

Supplementary Material

Article Title: Telemental Health Utilization in Commercial Health Insurance Plans in the United States From 2010 Through 2019

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DOI Number: 10.4088/JCP.23m14931

LIST OF SUPPLEMENTARY MATERIAL FOR THE ARTICLE

1. [Appendix 1](#)

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Appendix 1

Definitions and codes

Diagnostic and procedure codes used to generate tele-mental health services groups

We developed four tele-mental health services groups using IQVIA PharMetrics Plus data (Quarter 3 2020 version, Native format) over the study period ranging from 2010 to 2019. The 4 groups are: Telemedicine, Behavioral Assessments, Therapeutic Services, and Evaluation & Monitoring. We used diagnostic and procedure codes specified below for each group. To identify telehealth visit, we used point of service (POS) and Current Procedural Terminology (CPT) modifiers.

Telehealth related filter, based on place of service and CPT modifiers

POS = 02

CPT modifiers: 95, G0, GQ, GT

Numerator: Description of groups

Each of the four tele-mental health services groups has been developed using diagnostic codes (ICD9 and ICD10) as well as procedure codes (HCPCS and CPT codes). The insurance enrollment requirement is as follows:

- Pharmacy and Medical: Patient has been covered for at least 12 Months

After retrieving “Patient Export” tables per each year, we additionally filter the data by point of service (POS = 2) and CPT modifiers associated with “Telemedicine” setting.

Diagnostic codes

If any of the 12 available diagnoses had a Mental Health ICD-9 or ICD-10 diagnostic code, we included it regardless of whether it were primary or non-primary mental health diagnosis.

Mental Health related ICD-9 codes: 290-319

Mental Health related ICD-10 codes: F01-F99, A81.00-A81.09, G30-G31.1, G44.2-G44.219

Procedure codes

Telemedicine HCPCS codes: G0406, G0407, G0408, G0425, G0426, G0427, G2010, G2012, G2061, G2062, G2063

Behavioral Assessments CPT codes: 96150, 96151, 96152, 96153, 96154, 96155, 96156, 96160, 96161, 99050, 99051

Evaluation and Monitoring CPT codes: 99201, 99202, 99203, 99204, 99205, 99211, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245

Therapeutic Services CPT codes: 90785, 90791, 90792, 90801, 90802, 90804, 90805, 90806, 90807, 90808, 90809, 90810, 90811, 90812, 90813, 90814, 90815, 90816, 90817, 90818, 90819, 90821, 90822, 90823, 90824, 90826, 90827, 90828, 90829, 90832, 90833, 90834, 90836, 90837, 90838, 90839, 90840, 90845, 90846, 90847, 90849, 90853, 90857, 90863, 90865, 90867, 90868, 90869, 90870, 90871, 90875, 90876, 90880, 90885, 90887, 90889, 90899, 95970, 95974, 95975, 96101, 96102, 96103, 96105, 96110, 96111, 96112, 96113, 96116, 96118, 96119, 96120, 96121, 96125, 96127, 96130, 96131, 96132, 96133, 96136, 96137, 96138, 96139, 96146

Billing providers

Emergency Medicine Physician, General Practice/Family Practice, Internal Medicine, Hospital, Mental Health/Substance Abuse Facility, Nurse Practitioner, Pediatrics, Physician Assistant, Psychiatry, Psychology, Registered Nurse, Skilled Nursing Facility/Long Term Care, Social Work, Not Available, Other, Other Facility, Other Specialty, Unknown

Denominator: Description of group

We created denominator on the basis of mental health ICD-9/10 diagnosis codes to be present in all Numerator groups. We chose to have denominator defined as any mental health related visit without setting specified (i.e., it could include outpatient, inpatient, ER, or telehealth session as a setting). We specified patient selection period per each year with enrollment requirement to be at least 12 months of Medical and Pharmacy coverage during a specific year.