Regression: Association of Early and Late Adoption and High and Low Frequency of Use of MCPAP and Practice Characteristics

Characteristic	Time Until Adoption <100 d		Time Until Adoption >365 d		Highest Quartile Frequency of Use		Lowest Quartile Frequency of Use	
	aOR (95% CI)	P	aOR (95% CI)	P	aOR (95% CI)	P	aOR (95% CI)	P
Practice type: pediatrics ^a	1.96 (0.89–4.30)	.093	0.38 (0.15–0.94)	.036	2.13 (0.87–5.23)	.099	0.51 (0.23–1.14)	.102
Total travel time by car: >35 min ^b	1.48 (0.80–2.75)	.211	0.94 (0.41–2.15)	.885	1.04 (0.51–2.12)	.909	1.95 (1.05–3.65)	.035
Pediatric-age patients in practice ^c								
2000–9999	1.65 (0.81–3.38)	.167	0.42 (0.18–1.00)	.050	0.45 (0.21–0.98)	.045	1.28 (0.57–2.87)	.545
≥10 000	1.40 (0.58–3.34)	.454	0.21 (0.07–0.74)	.015	0.10 (0.03–0.31)	<.001	2.60 (0.99–6.84)	.053
FTEs in practice: >2 ^d	1.39 (0.72–2.62)	.328	0.72 (0.32–1.57)	.404	2.10 (1.03–4.31)	.041	0.61 (0.30–1.25)	.178
MCPAP region: central Massachusetts ^e	4.42 (2.16–9.04)	<.001	0.22 (0.07–0.70)	.010	3.58 (1.86–6.87)	<.001	0.24 (0.09–0.64)	.005
Year enrolled: 2007 or later ^f	4.09 (2.23–7.49)	<.001	0.23 (0.09–0.55)	.001	0.82 (0.42–1.58)	.551	1.00 (0.54–1.86)	.996

Reference categories: ^a family medicine; ^b ≤35 min; ^c <2000; ^d 1–2; ^e Boston area or Western Massachusetts; and ^f 2005 or 2006.

of practices assigned to this office may have participated.¹⁶ Whereas MCPAP has a standard method of enrolling practices and carrying out program procedures, interactions with PCPs, particularly in ongoing outreach efforts after enrollment, may have been subtly different from other sites, altering the perceived value and visibility of the central Massachusetts office. Finally, regional differences in PCPs' ability to access mental health resources may vary such that MCPAP fills a need more for central Massachusetts than for other regions.

There are several limitations to our study. First, we studied the program in Massachusetts, an urban state with a high number of child psychiatrists per capita.¹ Although others have

programs based on MCPAP, use may vary geographically. Calls about the same patient made on different days would be counted as separate calls in our analysis, possibly inflating some practices' use. We had incomplete data on many practices, and we were unable to discern which practices participated in the pilot program. Finally, we were unable to examine behaviors of individual PCPs, as this was not captured in the data collection.

CONCLUSIONS

Thirty-one other states or regions have programs similar to MCPAP, and this model represents one way for pediatricians to be prepared to care

for such patients and obliquely addresses child psychiatry workforce shortages, and a low rate of mental health referral completion.³³ With one-time consultation sessions as a key component, this model could also incorporate telepsychiatry to reduce geographic barriers to use.³⁴ With growth in off-label prescribing and polypharmacy,^{3,35} use of this model may facilitate more appropriate prescribing. We identified considerable variability in adoption and use and identified reasons for variability, displaying opportunities to decrease variability through targeted implementation efforts. Future research should explore what specific efforts will accomplish this.

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