KSKidsMAP
Pediatric Mental Health
Project Impact Paper

ACKNOWLEDGEMENTS

This report was prepared by KSKidsMAP staff: Amanda Aguila Gonzalez, MPH; Rachel Brown, MBBS; Kari Harris, MD; Nicole Klaus, PhD; Polly Freeman, LBSW MSW; Cari Schmidt, PhD; Ashley Hervey, Med; and Kelsee Torrez, MPA with contributions from the Kansas Governor's Behavioral Health Services Planning Council's Children's Subcommittee.

STATEMENT OF NEED

Mental disorders among children and adolescents age 0 to 21 years (hence, youth) are on the rise across the country. In Kansas, one in five youth meet criteria for a diagnosis, and more than 35,000 are severely impaired as a result.[1] The COVID-19 pandemic has impacted youth who are at risk due to developmental age, educational status, economic underprivilege or pre-existing mental disorders.[2]

Many youth that identify as at risk or diagnosed with a mental disorder as defined by Diagnostic and Statistical Manual of Mental Disorders 5th Edition (DSM-5),[3] receive no treatment. Those who receive treatment often experience long waits to access care.[4,5] Wait times to see a mental health specialist can be three months to a year.[6,7] Just over 10% of U.S youth receive any treatment from a mental health professional, far fewer than the number living with a mental disorder.[8]

Youth who do not receive effective treatment for their mental disorders are significantly disadvantaged compared to their healthy peers. Mental disorders interfere with the ability to participate in age appropriate academic and social activities. Youth with mental disorders have lower grades and are less likely to graduate high school or to be college or work ready.[9,10] Without effective management and follow up of their disorders, prognosis in adult life is worse. Delayed diagnosis and inadequate treatment lead to increased disability and poorer functioning in adulthood with higher likelihood of un/under

---

[1] O'Connell, ME., Boat, T., & Warner, KE. (2009). Preventing Mental, Emotional, and Behavioral Disorders Among Young People: Progress and Possibilities. National Research Council. Institute of Medicine. Committee on the Prevention of Mental Disorders and Substance Abuse Among Children, Youth and Young Adults: Research Advances and Promising Interventions. Washington (DC): National Academies Press. Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK32776/

[2] Singh, S., Roy, D., Sinha, K., Parveen, S., Sharma, G., & Joshi, G. (2020). Impact of COVID-19 and lockdown on mental health of children and adolescents: A narrative review with recommendations. *Psychiatry Research*, *293*, 113429. https://doi.org/10.1016/j.psychres.2020.113429

[3] American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

[4] Henry J. Kaiser Family Foundation (KFF). (2018). Percent of Children (ages 3-17) Who Receive Any Treatment or Counseling from a Mental Health Professional. Retrieved from https://www.kff.org/other/state-indicator/child-access-to-mental-health-care/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D.

[5] Mentalhealth.gov. (2017). Mental Health Myths and Facts. Retrieved from https://www.mentalhealth.gov/basics/mental-health-myths-facts

[6] Sullivan, K., George, P., & Horowitz, K. (2021). Addressing National Workforce Shortage by Funding Child Psychiatry Access Programs. *Pediatrics, 147*(1): e20194012. https://doi.org/10.1542/peds.2019-4012

[7] Steinman, KJ., Shoben, AB., Dembe, AE., Kelleher, KJ. (2015). How long do adolescents wait for psychiatry appointments? *Community Mental Health Journal, 52*(7): 782-789.

[8] KFF (2018). Percent of Children (ages 3-17) Who Receive Any Treatment or Counseling from a Mental Health Professional.

[9] Fergusson, D. M., McLeod, G. F., & Horwood, L. J. (2015). Leaving school without qualifications and mental health problems to age 30. *Social psychiatry and psychiatric epidemiology*, *50*(3), 469–478. https://doi.org/10.1007/s00127-014-0971-4

[10] Dalsgaard, S., McGrath, J., Ostergaard SD., et al (2018). Association of Mental Disorder in Childhood and Adolescence with Subsequent Educational Achievement. *JAMA Psychiatry,* 1;77(8):797-805. https://www.doi.org/10.1001/jamapsychiatry.2020.0217

employment, incarceration, and higher health care costs for both mental and physical health.[11] The life expectancy of adults with mental disorders, including anxiety and depression, is significantly shortened.[12]

The financial costs of untreated mental disorders are also significant. In 2009, the National Research Council and the Institute of Medicine estimated the total cost of mental, emotional, and behavioral services to be close to $250 billion a year, including lost productivity, criminal behavior, and cost of health services.[13] This is likely an underestimate as the Kaiser Family Foundation has reported a 3% increase in the cost per case to treat mental disorders between 2000 and 2012.[14]

Along with rising mental and behavioral health problems in youth, there is a national shortage of mental health professionals, especially those with the greatest expertise, child and adolescent psychiatrists and psychologists.[15] Kansas needs more than 400 child and adolescent psychiatrists to support the population but currently has approximately 60, the majority of whom work in the northeast region of the state.[16]

There is a chasm between the number of youths needing treatment and the availability of child and adolescent psychiatrists and psychologists and other professionals with expertise in evidence-based treatment for mental disorders. This shortage means many families seek treatment in the primary care setting. Primary care physicians and clinicians (PCPs), especially pediatricians, family physicians, physician assistants and nurse practitioners, are being called on to manage the mental disorders of youth.

PCPs play an important role in the overall health and wellbeing of youth. PCPs see patients from birth through adolescence and into adult life. Because of their role in a child's life, PCPs are uniquely positioned to implement psychosocial screenings, provide assessments, diagnose, and treat less complicated mental disorders. Professional organizations, such as the American Academy of Pediatrics (AAP), are recommending psychosocial screening and assessment for mental disorders be integrated into the pediatric workflow,[17] and a number of other policy and position papers support these initiatives.[18] In addition, recommendation 5.3 of the Special Committee on Mental Health Modernization and Reform report to the 2021 Kansas Legislature specifically addresses the need to

[11] Patton GC., Coffey, C., Romaniuk, H., et al (2014). The Prognosis of Common Mental Disorders in Adolescents: a 14-year Prospective Cohort Study. *Lancet*, 19;383(9926)1404-11. https://doi.org/10.1016/S0140-6736(13)62116-9

[12] Rehm, J., Shield KD. (2019) Global Burden of Disease and the Impact of Mental and Addictive Disorders. *Curr Psychiatry Rep* 7;21(2):10. https://doi.org/10.1007/s11920-019-0997-0

[13] O'Connell, ME., Kelly, BB., Keenan, W., & Kasper, MA. (2009). Preventing Mental, Emotional, and Behavioral Disorders Among Youth People: Progress and Possibilities. Report Brief: A Focus on Costs and Benefits. The National Academies. Retrieved from https://www.nap.edu/resource/12480/Prevention-Costs-Benefits.pdf

[14] Kamal, R. (2017). What are the current cost and outcomes related to mental health and substance use disorder? Health System Tracker. Peterson-Kaiser Family Foundation. Retrieved from https://www.healthsystemtracker.org/chart-collection/current-costs-outcomes-related-mental-health-substance-abuse-disorders/#item-start

[15] Kansas Department of Health and Environment (KDHE). (2019). Health Professional Underserved Areas Report: Kansas Primary Care and Rural Health. Kansas Department of Health and Environment. Retrieved from https://www.kdheks.gov/olrh/SD_overview.htm

[16] SAMSHA. (2020). Behavioral Health Workforce Report. Substance Abuse and Mental Health Services Administration. Retrieved from https://www.samhsa.gov/sites/default/files/behavioral-health-workforce-report.pdf

[17] AAP. (2020). Bright Futures Implementation Tip Sheet. American Academy of Pediatrics. Retrieved from https://brightfutures.aap.org/clinical-practice/Pages/default.aspx

[18] Zuckerbrot, R. A., Cheung, A., Jensen, P. S., Stein, R., Laraque, D., & GLAD-PC STEERING GROUP (2018). Guidelines for Adolescent Depression in Primary Care (GLAD-PC): Part I. Practice Preparation, Identification, Assessment, and Initial Management. *Pediatrics*, *141*(3), e20174081. https://doi.org/10.1542/peds.2017-4081

increase the capacity of frontline health care providers to offer services to those with behavioral health needs.[19]

Unfortunately, most PCPs have little training in pediatric psychiatric care. While screening is recommended universally and easily implemented in primary care, thorough assessment, diagnosis, and treatment of mental disorders in youth are an entirely different matter. The academic and clinical training of pediatricians and family physicians includes little education in how to evaluate youth presenting with emotional and behavioral problems that may be the symptoms of mental disorders. The training of nurse practitioners and physician assistants is even more limited. As such, many children presenting in primary care go undiagnosed, untreated and without services and accommodations that would benefit them.

In response to the combination of increased need and specialty shortage, a number of states have developed models of care to provide ongoing education and support for PCPs as they expand their ability to take care of youth with mental disorders. These models include Pediatric Mental Health Care Access (PMHCA) programs, also referred to as Child Psychiatry Access Programs; Kansas' KSKidsMAP is an example of a PMHCA program. KSKidsMAP's impact and growth since 2019 have been significant. By empowering PCPs to provide pediatric psychiatric care in their own clinics, access for youth to this limited resource is improved. The program will be described in detail below.

CURRENT EFFORTS

Integrated Care Models

The shortage in pediatric mental and behavioral health experts is not exclusive to Kansas. Many clinics have used practice models that integrate primary and mental health care to improve patient outcomes and satisfaction at a lower cost by addressing common behavioral health problems (e.g., depression, anxiety, attention deficit hyperactivity disorder). PMHCA programs support integrated care practice models by offering training and consultations to PCPs. Programs like KSKidsMAP work to improve the expertise of PCPs in assessing, diagnosing, treating, and referring youth with mental disorders. By empowering PCPs to provide mental health care in their own clinics, access to care for youth is improved. PMHCA programs increase PCPs' ability to provide mental health care as part of overall comprehensive health care to their patients and are valued by PCPs as an extension of primary care.[20]

KSKidsMAP Program

KSKidsMAP is a partnership between the Kansas Department of Health and Environment (KDHE) and the University of Kansas School of Medicine-Wichita, Departments of Pediatrics and Psychiatry and Behavioral Sciences. Established in 2019, KSKidsMAP partners with PCPs to expand their scope of practice to integrate mental health care. The program relies on the availability of highly trained mental health professionals and a pediatric primary care liaison to provide advice on screening, accurate diagnostic and assessment tools and practices, and evidence-based treatments and resources.

The professionals who make up the KSKidsMAP Pediatric Mental Health Team (PMHT) include:

- Two board-certified child and adolescent psychiatrists

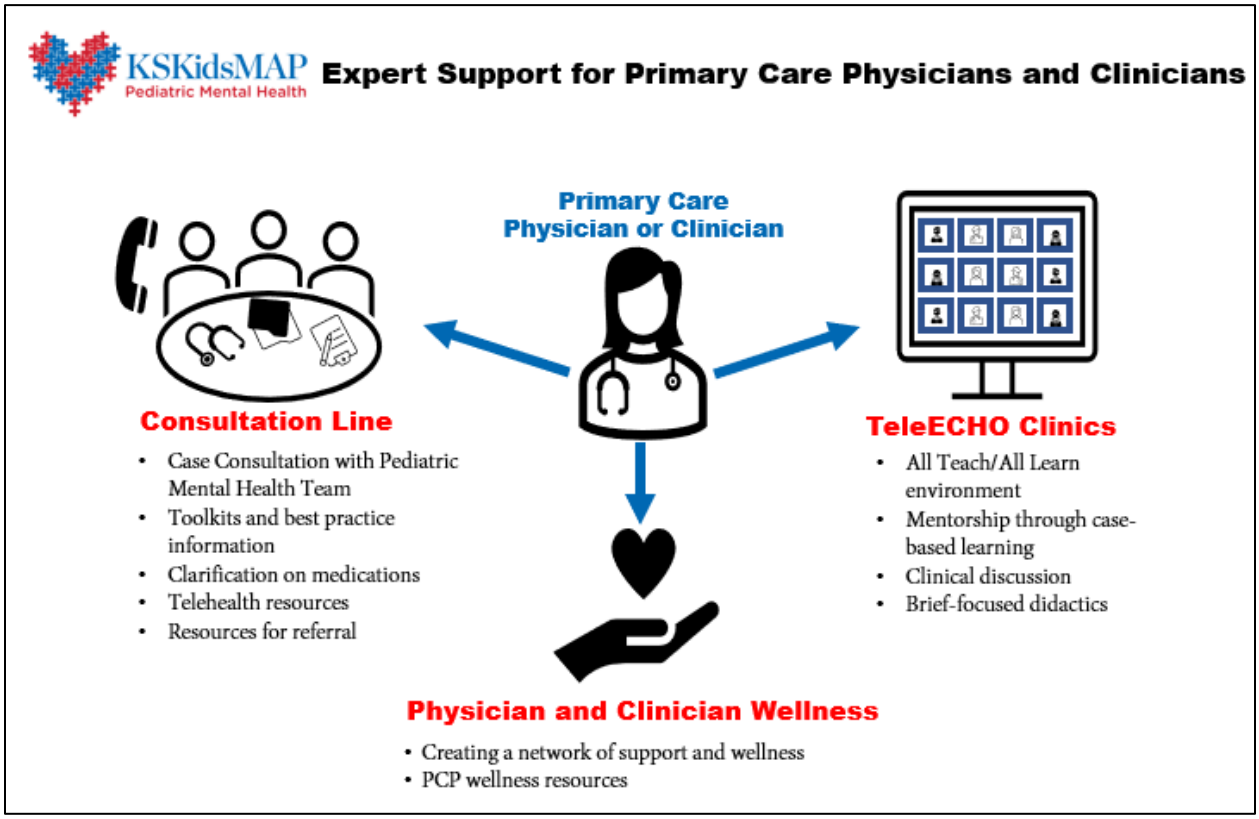
[19] Kansas Health Institute. (2021). Report of the Special Committee on Kansas Mental Health Modernization and Reform to the 2021 Kansas Legislature. Retrieved from http://www.kslegresearch.org/KLRD-web/Publications/CommitteeReports/2020CommitteeReports/ctte_spc_2020_ks_mental_health_modern_1_complete_report.pdf

[20] Sarvet, et al. (2010). Improving access to mental health care for children: the Massachusetts CPAP. *Pediatrics*, *126*(6), 1191–1200.

- Board-certified child and adolescent psychologist
- Board-certified pediatrician with experience in adolescent medicine and mental health
- Licensed Social Worker Care Coordinator

KSKidsMAP works directly with the PCP, providing tailored resources to ensure confidence in delivering evidence-based mental health care to youth in their practice. KSKidsMAP has multiple program components led by their team, including an ongoing TeleECHO Clinic, a Consultation Line, and wellness resources (Figure 1), to support the PCP who is managing youth with mental disorders.

Figure 1. Expert Support for the Primary Care Clinician Working in Pediatric Mental Health



KSKidsMAP offers multidisciplinary expertise through the KSKidsMAP Consultation Line and KSKidsMAP TeleECHO Clinic. These two components of KSKidsMAP allow PCPs to have an ongoing tele-mentoring relationship with experts as they manage patients. In addition, the TeleECHO Clinic provides ongoing learning through a community of PCPs who can share expertise with and learn from each other. This concept is fundamental to the program because it allows the entire KSKidsMAP network to learn from a single case, thereby moving knowledge (not patients), and disseminating best practices throughout the community. As PCPs participate in KSKidsMAP, their skills and confidence expand, and they are able to manage patients more effectively in their practices with similar conditions.

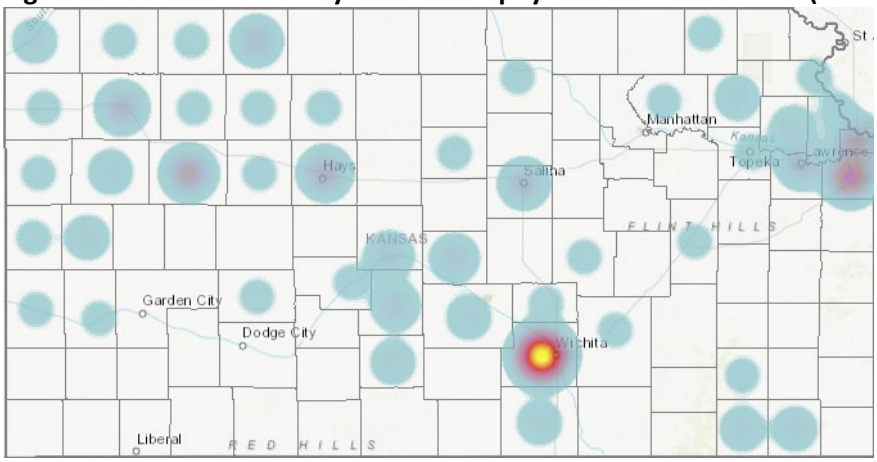
KSKidsMAP Physicians and Clinicians

In the first two years of the program (July 2019 – June 2021), a total of 126 PCPs have enrolled in KSKidsMAP (Table 1). Participating PCPs indicated serving patients in 62 of 105 Kansas counties (59%) (Figure 2).

Table 1. KSKidsMAP Network

Physician/clinician Type	N (%)
Physician	77 (61.1%)
Nurse Practitioner	27 (21.4%)
Behavioral Health Clinician	7 (5.6%)
Social Worker	7 (5.6%)
Physician Assistant	2 (1.6%)
Registered Nurse	3 (2.4%)
Other	3 (2.4%)
Total	126 (100.0%)

Figure 2. Counties served by KSKidsMAP physicians and clinicians' (Heat Map)



***Note:** Large circles denote high numbers in the given area

Of the PCPs enrolled, 69% (n=87) have utilized the Consultation Line and 68% (n=86) have been trained through the KSKidsMAP TeleECHO Clinic.

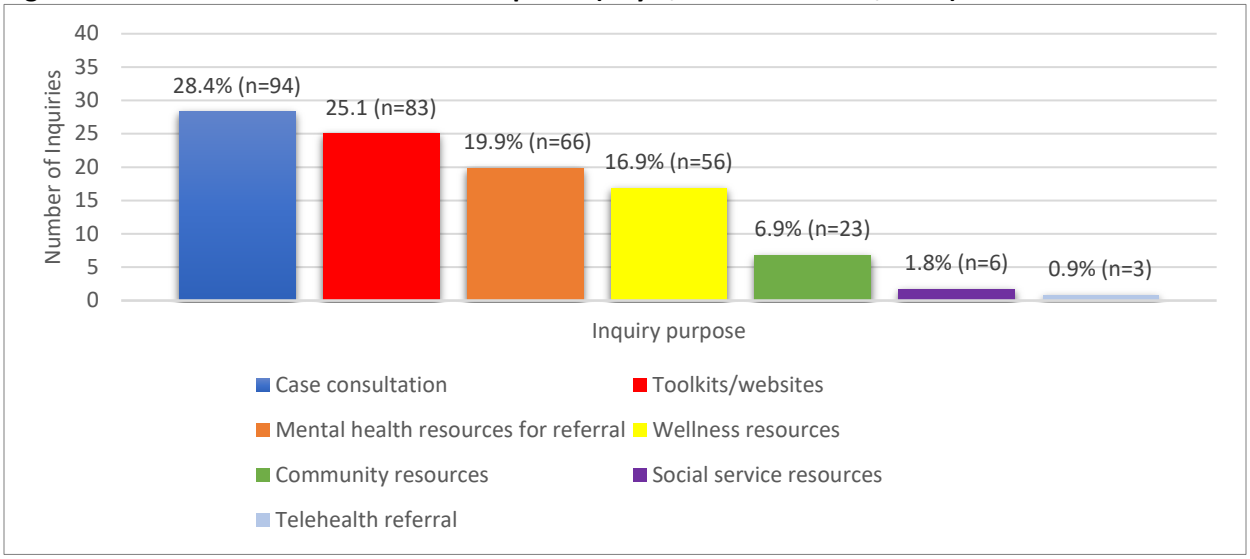
KSKidsMAP Consultation Line

An enrolled PCP may contact the KSKidsMAP Consultation Line by phone or email to connect with the Social Work Care Coordinator. Inquiries by the PCP can be patient-related or personal-wellness centered. The Care Coordinator gathers information regarding the PCP's specific need and responds to requests for patient- and wellness-focused resources and referrals. She consults with the wider Pediatric Mental Health Team for specific patient related questions. Case consultations are offered within 72 hours of the first inquiry. After a videoconference, the PCP receives a summary of the case with written recommendations and a tailored list of resources.

In the first two years of the program (July 2019 - June 2021), KSKidsMAP supported care for pediatric patients across Kansas with a total of 242 intakes regarding 331 specific inquiries (Figure 4). Case

consultation (28.4%, n=94) is the most requested KSKidsMAP support service, followed by mental health toolkits/website resources (25.1%, n=83).

Figure 4. KSKidsMAP Consultation Line Inquiries (July 1, 2019 to June 30, 2021)



Of the total consultation inquiries (N=331), 81.6% (n=270) requested assistance addressing specific mental, emotional, and behavioral health concerns (Figure 5). Of these, 20.4% (n=55) indicated a focus on attention deficit hyperactivity disorder, followed by anxiety (18.1%, n=49), depression (11.9%, n=32), and autism spectrum disorder (10.7%, n=29).

Figure 5. Concerns Addressed During Consults (N=270)

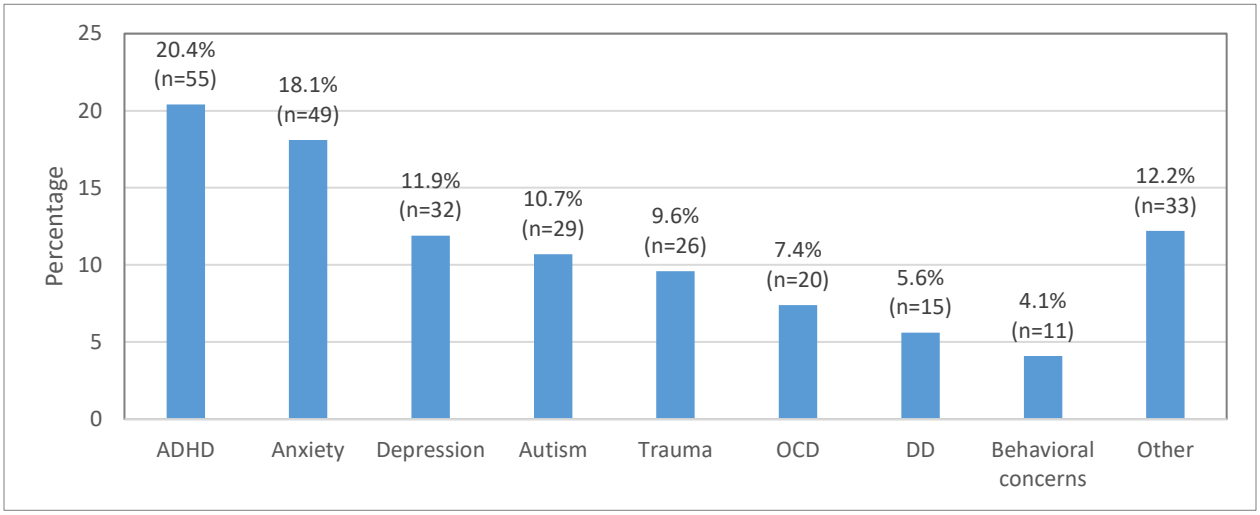


Figure 5, Additional Details

OCD = Obsessive-Compulsive Disorder

DD = Developmental Delay

Behavioral Concerns includes unspecific, general inquiries but mentions patient having behavior issues

Other Concerns includes adjustment disorder (0.4%, n=1), bipolar disorder (0.7%, n=2), disruptive mood dysregulation disorder (1.5%, n=4), oppositional defiant disorder (1.5%, n=4), substance use disorder (3.0%. n=8), suicidal ideation (2.2%, n=6), eating disorders (1.5%, n=4), sleep concerns (0.7%, n=2), and self-harm (0.7%, n=2)

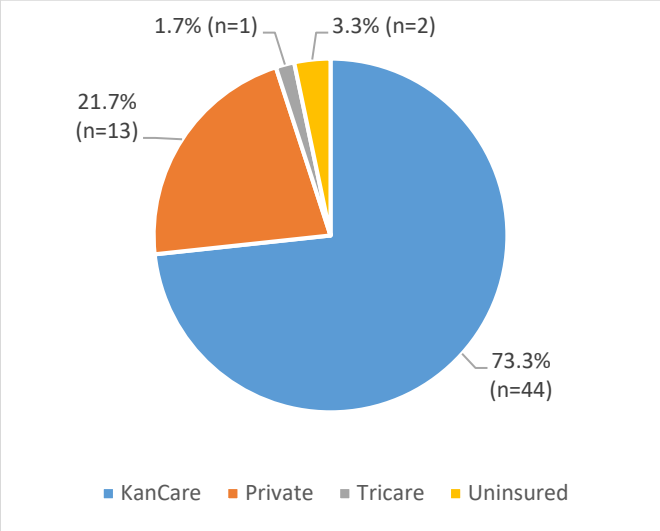
Patients Served

With more than 120 PCPs enrolled, KSKidsMAP has indirectly reached over 3,400 children, adolescents, and their families over the first two years of the program. The average age of a child/adolescent for which a PCP requested a case consultation was 11 years old (SD=5; range: 2-23 years). KSKidsMAP focuses on children and adolescents ages 0 to 21 years, however the transition to adulthood, as well as developmental delays, may result in a need to access pediatric treatment expertise beyond the age of 21 years.

Of the total case consultations completed (n=94), 31.9% (n=30) had a history of involvement with DCF and 16.0% (n=15) were in a foster home or residential home at the time the case consult took place.

KSKidsMAP began collecting insurance data in October 2020 and have insurance type for 63.8% (n=60) of case consultations. Of these, the majority (73.3%; n=44) were for patients with KanCare/Medicaid (Figure 6).

Figure 6. Insurance Type (n=60)



*Patient insurance data collection began October 2020.
**Missing (n=10).

TeleECHO Clinic

Launched in April 2020, the KSKidsMAP TeleECHO Clinic is an ongoing virtual clinic that meets twice a month for case consultation and didactic learning on youth mental health needs in primary care settings. The TeleECHO Clinic offers a platform for PCPs to share de-identified cases and receive input and support from other PCPs and the KSKidsMAP Team. Case-related feedback from the TeleECHO Clinic is summarized and packaged with additional recommendations from the Team, toolkits, and local resources. These case recommendations are made available to all TeleECHO Clinic participants. Approximately 10-15 PCPs attend each session.

Brief didactics are also included in the TeleECHO Clinics. Thus far, PCPs have received education on screening, diagnosis, and treatment for depression, anxiety, and attention deficit hyperactivity disorder. PCPs have also received education on pharmacologic and non-pharmacologic interventions for sleep, monitoring, follow up, and when to refer for additional mental health services. Lastly, physician

wellness, and COVID-19 implications for mental health and returning to school have also been explored through TeleECHO Clinic education.

Physician and Clinician Wellness

Integrating mental health care and providing support for youth with mental disorders can increase the stress PCPs experience. In addition to integrating wellness concepts and resources in the KSKidsMAP TeleECHO didactics and Consultation Line supports, the KSKidsMAP program has partnered with programs to offer wellness sessions for enrolled PCPs and to support development of a wellness culture within their clinics.

Other KSKidsMAP Activities

The KSKidsMAP team has conducted a multisite quality improvement project to increase adolescent depression screening during well visits, developed policies and procedures for clinical recommendations, created a statewide database for mental health resources and toolkits, and developed and broadly distributed a quarterly newsletter. In addition, participating PCPs have received continuing medical education credits and maintenance of certification credits required for licensure and board certification.

KSKidsMAP Cost

On average, each enrolled PCP serves 1,727 youth and their families a year. About 20% of these youth (n=345) are likely to be experiencing a mental health disorder.[21] With an annual operating cost of $533,843, KSKidsMAP currently costs about $12 per youth* who could benefit from KSKidsMAP support services. As more PCPs enroll in the program, the cost per youth will continue to decrease while their access to quality psychiatric care increases.

KSKidsMAP Participant Highlights

PCPs who utilized the Consultation Line and/or participated in the TeleECHO Clinic provided positive feedback regarding the benefit of resources and discussion in increasing their ability to treat youth within their own practices. During the TeleECHO Clinic discussion one physician from a rural practice shared,

> "*KSKidsMAP provides the extension of care of a pediatric medical home with the psychiatric expertise to provide the best mental health care to children under one roof.*"

Another physician said,

> "*KSKidsMAP fills a long-standing void in pediatric care as the prevalence of mental health is increasing with the changing social structure dynamics of modern times. The program helps to manage complicated [psychiatric illnesses and other mental and behavioral health problems] in children, since most pediatricians do not have the support of a mental health team in their realm of pediatric practice. During all these years in practice, we could not get the help which is currently being provided by the team in KSKidsMAP*."

[21] O'Connell, ME., et al. (2009). Preventing Mental, Emotional, and Behavioral Disorders Among Young People: Progress and Possibilities.

* Cost Calculation: 126 enrolled PCPs * (1,727 avg # youth served annually * 20% experiencing a mental health disorder) = 43,520 youth
$533,843 annual program cost/43,520 youth experiencing a MH disorder seen by enrolled PCPs = $12.27 cost/youth

SUSTAINABILITY

KSKidsMAP is one of many programs across the nation working to increase access to pediatric mental health care by building capacity in primary care. These programs have shown success on the large scale but all face challenges with sustained funding. Kansas is no different. KSKidsMAP is in year three of a 4-year federally funded grant that expires in June 2023. Beyond 2023, the future of KSKidsMAP, and access to care for youth currently benefiting from the program, is uncertain. Pediatric mental health care takes time and effort beyond typical pediatric health care; KSKidsMAP needs financial support for infrastructure and for the dedicated time of the expert Pediatric Mental Health Team. Without funding, the program will not survive beyond the grant period, and the opportunity to educate and support PCPs in providing quality care to youth suffering from mental disorders will be lost.

Other PMHCA programs across the country have been partially successful in addressing the financial sustainability barrier. The most successful initiatives rely on the engagement of legislators and on partnerships with state health departments and Medicaid leadership. Examples include implementing billing codes for physician-to-physician consultation reimbursement (North Carolina Psychiatry Access Line) or obtaining state budget allocation for program funding (Missouri Child Psychiatry Access Project). Maryland Behavioral Health Integration in Pediatric Primary Care is funded through both state line items and federal funding. Specifically, Maryland's Department of Health Behavioral Administration funds the consultation line, training, social work co-location, and resource and referral networks, while HRSA funds care coordination, ECHO clinics, telepsychiatry and tele-counseling services. Other options for sustainability include private sector support, community foundation support, and improved reimbursement for interprofessional collaboration around specific patient needs.

RECOMMENDATIONS

The following recommendations are proposed to promote policy, programs, and systems which support access to psychiatric care for Kansas youth:

1. **Make pediatric primary care workforce development opportunities (e.g., training, technical assistance) widely available.** These efforts will ensure gap-filling treatment services in mental health shortage areas are of high-quality and follow best practice guidelines.
    a. Fully fund a statewide child psychiatry access program (e.g., KSKidsMAP) to lead these activities. Funding the KSKidsMAP Pediatric Mental Health Team would allow the psychiatry access program services to continue beyond the lifespan of the federal grant award (June 2023). Options to explore should include:
        - Use of Medicaid Administrative match allowed for provider training activities
        - Managed Care Organization and/or commercial insurance
        - State general funds line item
        - Blended/braided funding across state agencies (e.g., KDADS, KDHE)
    b. Revise payment policies within managed care to ensure appropriate payments are available. Policies should apply to both direct mental health services in primary care and for physician-to-physician consultations.

2. **Fund initiatives that enhance the number of highly trained professionals, including child and adolescent psychiatrists and child psychologists.** KSKidsMAP, and similar programs, require teams with the highest levels of training and expertise – board certified child and adolescent psychiatrists

and psychologists. KU's Department of Psychiatry and Behavioral Sciences trains general psychiatrists and child psychologists in accredited community-based programs. Community partnerships have been established that could support a two-year focused child and adolescent psychiatry fellowship training program, given appropriate financial resources.

CONCLUSION

More than 20% of Kansas youth experience mental disorders and there is a grave shortage of specialists to care for them. KSKidsMAP is one effective solution. The program decreases barriers to mental health care access in Kansas because it builds capacity in primary care, allowing more youth to receive quality mental health care closer to home and by the PCP with whom they already have a trusting relationship. Youth and families are spared long wait times to see mental health experts and long drives to access this specialty care. In addition, by decreasing long-distance appointments, youth are able to remain in school and parents at work, thus benefiting the economy. By supporting PCPs to manage less complex mental disorders in primary care, this model also allows experts in child and adolescent psychiatry and psychology to see youth with more complex mental disorders. With more than 100 enrolled PCPs from over half of Kansas counties, KSKidsMAP has indirectly reached over 3,400 children, adolescents, and their families throughout the first two years of the program. As the KSKidsMAP network continues to grow, so as does the comfort, knowledge, and skills of the PCPs who participate in the program.

KSKidsMAP to Mental Wellness (KSKidsMAP) is a cooperative agreement between the Kansas Department of Health and Environment and other state and local partners. The KSKidsMAP project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award totaling $2,134,666 with 20% financed with non-governmental sources. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS, or the U.S. Government.