



Mental Health Screening in EPSDT: A Retrospective Analysis of Medical Records Linked to Administrative Claims

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Executive Summary

West Virginia had more than 127,000 Medicaid members aged 6-18, including nearly 60,000 who received Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) “well-child” exams in 2019. The mental health of these children and youth is a priority of the West Virginia Department of Health and Human Resources (DHHR). To better serve this population, an analysis was conducted to determine how often mental health screening was performed during EPSDT visits. The analysis involved standardized medical record reviews of an age and geographically representative sample of 713 EPSDT exam records. A mental health screening was determined to have been completed if responses were recorded from standard trauma screening, i.e., the abbreviated (two question) Post-Traumatic Stress Disorder Checklist – Civilian Version (PCL-C); if the provider addressed two or more social determinants of health; or if responses were recorded from a depression screening, i.e., the Patient Health Questionnaire-2 (PHQ-2). In this sample, 82.3% of EPSDT exam records included mental health screening. The prevalence of mental health screening varied by HealthCheck Region and according to documentation format. A higher prevalence of mental health screening among providers using age-appropriate HealthCheck Preventive Health Screen (PHS) forms suggests that increasing utilization of these forms could enhance statewide mental health screening in this critical population.

Background

The Office of Maternal, Child and Family Health (OMCFH) is West Virginia’s Title V Maternal and Child Health Agency and is responsible for the utilization of funds provided by the Maternal and Child Health Block grant of Title V of the Social Security Act of 1935, 42 U.S.C. §701 et seq. Consistent with federal policy that requires state Medicaid agencies to coordinate with Title V grantees, the OMCFH provides administrative oversight for the State’s EPSDT Program, i.e., HealthCheck. To ensure that EPSDT services are provided in accordance with reasonable standards of medical and dental practice, the HealthCheck Program makes use of the American Academy of Pediatrics’ *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents* to inform the development of policy, procedures and age-appropriate HealthCheck PHS forms available (free of charge) to all health care providers who see children/youth 0-20 years of age. The HealthCheck standard of care promotes psychosocial/behavioral screening at each EPSDT exam from birth through age 20. Said psychosocial/behavioral screening should address “social and emotional health, caretaker depression, and social determinants of health.”^a In West Virginia, EPSDT exams may be documented on the age-appropriate HealthCheck PHS form,^b in the provider’s electronic medical

^a American Academy of Pediatrics. (2017). *Bright Futures, Recommendations for Preventive Pediatric Health Care*. Retrieved from https://www.aap.org/en-us/Documents/periodicity_schedule.pdf

^b The HealthCheck PHS form operationalizes the American Academy of Pediatrics Bright Futures guidance for a comprehensive well-child exam. Providers must meet this standard but are not required to utilize the form. See <https://dhhr.wv.gov/HealthCheck/providerinfo/Pages/default.aspx>.

record (EMR) or electronic health record (EHR), or within a paper-based record stored on paper-based mediums.

The HealthCheck Program regularly conducts quality improvement initiatives, small-scale cycles of interventions that are linked to assessment, with the goal of improving the process, outcome, and efficiency of the systems of pediatric health care in West Virginia. To link the quality improvement cycle of intervention to assessment, medical record audits are completed to rate quality – how often and how well something is being done (or not done). This quality-improvement approach has proved to be the most efficient means of building surveillance and screening elements into the process of care in pediatric offices.^c Medical record reviews are critical to the quality improvement cycle, as results of the reviews are used to develop improvement strategies.^d

In May 2019, the West Virginia Department of Health and Human Resources entered into a Memorandum of Understanding (MOU) with the U.S. Department of Justice to address West Virginia’s child welfare system and to ensure children who require mental health services can receive them in their homes and communities by expanding community-based mental health services and ensuring appropriate placement in residential mental health treatment facilities. Pursuant to MOU requirements, an implementation plan was developed to describe actions to be taken to ensure MOU rubrics were utilized to reform West Virginia’s children’s mental health system. OMCFH was charged with evaluating the extent to which mental health screening is taking place during EPSDT exams for Medicaid members ages 6-18. To accomplish this task, a hybrid quality measure (claims data and clinical data from individual medical records) was employed to quantify results.

Methodology

In December 2019, Medicaid members aged 6-18 years totaled 127,087. Among these, administrative claims data indicated 59,591 children/youth had received an EPSDT exam, i.e., a comprehensive preventive medical exam, in calendar year 2019. From the population of Medicaid members defined above, a random sample of patients with corresponding claims for comprehensive preventive medical services was selected for review. Comprehensive preventive medicine services, aka “well-child care,” were identified using the Current Procedural Terminology (CPT) and International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-CM) codes found in Appendix A.

Medical records were requested from the health care providers of 1,049 of 59,591 Medicaid-eligible children/youth, ages 6-18, who received an EPSDT exam in calendar year 2019. A total

^c Lipkin, P. H., & Macias, M. M. (2020). Promoting optimal development: identifying infants and young children with developmental disorders through developmental surveillance and screening. *Pediatrics*, 145(1).

^d In relation to these quality improvement initiatives, HealthCheck is considered a health oversight agency as defined by 45 CFR § 164.501.

of 741 records were obtained, five of which were excluded due to the wrong date of service or being incomplete. After review, 713 records were determined to be EPSDT exams and thus retained for the final analysis.

To address varied forms of documentation, a standardized medical record review process and data collection tool were developed to assess whether a child was screened for mental health conditions during her/his EPSDT exam. Seven registered nurses were calibrated through training on the use of the standardized data collection tool before completing a review of medical records from the sample population described above. For the purposes of this analysis, a “mental health screening” was defined to have occurred if a review of the medical record documented one of the following measures from the HealthCheck standard of care:

- Abbreviated (two question) PTSD Checklist – Civilian version (PCL-C);^e
- Two of four social determinants of health (SDOH) addressed – a) family relationships, b) school problems, c) peer relationships/friends and d) stress;
- Patient Health Questionnaire-2 (PHQ-2), a 2-item depression-screening scale.^f

Medical record reviews concluded upon confirmation of a mental health screening, starting with the PCL-C (trauma screening), followed by SDOH, and then depression screening. As a result, not all screening methods were measured for each child. See Appendices B and C for the Medical Record Review Tool and Algorithm.

To surmise the incidence of referral as a result of mental health screening, claims for mental and behavioral health services that occurred within 90 days from the date of the EPSDT exam were identified. See Appendix D for CPT codes used to identify mental and behavioral health services.

Results

Compared to the population, the sample was similar in age, HealthCheck Region of residence, and foster care status (Table 1). The sample had a mean age of 11.2 years compared to 11.3 years for the population. The sample had slightly more residents of Region 7 and fewer residents of Regions 2 and 5. Region of residence information was missing for none in the sample but 15.2% of the population. 14.9% of the sample were in foster care at the time of the exam compared to 13.3% of the population, a difference that was not significant.

^e Lang, A. J., & Stein, M. B. (2005). An abbreviated PTSD checklist for use as a screening instrument in primary care. *Behaviour research and therapy*, 43(5), 585-594.

^f Richardson, L. P., Rockhill, C., Russo, J. E., Grossman, D. C., Richards, J., McCarty, C., ... & Katon, W. (2010). Evaluation of the PHQ-2 as a brief screen for detecting major depression among adolescents. *Pediatrics*, 125(5), e1097-e1103.

Table 1. Characteristics of the sample and population

Category		Sample (n = 736)		Population (n = 59,591)	
		Mean		Mean	
Age		11.2		11.3	
Category		n	%	n	%
Foster care status at time of exam	Yes	110	14.9%	7,923	13.3%
	No	626	85.1%	51,668	86.7%
HealthCheck Region	1	76	10.3%	5,241	8.8%
	2	103	14.0%	8,095	13.6%
	3	135	18.3%	9,947	16.7%
	4	64	8.7%	4,096	6.9%
	5	38	5.2%	3,520	5.9%
	6	42	5.7%	3,217	5.4%
	7	130	17.7%	6,953	11.7%
	8	50	6.8%	2,925	4.9%
	9	62	8.4%	3,460	5.8%
	Out of state	36	4.9%	3,095	5.2%
	Missing	-	-	9,042	15.2%

Of the 713 EPSDT exams reviewed, 587 or 82.3% met the standard for a mental health screening (Table 2). Based on a post-hoc power calculation, this estimate lies within 3% of the population prevalence with 95% confidence. Among those screened, the most common screening method was SDOH (71.9%) followed by Trauma (21.3%) and then Depression (6.8%). While only 18.0% of EPSDT exams used the PHS form, those that did recorded a higher prevalence (94.5%) of mental health screening compared to those that used electronic medical records or paper charts. Of 126 children/youth who did not receive a documented mental health screening at their EPSDT exam, 11 were already receiving mental health services.

Table 2. EPSDT exams included mental health screening

Screening Method	PHS form		EMR/paper		Total	
	n	%	n	%	n	%
Screened	121	94.5%	466	79.7%	587	82.3%
<i>Trauma</i>	79	65.3%	46	9.9%	125	21.3%
<i>SDOH</i>	39	32.2%	383	82.2%	422	71.9%
<i>Depression</i>	3	2.5%	37	7.9%	40	6.8%
Not screened	7	5.5%	119	20.3%	126	17.7%
Total	128	18.0%	585	82.0%	713	100.0%

Use of the HealthCheck PHS form varied by HealthCheck Region, ranging from 3.3% in Region 4 to 62.0% in Region 8 (Table 3). See Appendix E for a map of the HealthCheck Regions.

Table 3. EPSDT exam documentation type, by HealthCheck Region

HealthCheck Region	HealthCheck PHS form		EMR/paper		Total n
	n	%	n	%	
1	28	38.9%	44	61.1%	72
2	12	11.9%	89	88.1%	101
3	6	4.5%	127	95.5%	133
4	2	3.3%	58	96.7%	60
5	5	13.5%	32	86.5%	37
6	6	14.6%	35	85.4%	41
7	14	11.0%	113	89.0%	127
8	31	62.0%	19	38.0%	50
9	18	31.0%	40	69.0%	58
Out of state	6	17.6%	28	82.4%	34
Total	128	18.0%	585	82.0%	713

Variation in mental health screening by HealthCheck Region (Table 4) was noted.

Table 4. Screening by HealthCheck Region

HealthCheck Region	Screened		Not Screened		Total
	n	%	n	%	
1	65	90.3%	7	9.7%	72
2	82	81.2%	19	18.8%	101
3	113	85.0%	20	15.0%	133
4	53	88.3%	7	11.7%	60
5	32	86.5%	5	13.5%	37
6	31	75.6%	10	24.4%	41
7	99	78.0%	28	22.0%	127
8	46	92.0%	4	8.0%	50
9	44	75.9%	14	24.1%	58
Out of state	22	64.7%	12	35.3%	34
Total	587	82.3%	126	17.7%	713

A mental or behavioral health claim within 90 days of the EPSDT exam was noted for 202 (34.4%) of the 587 children/youth who received mental health screening during their EPSDT exams.

Discussion and Recommendations

This analysis indicates that 82.3% of Medicaid members, ages 6-18 years, received a mental health screening at their EPSDT exam completed in calendar year 2019. Mental health screening was more common among medical records that included the HealthCheck PHS form, raising the possibility that increased use of the HealthCheck PHS form could increase mental health screening overall. A population-wide increase in mental health screening to the 94.5% observed among HealthCheck PHS form users would represent nearly 9,000 additional young people screened.

The data presented here provide opportunities for engagement with the medical community for quality improvement. Regional differences in HealthCheck PHS form use and other mental health screening tools could be addressed by regional HealthCheck Program Specialists to encourage providers to use the HealthCheck PHS form. If providers are reluctant to adopt the HealthCheck PHS form itself, HealthCheck Program Specialists should provide academic detailing to the practice emphasizing the importance of mental health screening and utilization of the HealthCheck standard of care. Providers' reluctance could be attributed to logistical and financial constraints to incorporating the HealthCheck PHS form into their existing EMR.

Limitations of this study include its narrow focus on screening (and not services) and potential inconsistency in the ascertainment of mental health screening. While the analysis noted that a mental or behavioral health claim was submitted within 90 days for 34.4% of those children/youth who received mental health screening during their EPSDT exams, the medical record review did not conclusively link said mental or behavioral health claims to specific referrals. As a result, no definitive assertion could be made that mental or behavioral health claims within 90 days of the EPSDT exam are a result of the EPSDT exam. Claims data were also limited in timeliness, as payment could be sought for several months after a service was provided. As such, it should be noted that EPSDT exams and mental and behavioral health services could be underreported due to potential billing errors and delays in submission of service claims for payment.

Much thought and discussion went into the ascertainment of mental health screening. The authors drew on their own subject matter expertise as well as other OMCFH staff to develop the medical record review tool in Appendix B and algorithm in Appendix C. However, the tool may have performed differently on the variety of EPSDT formats (medical records from different EHRs, paper charts, and HealthCheck PHS forms). Further, registered nurse reviewers may have applied the data collection tool inconsistently.

Results of this analysis will be disseminated to key stakeholders to increase awareness and acceptance of mental health screening among pediatric health care providers. Of chief importance are the providers themselves, who may implement our primary recommendation – to adopt the HealthCheck PHS form – or recognize other strategies to increase mental health screening.

Multiple media will be used to share these findings, including issue briefs, slide presentations, and dissemination via virtual and future in-person settings. Study results will also serve as a baseline from which quality improvement efforts can be measured in the future.

Appendix A. ICD-10 and procedure codes to identify EPSDT exams

Code	Description
ICD-10	
Z0000	Encounter for general adult medical examination w/o abnormal findings
Z0001	Encounter for general adult medical examination with abnormal findings
Z00110	Health examination for newborn under 8 days old
Z00111	Health examination for newborn 8 to 28 days old
Z00121	Encounter for routine child health exam with abnormal findings
Z00129	Encounter for routine child health exam without abnormal findings
CPT	
99381	Initial preventive medicine new patient <1year
99382	Initial preventive medicine new patient age 1-4 yrs
99383	Initial preventive medicine new patient age 5-11 yrs
99384	Initial preventive medicine new patient age 12-17 yrs
99385	Initial preventive medicine new patient age 18-39yrs
99391	Periodic preventive med established patient <1yr
99392	Periodic preventive med established patient 1-4yrs
99393	Periodic preventive med established patient 5-11yrs
99394	Periodic preventive med established patient 12-17yrs
99395	Periodic preventive med established patient 18-39 yrs
99461	Initial care per day, for evaluation and management of normal newborn infant seen in other than hospital or birthing center

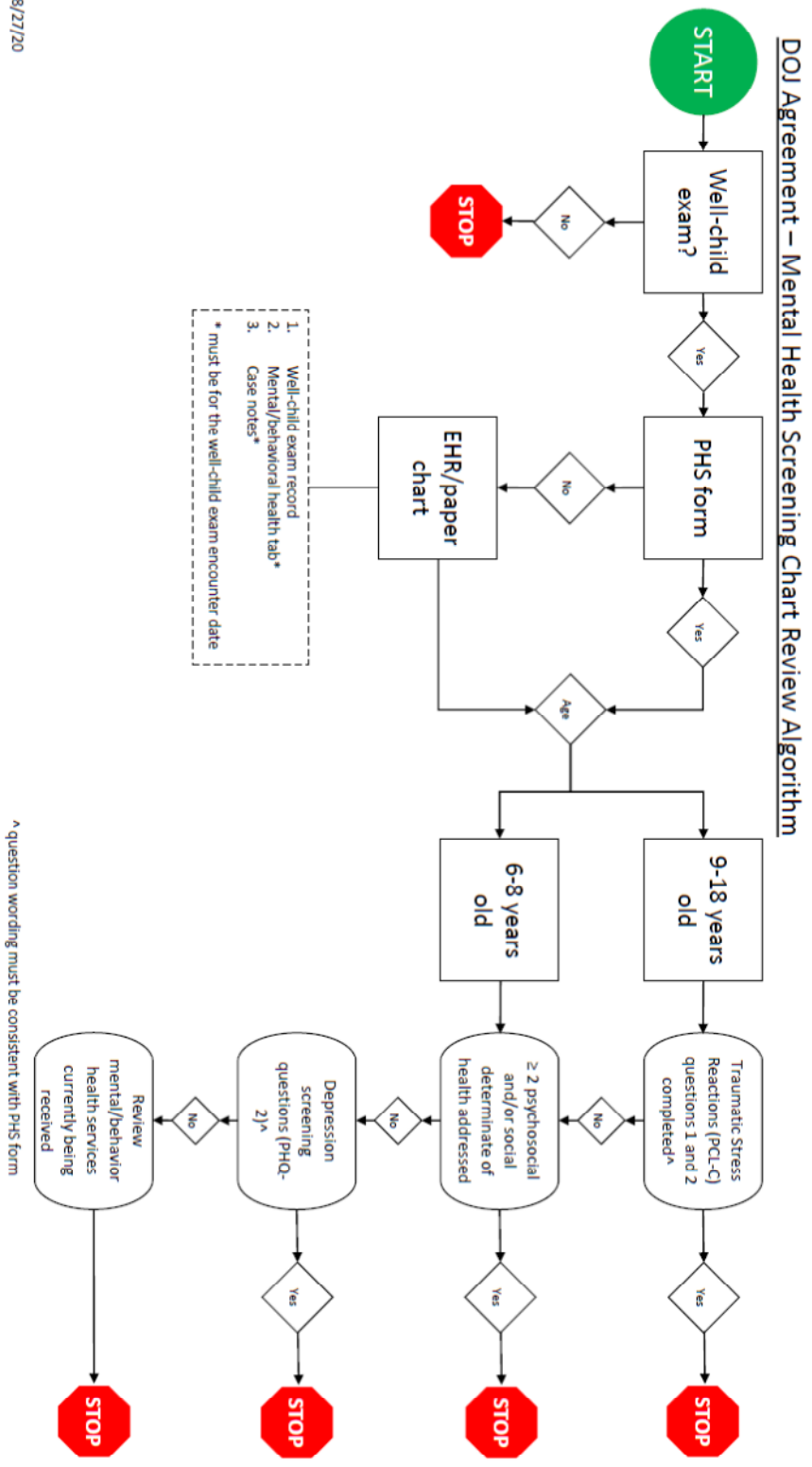
Appendix B. Medical Record Review Tool

1. Person ID Unencrypted (prepopulated)
2. Child's first name (prepopulated)
3. Child's last name (prepopulated)
4. Child's DOB (prepopulated)
5. Date of EPSDT exam (prepopulated)
6. Was the record provided for a EPSDT exam?
 - a. Yes
 - b. No
 - c. Unsure
7. HealthCheck PHS form
 - a. Yes
 - b. No
8. EMR/EHR
 - a. Yes
 - b. No
9. Paper chart
 - a. Yes
 - b. No
10. Child's age (calculated)
11. Traumatic stress reaction (PCL-C) question 1: repeated, disturbing memories, thoughts, or images of a stressful experience from the past in the past 2 weeks?
 - a. Yes
 - b. No
 - c. Unsure
12. Traumatic stress reaction (PCL-C) question 2: feeling very upset when something reminded you of a stressful experience from the past in the past 2 weeks?
 - a. Yes
 - b. No
 - c. Unsure
13. Psychosocial/SDOH
 - a. Family relationships
 - i. Yes
 - ii. No
 - iii. Unsure
 - b. School problems
 - i. Yes
 - ii. No
 - iii. Unsure

- c. Peer relationships/friends
 - i. Yes
 - ii. No
 - iii. Unsure
 - d. Stress: relationships, school/work, drugs, alcohol, violence/abuse, family member incarcerated, lack of support/help, financial, emotional loss, health insurance, other
 - i. Yes
 - ii. No
 - iii. Unsure
14. Depression screening question 1: Little interest or pleasure in doing things over the past 2 weeks
- a. Yes
 - b. No
 - c. Unsure
15. Depression screening question 2: Feeling down, depressed, or hopeless over the past 2 weeks
- a. Yes
 - b. No
 - c. Unsure
16. Is there evidence in the EPSDT exam record that the child is already receiving mental/behavioral health services?
- a. Yes
 - b. No
 - c. Unsure

Appendix C. Medical Record Review Algorithm

8/27/20



Appendix D. Procedure codes to identify mental and behavioral health services

CPT Code	Procedure
90791	Psychiatric diagnostic evaluation
90792	Psychiatric diagnostic eval w/medical services
90832	Psychotherapy w/patient 30 minutes
90833	Psychotherapy w/patient w/E&M services 30 min
90834	Psychotherapy w/patient 45 minutes
90836	Psychotherapy w/patient w/E&M services 45 min
90837	Psychotherapy w/patient 60 minutes
90846	Family psychotherapy w/o patient present 50 mins
90847	Family psychotherapy w/patient present 50 mins
90853	Group psychotherapy
96111	Developmental testing w/interpretation & report
96112	Developmental test administration by physician or other qualified health profession, 1st hour
96113	Developmental test administration by physician or other qualified health profession, additional 30 minutes
96116	Neurobehavioral status exam by physician or other qualified health profession, 1st hour
96127	Behavioral assessment w/scoring & documentation, per standardized instrument
96130	Psychological test evaluation services by physician or other qualified health profession, 1st hour
96131	Psychological test evaluation services by physician or other qualified health profession, each additional hour
96136	Psychological or neuropsychological test administration/scoring by physician or other qualified healthcare professional, two or more tests, any method; first 30 minutes
96137	Psychological or neuropsychological test administration/scoring by physician or other qualified healthcare professional, two or more tests, any method; each additional 30 minutes
96138	Psychological or neuropsychological test administration/scoring by technician, two or more tests, any method; first 30 minutes
96150	Health and behavior assessment, each 15 minutes face-to-face with the patient; initial assessment
96152	Health and behavior intervention; individual; each 15 minutes; face-to-face
96154	Health and behavior intervention; family (with patient present); each 15 minutes; face-to-face
99204	Office outpatient new 45 minutes
H0031	Mental health assessment by non-physician

Appendix E. HealthCheck Regions

