Primary Care Clinicians' Satisfaction and Clinical Confidence After Participation in the Wisconsin Child Psychiatry Consultation Program

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ABSTRACT

Introduction: To help combat a shortage of child and adolescent psychiatrists and assist primary care providers in managing pediatric mental health care cases, the Medical College of Wisconsin established the Wisconsin Child Psychiatry Consultation Program. The program provides educational support to primary care providers with mild to moderate pediatric mental health concerns via phone or email consultation with board-certified child and adolescent psychiatrists, as well as offering on-demand didactic training sessions and assistance locating therapeutic resources.

Objective: We sought to assess participating primary care clinicians' satisfaction with consultations and their perceptions of program services, specifically its impact on self-reported diagnostic decision-making and patient outcomes.

Methods: Primary care providers' responses to both post-consultation and annual surveys were analyzed to determine the program's impact. Five survey questions used a 5-point Likert scale, and 1 "select-all-that-apply" question was included on the post-consultation survey.

Results: Overall, 99.2% of respondents were satisfied with their most recent consultation. Additionally, mean Likert scale scores assessing provider confidence after program enrollment in the areas of diagnosing (mean 3.7, SD 0.8), prescribing medications (mean 3.6, SD 0.9), and managing child mental health problems (mean 3.5, SD 0.9) were all significantly greater than provider confidence before enrollment ($P < 0.0001$ for all).

Conclusions: Our study revealed that most primary care providers utilizing the Wisconsin Child Psychiatry Consultation Program find it a valuable resource for diagnostic decision-making and improving patient outcomes. This suggests that expanded utilization of the program should be encouraged.

INTRODUCTION

The incidence of mental health problems in children has been increasing during recent decades, with approximately 15.7% of US high school students having made a suicide plan in 2019, up from 10.9% in 2009.[1,2] Wisconsin has especially struggled with child mental health, as nearly 16% of children had at least 1 major depressive episode in 2019, a 1.33% increase over 2 years.[3]

The rising cases of child mental health problems are particularly concerning because of a shortage of child and adolescent psychiatrists (CAPs).[4] The nationwide shortage has led to long appointment wait times for children with psychiatric concerns, with a study conducted in Ohio finding a 50-day median wait time for new patient appointments.[5] Wisconsin has not been immune to the CAP shortage, as all counties in the state are classified as having an insufficient supply of CAPs. Furthermore, of the 168 CAPs in Wisconsin, 67% are located in 3 counties (Dane, Waukesha, and Milwaukee), with no CAPs practicing in 44 of Wisconsin's 72 counties.[6]

Because of the CAP shortage, primary care providers (PCPs) play a central role in diagnosing and treating pediatric mental health problems and prescribing almost 85% of psychotropic medications taken by children.[7,8] However, many PCPs feel uncomfortable treating child mental health problems or have insufficient training in caring for these patients.[9,10] Therefore, the American Academy of Pediatrics recommends that they consult CAPs to diagnose and treat complex mental health problems in children and adolescents.[11]

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As a result of the CAP shortage and PCP discomfort in treating child mental health problems, the Medical College of Wisconsin (MCW) developed a child psychiatry access program called the Wisconsin Child Psychiatry Consultation Program (WI CPCP) in 2015, after receiving funding from the Wisconsin Department of Health Services.[12] The program in Wisconsin is part of the National Network of Child Psychiatry Access Programs, which promotes collaboration with other child psychiatry access programs such as the successful Massachusetts Child Psychiatry Access Project.[13,14]

The WI CPCP is available to all PCPs who care for pediatric patients in the state. The program supports its participating PCPs by providing consultative support, accredited continuing medical education, and resource support in all 5 regions of the state: Western, Northern, Northeast, Southeast, and Southwest. Consultative support is available to participating PCPs via phone or email on weekdays from 8 AM to 5 PM.[12] These consultations connect PCPs with a pediatric psychologist or board-certified CAP who can provide information on screening and diagnosis, medication management, and treatment recommendations.[15] Intake coordinators answer initial phone calls and emails to determine which type of mental health expert is best suited to serve the PCP's needs. Since its inception, the program has conducted more than 6400 mental health consultations for conditions such as attention deficit-hyperactivity disorder, anxiety, depression, and disruptive behavior.[12]

Despite providing thousands of child mental health consultations to PCPs, to our knowledge, there has been no research on the program and its promise of improving mental health care for children in Wisconsin. Therefore, the purpose of this study was to examine the effectiveness of the WI CPCP and evaluate how those who utilize the program's consultation services view its impact on diagnostic decision-making and patient outcomes.

METHODS

To evaluate the WI CPCP, 2 separate surveys were used: a post-consultation survey and an annual survey. Survey data and data related to PCP demographics, including credentials (physician, physician assistant, and nurse practitioner) and medical specialty (family medicine, pediatrics), were collected and managed using REDCap electronic data capture tools hosted by the Medical College of Wisconsin. Survey results were matched with PCP demographics using a record number. Response rates were defined as the number of surveys submitted divided by the total number of surveys sent.

We conducted a mixed methods study of the survey data using quantitative and qualitative analyses. The Medical College of Wisconsin's Institutional Review Board approved use of these data for this evaluation.

Post-Consultation Survey

Following each consultation, PCPs were emailed an optional survey regarding their satisfaction with their most recent consultation. Data were collected from April 1, 2021, through November 31, 2021.

For this study, we analyzed 6 post-consultation survey questions. Five questions used a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Two questions measured PCP satisfaction with the encounter and whether they planned to utilize the WI CPCP again in future practice. Three questions were used to assess the potential impact of program services on patient care: whether PCPs agree that the consultation (1) resulted in a correct diagnosis or medication change earlier than without the WI CPCP, (2) helped postpone or forestall a child psychiatric referral or hospitalization, and (3) reduced patient risk of self-harm or suicide. Results of each were summarized by the percent of responses that agreed or strongly agreed with each statement and then stratified by PCP demographics as appropriate using analysis of variance.

The remaining question asked, "What would you have done regarding this patient if you did not have access to the Wisconsin Child Psychiatry Consultation Program?" with "select-all-that-apply" choices and an optional space for free-response comments if the respondent selected "other." The percentage of each response chosen was summarized. A phenomenological analysis of the free responses was used to derive an understanding of how the participants interpreted their experience using the program.

Annual PCP Survey

All PCPs participating in the program also were invited to complete an annual survey. From this survey, we analyzed 3 questions that used a 5-point Likert scale (1=strongly disagree to 5=strongly agree). These questions asked PCPs to rate their confidence in diagnosing child mental health problems, prescribing medications for child mental health problems, and management of child mental health problems. We used retrospective questions, probing PCP's confidence before and during their participation in the WI CPCP. Mean scores for each confidence question were calculated. The before and after means were then compared against each other for each respective question using 2-tailed paired-samples *t* tests in R v 4.1.1. (R Core Team, Vienna, Austria). PCP demographics, such as credentials and specialty, were not included in the analysis.

Ultimately, effectiveness of the WI CPCP was defined and measured by an increase in PCP confidence in the diagnosis and management of child mental health problems, including prescribing medications. after program enrollment.

RESULTS

Consultation Satisfaction

From April 1, 2021, through November 31, 2021, there were 708 consults and 242 responses (34.2%) to the post-consultation survey from 147 unique PCPs. PCPs used the consultation service and returned a post-consult survey an average of 1.6 times (range 1-11).

PCP Satisfaction

Nearly all (98.3%) of the respondents (198 physicians, 99%; 9 physician assistants, 100%; 31 nurse practitioners, 100%) agreed or strongly agreed that the consultation was satisfying. Overall, credentials had a significant effect only on satisfaction scores ($F[2276] = 15.5$, $P < 0.0001$]. Post-hoc comparisons using the Tukey-Kramer honest significant difference test indicated that the mean satisfaction score was higher among physicians (mean 4.9, SD 0.49) compared to physician assistants (mean 4.5; $F[2276] = 15.5$, $P < 0.01$) or nurse practitioners (mean 4.5; $P < 0.0001$).

Future Practice

Participants were asked to what extent they agreed that they would incorporate WI CPCP consultations into their future practice. Of the 237 responses, 96.2% (175 pediatric responses, 96.2%; 53 family medicine responses, 96.4%), agreed or strongly agreed that they would incorporate consultations into their practice in the future. There was no significant difference in the percentage of agreement between physicians, physician assistants, and nurse practitioners.

Consultation Effects

Hospitalization and Referral

There were 237 responses to the question regarding the extent to which participants agreed that consultation forestalled patient hospitalization or referral: 68.8% of respondents (120 pediatric, 66.3%; 43 family medicine, 76.8%) agreed or strongly agreed (Figure 1A). There was no significant difference in the percentage of agreement between physicians, physician assistants, and nurse practitioners.

Diagnosis and Medication Change

There were 217 responses regarding the extent to which PCPs agreed that consultation resulted in an earlier correct diagnosis or medication change: 70.5% of respondents (115 pediatric, 70.6%; 38 family medicine, 71.7%) agreed or strongly agreed (Figure 1B). There was no significant difference in the percentage of agreement between physicians, physician assistants, and nurse practitioners.

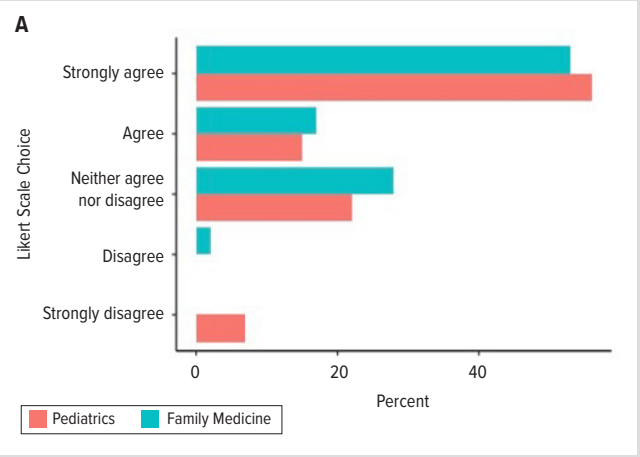
Self-Harm or Suicide Risk in Patients

There were 219 responses regarding the extent to which PCPs agreed that consultation reduced the risk of self-harm or suicide: 46.6% of respondents (71 pediatric, 43.3%; 31 family medicine, 56.4%) agreed or strongly agreed (Figure 1C). There was no significant difference in percentage of agreement between physicians, physician assistants, and nurse practitioners.

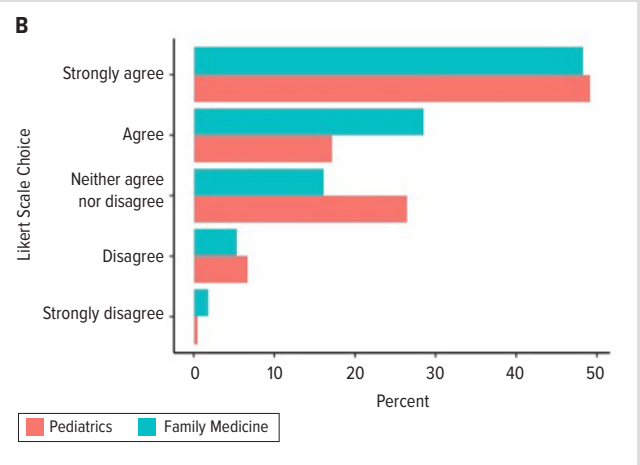
Wisconsin CPCP Alternatives

The post-consultation survey also asked which alternatives PCPs might have pursued if WI CPCP consultation had not been available. They could choose multiple options from a list of alternatives provided. There were 436 responses as follows: refer

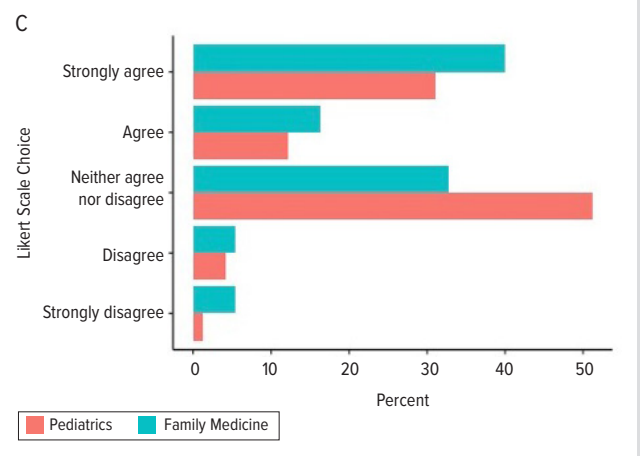
Figure 1. Responses to Survey Questions by Specialty[a]



A. Percentage of responses when asked to what extent participants agreed that WI CPCP consultation forestalled patient hospitalization or referral.



B. Percentage of responses when asked to what extent participants agreed that WI CPCP consultation resulted in an earlier correct diagnosis or medication change.



C. Percentage of responses when asked to what extent participants agreed that WI CPCP consultation reduced the risk of self-harm or suicide

Abbreviation: WI CPCP, Wisconsin Child Psychiatry Consultation Program.

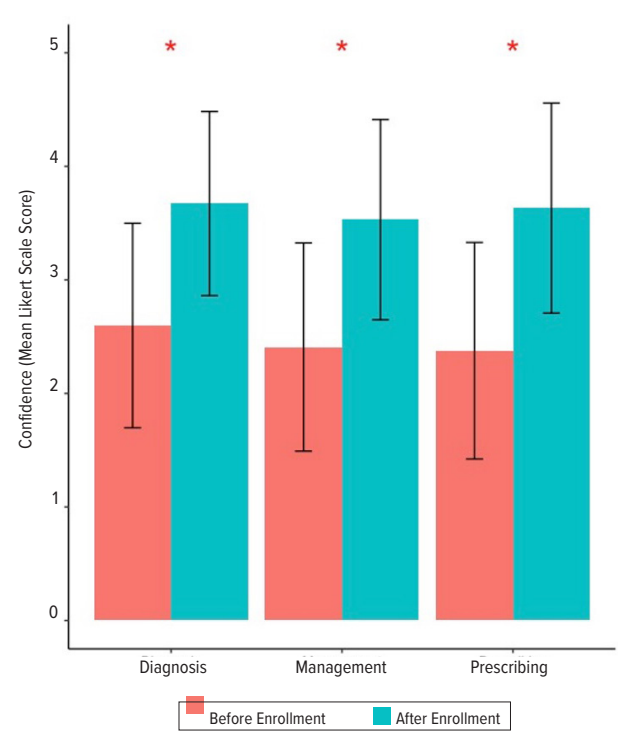
[a]Responses included physicians, physician assistants, and nurse practitioners as there was no significant difference in percentage of agreement.

to mental health (n=117, 26.8%), consult another professional (n=85, 19.5%), research on own (n=85, 19.5%), change medications (n = 66, 15.1%), monitor the patient (n = 27, 6.19%), continue medications (n = 22, 5.04%), send to the emergency department (n = 10, 2.29%), not applicable (n = 8, 1.83%), and other (n = 16, 3.67%). Of the 16 qualitative responses, 13% (n = 2) indicated that they would have given potentially incorrect advice, and 19% (n = 3) expressed that they would have been forced to wait long periods of time for psychiatry referral appointments.

PCP Confidence

As of March 28, 2022, the annual WI CPCP satisfaction survey had been sent to 1065 participating PCPs, with 118 responses (response rate = 11%). Overall scores for PCP confidence in diagnosing child mental health problems improved after enrollment in the program (mean pre-enrollment: 2.597 ± 0.90 vs mean post-enrollment: 3.67 ± 0.81; t(227) = -9.56; $P < 0.0001$). PCP confidence in prescribing medications for child mental health problems improved after enrollment (pre-enrollment mean: 2.38 ± 0.95 vs post-enrollment mean: 3.63 ± 0.92; t(231) = -10.2; $P < 0.0001$). Finally, PCP confidence in management of child mental health problems improved after enrollment (mean pre-enrollment: 2.42 ± 0.91 vs mean post-enrollment: 3.52 ± 0.87; t[225] = -9.27; $P < 0.0001$). PCP confidence before and after program enrollment is summarized in Figure 2.

Figure 2. Mean Likert Scale Scores Assessing Primary Care Providers' Confidence in Diagnosis, Prescribing, and Management of Child Mental Health Problems Before and After Enrollment in the Wisconsin Child Psychiatry Consultation Program



Responses included all primary care providers regardless of credentials or specialty.

*Represents a statistically significant difference in mean confidence scores before and after WI CPCP enrollment ($P < 0.0001$). Error bars represent standard deviation.

DISCUSSION

The WI CPCP is striving to address the lack of CAPs practicing in Wisconsin by working to improve the capacity of PCPs to effectively assess and treat pediatric mental health conditions. Importantly, program participants report that it is helping to positively impact patient outcomes, specifically by forestalling hospitalization and/or referral. With referral wait times often exceeding 3 months, a reduction in the need for escalation of care is one way that the WI CPCP is working to improve child mental health in the state. Additionally, participating PCPs indicated that they are making evidence-based, informed decisions quicker than they would have without consultation, and a subset of PCPs indicated that consultation helped to reduce the patient's risk of self-harm/suicide. Finally, PCP confidence in diagnosing, managing, and prescribing medications for child mental health problems increased significantly after program participation, demonstrating that the WI CPCP is effective as defined by our study. Overall, the vast majority of PCPs utilizing this service are satisfied with the consultation recommendations they received and plan to continue incorporating these consultations into their practice.

Despite these widely positive findings, this study has several limitations. First, our study design did not allow us to accurately track the Rural-Urban Commuting Area (RUCA) codes of enrolled providers. Because there may be a difference in results based on geographic location, future studies should examine RUCA codes to evaluate satisfaction and clinical confidence in the program. Furthermore, understanding the program's effectiveness in rural settings is important as rural areas are disproportionately affected by the CAP shortage.[16]

Another limitation of this study was a relatively low response rate among program participants, which may be due to PCPs' demanding work schedules or the increasing demand to participate in such studies.[17] Additionally, the study relied on self-reported data, and future studies should examine the impact the COVID-19 pandemic had on the program. Finally, the study did not control for the impact of credentials or specialty on PCP confidence before and after program enrollment.

CONCLUSIONS

As the world continues to evolve with an increasing virtual footprint, programs like the WI CPCP will continue to thrive and have a positive impact. This study demonstrates that primary care providers were highly satisfied with the WI CPCP and felt more confident caring for pediatric patients with mild to moderate

mental health issues. These findings can be used to initiate discussions as to how the program can continue to increase its outreach throughout the state.

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