Do state Medicaid formularies worsen outcomes for patients with mental illness?

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The Athens Asylum for the Insane
Athens started successfully in 1874 treating Civil War veterans with postwar trauma

• Lush grounds and facilities featuring Victorian architecture
  – Recreational facilities (dancing, picnics, boating, church)
  – Transportation system
  – Orchard and greenhouses
  – Working dairy and farms
• Athens eventually was overrun with residents, but with no change in staffing. Care deteriorated: restraints, sleeping cribs stacked 3 high, ice water baths, shock therapy and even lobotomies
• Eventually, Athens was ‘de-institutionalized’ and most patients were released

Medicaid is now the safety-net for Americans with serious mental illness

• 30-40% of Medicaid beneficiaries have some form of serious mental illness
  – 2-3% have schizophrenia and 18% suffer from major depression
• Over 30% of individuals with schizophrenia are Medicaid beneficiaries
• Medicaid is now the largest funder of mental health services
Medicaid is feeling the pressure

How will Medicaid programs respond?

Moderator and Speakers

Dana Goldman, PhD
Dr. Goldman holds the Leonard D. Schaeffer Director’s Chair at the University of Southern California, where he directs the Schaeffer Center for Health Policy & Economics, one of the nation’s premier health policy centers. Dr. Goldman is the author of over 175 articles addressing a wide range of policy issues, and is the recipient of numerous awards. He serves on the Congressional Budget Office’s Panel of Health Advisers and is an elected member of the Institute of Medicine.

Anupam Jena, MD, PhD
Dr. Jena is an assistant professor of health care policy and medicine at Harvard Medical School, as well as an attending physician at Massachusetts General Hospital, where he practices general inpatient medicine and teaches medical residents. He is one of a handful of professors holding both a PhD in economics and an MD. His work has been published in leading journals of economics, medicine, and health policy and has been featured several times in prominent news outlets such as the New York Times and Wall Street Journal.

Darius Lakdawalla, PhD
Dr. Lakdawalla is the Quintiles Chair in Pharmaceutical and Regulatory Innovation at the University of Southern California School of Pharmacy and Price School of Public Policy. Winner of numerous awards in health economics, including the Garfield Prize and the Milken Institute Distinguished Research Award. Dr. Lakdawalla is a Research Associate at the National Bureau of Economic Research, Visiting Scholar at the American Enterprise Institute, and Associate Editor at the Review of Economics and Statistics.

Seth Seabury, PhD
Dr. Seabury is an Associate Professor of Research in the Department of Emergency Medicine at the Keck School of Medicine and a Fellow in the Leonard D. Schaeffer Center for Health Policy and Economics at the University of Southern California. He also holds an appointment in the Titus Family Department of Clinical and Pharmaceutical Economics and Policy at the USC School of Pharmacy. Dr. Seabury’s work has been published in leading medical and health policy journals and featured in major media outlets including the New York Times and Wall Street Journal.
Medicaid Formulary Restrictions for Drugs Treating Serious Mental Illness
Penny-Wise, Pound-Foolish?

Seth Seabury, Ph.D.
Leonard D. Schaeffer Center for Health Policy and Economics

Serious mental illness is highly prevalent in Medicaid

Medicaid’s prescription drug spending in mental health has increased sharply

The policy response

Facing rising costs, state Medicaid programs often turn to formulary restrictions

Policies aimed at lowering costs by directing patients away from brand drugs towards generics

Is this the right policy response?

Source: Author’s calculations
Formulary restrictions as one policy response

**Prior authorization**

Process of obtaining prior approval of medication before payment is made

Requires usage of one or more specific drugs prior to using another (usually more expensive) drug

Restrictions on the quantity provided for a given period of time

Age-specific designated limits are applied for a given prescription
Use of formulary restrictions for mental illness treatments increased rapidly in the early 2000s

What are the implications of these policies for Medicaid beneficiaries with mental illness?

- States adopt restrictions to cut costs
- How does this affect treatment patterns and outcomes?
  - Do patients continue to receive appropriate care?
  - Are there fewer or more acute complications?
- Do the policies generate cost savings for state governments?
Formulary restrictions increase the likelihood that treatment fails

In states where FR limit access to all atypicals, the likelihood of a patient resuming the same atypical after having ceased treatment for at least 30 days increases by \(20.1\)% relative to patients in states without restrictions.

Formulary restrictions facilitate higher discontinuation rates among patients with schizophrenia

Additionally, patients in states that impose FR on all atypicals are \(11.6\)% more likely to discontinue all treatments.

Formulary restrictions increase mental-illness hospitalizations

Change in MDD-related hospitalizations after the adoption of formulary restrictions

No evidence that restrictions reduce total spending


Policy implications

- Medicaid formulary restrictions on drugs treating mental illness have harmful effects
  - Patients more likely to fail or discontinue therapy
  - An increase in hospitalizations and hospital days

- Policies don’t appear to lower costs for patients with mental illness

- Are restrictions on therapies treating mental illness an effective tool for controlling Medicaid costs?
  - Or do they worsen outcomes and drive up total costs for one of the most disadvantaged groups in the US?
Social consequences of Medicaid prescription drug policy towards serious mental illness

Darius N. Lakdawalla, PhD
Professor of Pharmaceutical Development and Regulatory Innovation
Formulary restrictions may have unintended social consequences

- Restrictive formularies lead to poor adherence and greater risk of relapse among SMI patients
- Relapsing patients might be at risk for a variety of adverse social outcomes

How significant are these social consequences in the policy debate over Medicaid formulary restrictions?

The scope of mental illness in prison

More than 350,000 prison inmates with severe mental illness

Just 35,000 SMI patients in state psychiatric hospitals

How did we get here?

“Those who castigate institutional psychiatry for its present and past deficiencies may be quite ignorant of what occurs when mentally disordered patients are forced into the criminal justice system.”

— Dr. Marc Abramson, Psychiatrist in San Mateo, CA, 1972
The role of Medicaid policy

Historical shift of SMI patient care from state mental health systems to state prison systems

Are we seeing an analogous shift continue today under the guise of Medicaid payment reforms?

We combined an array of diverse data sources

- Mental illness among prisoners

- Medicaid formulary restrictions
  - 2009 mail survey of 30 state Medicaid programs

- Utilization of atypical antipsychotics
  - State drug utilization data files from CMS

- Prevalence of mental illness in community
  - 2003-04 National Surveys on Drug Use and Health
Prior authorization associated with greater incarceration of the SMI population

<table>
<thead>
<tr>
<th></th>
<th>Prior auth states</th>
<th>Non-prior auth states</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inmates with symptoms of psychosis</td>
<td>17.8%</td>
<td>17.0%</td>
</tr>
<tr>
<td>Inmates diagnosed with schizophrenia</td>
<td>5.05%</td>
<td>4.34%</td>
</tr>
<tr>
<td>Medicaid prescription per capita for atypicals</td>
<td>0.43</td>
<td>0.51</td>
</tr>
<tr>
<td>Community SMI prevalence</td>
<td>10.95%</td>
<td>11.74%</td>
</tr>
</tbody>
</table>

Prior authorization is associated with higher prevalence of mental illness within a state’s criminal justice system

Prescription drugs represent attractive targets for cost-containment, but caution is warranted.

Policies that limit drug spending could have unintended effects on other segments of society:

- Criminal justice and law enforcement spending
- Criminal behavior and activity
- Potentially also spending on welfare and public assistance programs
Heterogeneity of treatment response and CER in mental illness

Anupam B. Jena, MD, PhD
Assistant Professor of Health Care Policy and Medicine

How does CER impact providers and patients?

• CER may influence coverage
  – Only treatments that are effective (on average) are covered

• CER influences quality measurement and compensation
  – Providers are compensated based on achieving quality targets
    • HgA1c targets
    • Prescribing of anti-coagulants for atrial fibrillation based on CHADS2 score

• Provider decisions influence patient outcomes
Patient Heterogeneity Diminishes the Benefit of CER

\[ \text{Value of Red Pill to Group 2} \]

\[ \text{Pop. Value of Red Pill} \]

\[ \text{Equal Efficacy} \]

\[ \text{Patients who benefit from Red Pill (Group 2)} \]

\[ \text{Patients who benefit from Blue Pill (Group 1)} \]

Note: Assumes Blue and Red pills cost the same.

Value of CER depends on the ability to differentiate the populations

CASE A.
Lesser Role for CER

CASE B.
Greater Role for CER
Clinical example 1: Schizophrenia

Basic Facts
- Lifetime prevalence 1.3%
- High mortality and high health care utilization
- Second-generation antipsychotics available since 1990s

CER Evidence
- NIH-funded trial to compare efficacy of schizophrenia treatments (2006)
  - Perphenazine (1st generation)
  - Olanzapine, quetiapine, risperidone, and ziprasidone (2nd generation)
  - KEY FINDINGS: No efficacy differences; 1st generation less costly

Puzzle: Why does 90% of the market still consist of 2nd generation antipsychotics, at a premium to 1st generation?

Evidence of patient heterogeneity in Medicaid

Implications for patients of various CER policies

<table>
<thead>
<tr>
<th>Policy</th>
<th>Avg. no. of hospitalizations</th>
<th>Change in hospitalizations relative to status quo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status quo (open formulary)</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>One-size-fits-all approach: All patients start generic</td>
<td>3.3</td>
<td>+80%</td>
</tr>
<tr>
<td>Brand preferred</td>
<td>1.6</td>
<td>-11%</td>
</tr>
<tr>
<td>Treatment based on model*</td>
<td>1.5</td>
<td>-16%</td>
</tr>
</tbody>
</table>

Clinical example 2: Atrial Fibrillation

Basic Facts

- Prevalence ~ 3 million
- Leading cause of embolic stroke
- Prophylaxis against stroke using anti-coagulants
- Treatment guidelines based on prediction tools, e.g., CHADS2

What if providers were measured and compensated based on how closely prescribing aligned with existing CER guidelines?

Do doctors perform better than existing clinical algorithms?
Clinical example 2: Atrial Fibrillation

Association of doctor-level stroke rate with warfarin prescribing rate, accounting for CHADS2 score

Implication: Doctor's do a better job at predicting stroke risk than current clinical prediction tools.