STATE-BY-STATE MENTAL HEALTH SERVICES AND EXPENDITURES IN MEDICAID, 1999

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Background

- Medicaid spending for mental health care accounted for 27 percent of total mental health expenditures by all public and private payers combined in 2001, up from 19 percent in 1991 (Mark et al. 2005)

- Medicaid funds more than half of all mental health services administered by the states, and could account for two-thirds of such spending by 2017 (Buck 2003)

- 8-12 percent of all Medicaid dollars are spent on mental health services (Mark et al. 2003)
Research Questions

- How complete and reliable for research purposes are the Medicaid data reported by states to the federal government?

- How does Medicaid service use vary for beneficiaries with and without mental health diagnoses?

- How does service use vary:
  - By type of service?
    - Inpatient hospital, emergency room, psychotropic drugs
  - By type of beneficiary?
    - Age, sex, race/ethnicity, eligibility category (children, adults, aged, disabled, Medicare-Medicaid dual eligible)
  - Among states?
Data Source

- Data are from 1999 Medicaid Analytic Extract (MAX) files prepared by Centers for Medicare and Medicaid Services (CMS) from data submitted electronically by states
  - MAX Person Summary File (PSF) combines eligibility information and summary claims and payment data into one record per beneficiary
  - Other linked MAX files provide detailed data on services and payment
    - Data include diagnoses from hospital, physician, and other service claims
    - Can be used for detailed state-by-state analyses and comparisons
    - Can also be used for person-level analyses
- Use of MAX files by researchers requires a data use agreement with CMS
MAX files only include fee-for-service (FFS) data; exclude services provided in capitated managed care programs
- 28 percent of all Medicaid beneficiaries were excluded from our study because they were always in managed care in 1999
- Slides 6 and 7 include more on impact of managed care exclusions

MAX files are available for 1999-2001; 2002 will be available soon
- For details on availability, see: https://www.cms.hhs.gov/MedicaidDataSourcesGenInfo/07_MAXGeneralInformation.asp#TopOfPage
Study Design and Methods

- Used MAX files for all states and DC for 1999, latest year for which data were available when study began.
- Identified mental health (MH) population by whether beneficiary had a claim in 1999 showing as a primary diagnosis one of 17 groups of MH diagnoses, or received one of three types of MH institutional care.
- Included all Medicaid beneficiaries who had one or more months of FFS coverage in 1999.
Data Quality and Completeness

- We ranked states from 4 (good) to 1 (poor) in terms of the quality and completeness of their 1999 MAX data *for this project* (see slide 9 for state scores)
  - Data may be better or worse for other purposes

- Single factor that most affected the rankings was the percent of the Medicaid population excluded from the tables because they were in capitated managed care for the entire year
  - Accounted for about half of the score

- Other factors in data quality score were quality of diagnosis coding, problems in managed care enrollment reporting, and problems with identification of specific services, specific types of beneficiaries, or beneficiary characteristics
FFS beneficiaries in states with significant managed care enrollment may not be representative of the beneficiary population as a whole
  - Beneficiaries with high health care needs and service use (special needs children, foster care children, dual eligibles, non-dual disabled) are often not in managed care
  - MH diagnoses and service use for beneficiaries remaining in FFS are thus likely to be high

Percent of beneficiaries excluded from the study because of managed care varied widely by state
  - National average was 28 percent
  - 11 states were above 50 percent (AZ, CO, CT, DE, HI, IA, KY, MA, OR, TN, UT)
  - 18 states were below 10 percent (AK, AR, GA, ID, IL, KS, LA, ME, MS, MT, NH, NC, ND, SC, SD, TX, WV, WY)
Data Quality and Completeness (Cont.)

- Managed care exclusions also varied by type of beneficiary
  - Nationally, 34 percent of children were excluded, but only 9 percent of aged, 21 percent of disabled, and 29 percent of non-disabled adults

- Availability of diagnostic information was crucial for this study
  - Diagnoses for Medicare-Medicaid dual eligibles are under-reported in MAX, which only includes Medicaid claims
    - Medicare is primary payer for hospital services, where most diagnoses appear
  - May result in apparently high use of psychotropic drugs by “non-mental health” beneficiaries
    - Non-MH group may include dual eligibles who have MH diagnoses only on Medicare hospital claims
Data Quality Scores, by State

Note: Since the MAX files do not contain encounter or diagnostic data for beneficiaries in managed care, states with high penetration of managed care (such as Arizona and Tennessee) have low scores for the purposes of this study.
Findings Overview

- FFS MH beneficiaries were relatively costly and were in all eligibility groups.
- Most common MH diagnoses varied by age group.
- MH beneficiaries had high non-MH hospital use, but MH stays were longer.
- MH beneficiaries had high hospital emergency room (ER) use, but mostly for non-MH services.
- MH beneficiaries had high psychotropic drug use, especially adults.
- Types of psychotropic drugs used by MH beneficiaries varied by age.
- Hospital ER use by MH beneficiaries varied by state.
- Percent of adult MH beneficiaries using more than one psychotropic drug type also varied by state.
MH Beneficiaries Were Relatively Costly and Were in All Eligibility Groups

- FFS MH beneficiaries accounted for only 10% of FFS Medicaid beneficiaries in 1999, but 27% of FFS Medicaid expenditures.

- MH beneficiaries were in all eligibility groups but were a higher share of the disabled group.
  - FFS MH beneficiaries as a share of all FFS beneficiaries in each eligibility group:
    ♦ Aged: 8%
    ♦ Disabled: 25%
    ♦ Adults: 5%
    ♦ Children: 6%
  - Note that MH beneficiaries are underreported in aged and disabled groups, since many are duals with no diagnoses in MAX files.
Most Common MH Diagnoses Varied by Age Group

- Neurotic and Other Depressive Disorders:
  - All Ages: 22%
  - 21 and Under: 12%
  - 22 to 64: 27%
  - 65 and Older: 28%

- Major Depression and Affective Psychoses:
  - All Ages: 20%
  - 21 and Under: 8%
  - 22 to 64: 28%
  - 65 and Older: 23%

- Schizophrenia:
  - All Ages: 13%
  - 21 and Under: 1%
  - 22 to 64: 15%
  - 65 and Older: 23%

- Hyperkinetic Syndrome:
  - All Ages: 12%
  - 21 and Under: 0%
  - 22 to 64: 0%
  - 65 and Older: 31%
MH Beneficiaries Had High Non-MH Hospital Use, But MH Stays Were Longer

- Percent of MH beneficiaries using inpatient hospital services
  - For MH treatment: 9%
  - For non-MH treatment: 14%

- Average annual inpatient hospital days per user
  - For MH treatment: 23
  - For non-MH treatment: 6
MH Beneficiaries Had High Hospital ER Use, But Mostly for Non-MH Services

- Percent of beneficiaries using hospital emergency rooms (ERs):
  - MH beneficiaries: 35%
  - Non-MH beneficiaries: 18%

- Average annual number of ER visits for those with any ER use:
  - MH beneficiaries
    - For MH treatment: 0.4
    - For non-MH treatment: 2.54
  - Non-MH beneficiaries: 2.0
MH Beneficiaries Had High Psychotropic Drug Use, Especially Adults

- Percent of beneficiaries with any psychotropic drug use
  - MH beneficiaries: 69%
  - Non-MH beneficiaries: 13%
    ♦ Note that non-MH beneficiaries may include duals with missing diagnoses

- Percent of MH beneficiaries with any psychotropic drugs use, by age
  - Age 0-3  17%
  - 4-5  35
  - 6-12  58
  - 13-18  51
  - 19-21  56
  - 22-44  78
  - 45-64  86
  - 65+  76
Types of Psychotropic Drugs Used by MH Beneficiaries Varied by Age

- **21 and Under**
  - Antidepressants: 23%
  - Antipsychotics: 11%
  - Anti-Anxiety Agents: 31%
- **22 to 64**
  - Antidepressants: 42%
  - Antipsychotics: 6%
  - Anti-Anxiety Agents: 1%
  - Mood Stabilizing Agents: 49%
- **65 and Older**
  - Antidepressants: 40%
  - Antipsychotics: 2%
  - Anti-Anxiety Agents: 1%
  - Mood Stabilizing Agents: 44%
Hospital ER Use by MH Beneficiaries Varied by State

Average Annual ER Visits for MH Beneficiaries with Any ER Use

- 2.95 to 6.67
- 2.63 to 2.95
- 2.26 to 2.63
- 1.53 to 2.26

Note: Arizona has no FFS beneficiaries on file, and thus in this chart has zero average annual ER visits by FFS mental health beneficiaries.
Percent of Adult MH Beneficiaries Using More Than One Psychotropic Drug Type Varied by State

Note: Arizona has no data on psychotropic drug use on the MAX file. Tennessee has a very small number of FFS beneficiaries with a diagnosis of mental illness and none have records of antipsychotic drug use in the MAX file. As a result, in the chart Tennessee and Arizona are shown in the group of states with the lowest percentage of FFS mental health beneficiaries using more than one type of psychotropic drug. The actual rates in these states are unknown.
Conclusions and Implications

- MAX files are a major resource for studies of Medicaid
  - Services are linked directly to beneficiaries
  - Diagnostic information allows analysis of beneficiaries with specific conditions, such as mental illness
  - Uniform format allows state-by-state comparisons
  - Downside is lack of data on beneficiaries in managed care, and limited diagnostic information on dual eligibles
  - Data quality and completeness have generally improved since 1999, but managed care exclusions remain a problem

- 1999 MAX data on mental health services in Medicaid highlight wide variations and potential over- and under-use of services