Volume 28, Supplement 1, March 2025

Seventeenth Workshop on Costs and Assessment in Psychiatry 'Mental Health Outcomes, Services, Economics, Policy Research'

Venice
March 28-30, 2025

Abstracts Supplement

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The Journal of Mental Healty Policy and Economics

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The Journal of Mental Health Policy and Economics
(Print ISSN 1091-4358; Online ISSN 1099-176X at
www.icmpe.org) is published quarterly by the International
Center of Mental Health Policy and Economics (ICMPE),
Via Daniele Crespi, 7 - 20123 Milano, Italy.

Subscription Rates

Vol 28 2025 4 issues
Institutional Subscription
Euro 890.00

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The Journal of Mental Health Policy and Economics is covered by the following abstracting and indexing services: EMBASE/Excerpta Medica (Elsevier), Index Medicus / Medline, Journal of Economic Literature / EconLit, Thomson ISI Social Science Citation Index®, Social Scisearch® and Current Contents® / Social and Behavioral Sciences, Mental Health Abstracts (Plenum), Psychological Abstracts / PSYCHINFO and Sociological Abstracts

Official Journal

The Journal of Mental Health Policy and Economics is the Official Journal of the Section on Mental Health Economics of the World Psychiatric Association.

Production Information

ICMPE: journal@icmpe.org

Printed on acid-free paper
Typeset by LeoStudio, Brugherio (MB)

Identification Statement

The Journal of Mental Health Policy and Economics*
(Print ISSN 1091-4358; Online ISSN1099-176X
at www.icmpe.org) is published quarterly by the International Center of
Mental Health Policy and Economics (ICMPE),
Via Daniele Crespi, 7 - 20123 Milano, Italy.

* Iscritto al Tribunale di Milano il 13 Luglio 2001, nº 442

Determinants of Out-of-Pocket Expenses for Families of Children with Autism Spectrum Disorder (ASD): A Survey Data Analysis

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Abstract

Background: This research is based on an original survey conducted in France with parents of children with ASD. This presentation will focus on the financial burden aspect of the survey.

Method: We analyze the financial burden on families with a child with ASD, aiming to understand the impact of the severity levels of the disorder, the presence of associated disorders, and the family and socioeconomic situation of the parents. This analysis focuses on the out-of-pocket medical and non-medical expenses directly related to the child's ASD. Medical out-of-pocket expenses refer to health-related costs associated with the child's ASD that are not reimbursed by health insurance or supplementary insurance (consultations, medical prescriptions, medical transportation costs). Non-medical out-of-pocket expenses refer to non-medical care costs reduced by the benefits from the Departmental House for Disabled Persons (MDPH) and other financial aids received by the parents due to their child's ASD. We use descriptive statistics, a generalized linear model (GLM), and a partial proportional odds logistic regression model to explore the financial burden in terms of distribution, level, and determinants.

Results: The results show that 66.83% of families bear a non-zero total out-of-pocket expense, with an average out-of-pocket expense of €5763.13. This expense consists of 21.12% medical expenses and 78.88% non-medical expenses. The results of the econometric analyses highlight a positive and statistically significant association between the level of the 'ASD severity score' and the probability of having high annual total non-medical out-of-pocket expenses (ORa = 1.203; CI = 1.118 – 1.294); between the presence of learning disabilities associated with ASD and the probability of having high annual total net out-of-pocket expenses (ORa = 1.852; CI = 1.235 – 2.777); and between the age of the individual with ASD (2 – 5 years; 6 – 10 years; 11 – 13 years) and the probability of having high annual total net out-of-pocket expenses (ORa = 2.756 CI = 1.176 – 6.457; ORa = 2.096 CI = 1.094 – 4.016; ORa = 1.892 CI = 0.928 – 3.854). For example, the presence of a learning disability in the child increases the probability of having a positive annual total out-of-pocket expense by 85.2% compared to the absence of a learning disability, all other factors being equal. Similarly, a family with a child with ASD aged between 2 and 5 years (or between 6 and 10 years) has a relative probability of having high annual total net out-of-pocket expenses multiplied by 2.756 (or 2.096 times) compared to a family with a child aged between 18 and 21 years, all other factors being equal.

Source of Funding: None declared.

Psychometric Adequacy and Comparability of the Short and Full Forms of the Passively Received Experiences Scale

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Abstract

Background: The *Scale for the Assessment of Passively Received Experiences - PRE* measures personally disturbing experiences that are directly and personally disturbing for the person with schizophrenia. These "elementary", "self-giving", "psychologically irreducible" experiences are directly observed and self-assessed only by the respondent. Since its initial development, there has been relatively limited psychometric evaluation of the Passively Received Experience Scale (PRE). Moreover, the length of the current 121-item version of the scale (PRE-121) limits its applicability in many applied and research contexts.

Aims of the Study: The purpose of the current study was to create a shorter, efficient scale with acceptable discrimination of individuals along the severity gradient of passively received experiences. It was critical that the final scale demonstrate acceptable internal consistency and concurrent validity, adequately capture the scope of passively received experience (content validity) and have a coherent and replicable factor structure. To this end, we used Item Response Theory (IRT) to evaluate, refine, and shorten the PRE by comparing item responses based on their difficulty and discrimination, and iteratively select the best items for two shorter versions. We then examined the psychometric properties of the shorter versions of the scale.

Method: We pooled data from two development studies of longer versions of the PRE. The first study provided data which we used to initially refine and develop two shorter versions of the PRE. This "training or calibration sample" comprised the responses of 210 individuals with a DSM-5 diagnosis of schizophrenia receiving non-acute psychiatric services across various institutions in five countries: the United States, Mexico, Spain, Chile, and Peru. These

respondents were primarily Spanish speaking; thus, they were administered a Spanish translation of the PRE-121. The cross-validation sample was based on responses of 193 individuals receiving non-acute psychiatric services across 7 sites in France, India, Russia, and Spain. These participants completed an earlier, 128-item version of the PRE scale (PRE-128). The PRE survey require that the respondent self-assess presence (YES/NO), disturbance (0-10) and persistence during the past week (0-7). The Disturbance and the Persistence items are only administered if the respondent endorses the binary Presence item. Therefore, the refinement of the PRE was based only on the binary Presence items. Given the binary response format of the PRE Presence items, we fitted 1 and 2 parameter logistic models to the data. Items were evaluated vis-à-vis their item difficulty and discrimination indices. We iteratively repeated the IRT analysis after dropping the most poorly performing items and repeated the IRT analysis after each item excluded. We retained items that met inclusion with adequate discrimination and difficulty estimates for the briefer 43-item and 30-item versions. Next, we used intraclass correlation coefficients (ICC) to evaluate the internal consistency reliability of the shortened scales. We then evaluated the convergent validity of these scales by examining concurrent associations with the full PRE-121, Positive and Negative Symptoms Scale (PANSS) rated clinical symptoms; WHO-DAS social functioning; and WHO-CIDI suicidality. Finally, we used confirmatory factor analysis (CFA) to examine the factor structure of the shortened PRE scales. We fitted models with item locations consistent with subscales that reflect types of passively received experiences: thought experiences, acoustic experiences, speech, non-acoustic experiences, influence experiences, reference experiences, paranoid experiences, will/decision, critiquing content, and emotion/affect. The CFA established a 10-factor model for the 43-item scale, and a 7-factor structure for the 30-item scale.
Results: The short forms of the PRE were highly correlated with the longer PRE-121 (rs of 0.91 and 0.93 respectively). They were also moderately correlated with external variables including the PANSS clinical symptoms; WHO-DAS social functioning; and WHO-CIDI suicidality. CFA of the PRE-43 showed that a 10-factor structure with item locations consistent with apriori conceived subscales produced excellent fit to the data. Similarly, CFA suggested that a 7-factor structure consistent with apriori conceived subscales produced excellent fit for the PRE-30 fit. The 7-factor scale included all types of passively received experiences except will/decision, critiquing content, and emotion/affect. These factor structures were further confirmed in the cross-validation sample.
Discussion: The PRE-43 and PRE-30 provide reliable and accurate assessment of passively received experiences. These shorter forms of the PRE scale increase feasibility for clinical use and outcome evaluation in patient related outcome studies.
Implications for Research and Treatment: The PRE-43 and PRE-30 short forms can be valuable in schizophrenia clinical trials aimed to evaluate the efficacy of treatment. The remission/ relief of the personally disturbing *passively received experiences* of schizophrenia constitute a relevant component of the efficacy of treatment, an immediately significant treatment goal from the perspective of the individual with schizophrenia, and an intrinsic, immediate motive of treatment adherence when treatment addresses their personally significant burden.

Source of Funding: None declared.

The National Availability of Mobile Crisis Services in Mental Health Treatment Facilities in the United States

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Abstract

Importance: Rates of suicide ideation, severe depression, and acute psychosis have surged, paralleling a rise in emergency department visits for psychiatric emergencies. Mobile crisis services are critical in providing timely, community-based responses to prevent escalation.
Objective: To assess the national availability of mobile crisis services in mental health treatment facilities and identify key facility, geographic, and state-level factors associated with the availability of these services.
Design, Setting, and Participants: This cross-sectional study analyzed data from the 2022 National Substance Use and Mental Health Services Survey (N-SUMHSS), which included 9,036 mental health treatment facilities in the United States. We linked facility zip codes to the Agency for Healthcare Research and Quality's Social Determinants of Health database to assess area-level factors. The study population included facilities that reported whether they offered mobile crisis services.
Main Outcomes and Measures: The primary outcome was the availability of mobile crisis services at mental health treatment facilities, defined by facility directors' reports. Secondary outcomes included the influence of facility characteristics, geographic factors, and state Medicaid policies on service availability. Logistic regression models were used to assess these associations.
Results: Of the 9,036 facilities analyzed, 1,882 (20.8%) reported offering mobile crisis services. Facilities providing integrated mental and substance use disorder treatment (adjusted odds ratio [AOR], 1.68; 95% CI, 1.50-1.88) and suicide prevention services (AOR, 1.93; 95% CI, 1.70-2.19) were significantly more likely to offer mobile crisis services. Facilities located in areas with higher Medicaid enrollment, uninsured populations, and residents with disabilities were also more likely to provide these services. Significant variation in service availability was observed across states, with the highest rates in the southern U.S.
Conclusions and Relevance: Mobile crisis services are an essential component of mental health crisis response, but significant gaps in their availability remain. Facilities offering integrated mental health services and those in areas with greater social vulnerabilities are more likely to offer these services. As state and federal efforts expand mobile crisis services, understanding their availability and factors influencing access is crucial for policy development and resource allocation.

Source of Funding: None declared.

Suburban Blues: A Spatial Panel Data Analysis of Urban-Rural Disparities in Hospital Admissions for Depression in Austria

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Abstract

Background: Medical practice variation in mental healthcare is a useful indicator for policymakers aiming to improve the efficiency of healthcare delivery. Previous studies have shown strong regional variation in healthcare utilisation in Austria, which seems to be a by-product of regionalised institutional rules and healthcare service mix rather than epidemiology.
Aim of the study: We estimate the extent of regional variation in hospital admissions for severe depression in Austria associated with supply-side factors in healthcare.
Methods: We use routine municipality-level healthcare data on hospital admissions for depressive episodes (ICD-10 F320-F329) of adult Austrian patients from 2009 to 2014 to examine spatial patterns in healthcare utilisation in mental health. Our data contains 93,302 hospital episodes by 65,908 adult patients across 2,114 municipalities. We estimate a random-effects spatial autoregressive combined (SARAR/SAC) model to regress log hospital admission rates on hospital supply and urbanicity as proxies for municipality healthcare service mix alongside sociodemographic (sex, age, education, unemployment), fiscal (municipality debt, public expenditure) and hospital characteristics (size, type).
Results: We find that hospital admission rates per 1,000 inhabitants for depression are ~9-13% higher in suburban areas than rural areas and ~7-12% higher in municipalities with hospitals than in those without, regardless of hospital type and size. The spatial structure suggests positive spatial spillovers between neighbouring municipalities. Our main results are stable across virtually all model specifications used for robustness checks.
Discussion and Limitations: Our findings show that the healthcare service mix and supply of hospital services strongly correlate with spatial patterns of hospital admission rates in the population, which may signal a mismatch between patient needs and service availability. However, it remains unclear whether these regional patterns signal relative urban over- or rural underutilisation of healthcare resources.
Implications for Health Care Provision: Ensuring timely access to high-quality primary care and early-stage treatments can help reduce the burden of avoidable depression-related hospitalisations for patients and public budgets, and close a gap of unmet need for care of vulnerable populations.
Implications for Health Policies: The potential mismatch between patient needs and available services presents policymakers with a promising target for policy action to improve mental healthcare service provision.
Implications for Further Research: The spatial distribution of healthcare supply is crucial context for understanding the extent of regional medical practice variation and how hospital availability influences inpatient care use. Further research is needed to better understand the factors contributing to the spatial patterns of inpatient admissions for depression in Austria.

Source of Funding: None declared.

Pharmacy Market Structure and the Opioid Epidemic

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Abstract

Background: Since the late 1990s, the United States has suffered through a crisis associated with opioid addiction and mortality. One issue that has remained entirely unexplored is the degree to which pharmacy market structure impacted this crisis.
Aims of the Study: We investigate the degree to which standard measures of market structure causally affect the most severe realizations of the opioid epidemic: overdose deaths.
Methods: We propose a novel, data driven, market definition where each pharmacy sits at the center of its own (unique) market, the boundaries of which are defined by how far its customers travel. Competitors, and thus market structure, depend on the density of other pharmacies in that radius. We use state-level policies to identify market entry, exit, and concentration shocks. These shocks are expected to drive opioid dispensing by pharmacies, which should itself influence overdose mortality according to prominent hypotheses about the role of opioid dispensing in the opioid mortality epidemic.
Data: We combine several data sources to answer our research question. First, we build a monthly panel containing the universe of U.S. retail pharmacies from 2007 to 2024 using administrative data from the NPPES Registry Archives. We merge this panel of pharmacies onto Safegraph foot traffic data (which includes median travel distance for customers of all pharmacies each month) from 2018 to 2023 to estimate dynamic models of market structure. Third, we extract opioid shipments to every U.S. pharmacy from the 2006-2019 opioid transaction-level ARCOS data and apply our dynamic pharmacy market structure models to the opioid dispensing data. Finally, we use the Restricted-Use Multiple Cause of Death Vital Statistics Data from the National Center for Health Statistics at the Center for Disease and Control and Prevention to compute substance-specific mortality rates at the county level and estimate causal effect of within-county average pharmacy opioid market structure on opioid accidental poisoning.
Discussion: Our work contributes to the literature in three ways. First, we develop a novel methodology to systematize competitor identification and market definition. The method identifies competitors by directly examining data on consumer travel patterns a method that could be implemented in other settings. Second, we leverage the staggered implementation of state policies that differentially affect smaller pharmacies and more competitive markets to identify the causal effect of pharmacies on opioid deaths - a link that has been long suspected but for which there is scant causal evidence. Finally, we discuss the implications for states if it proves true that PDMP effects vary, implying a “one size does not fit all” policy environment.

Source of Funding: None declared.

Enhancing Timely Access to Specialized Mental Healthcare for Children: Development and Validation of the Decision Tool Youth for Use in the Primary Health and Social Care Setting in the Netherlands

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Abstract

Background: The mental healthcare system for children and adolescents is facing significant challenges, particularly in making appropriate referrals and managing long waitlists for specialized services. Delays in accessing care can worsen mental health conditions, increasing the need for more intensive interventions. A standardized and efficient referral system may help to ensure that children who require immediate specialized care are identified promptly and directed to appropriate services.

Aims of the Study: This study aims to develop and validate the Decision Tool Youth, a short, standardized questionnaire designed to assist healthcare professionals in identifying children and adolescents in need of immediate specialized mental health care. The primary objectives include assessing the tool's reliability, usability, and validity.

Methods: The Decision Tool Youth consists of seven yes/no questions and can be completed in under five minutes by various healthcare professionals, including social workers, general practitioners, nurses, and caseworkers. The tool was tested in multiple municipalities in the Netherlands. The validation process included assessing the tool's inter-rater reliability by comparing the consistency of decisions made by different professionals using the tool. Criterion validity was tested by comparing the tool's outcomes with existing referral decisions made by specialists in mental healthcare. Construct validity was tested by comparing the tool's outcomes with a comparable measurement instrument, Standaard Taxatie Ernst Problematiek (STEP). Usability was also evaluated through feedback from professionals using the tool in real-world settings.

Results: Preliminary findings on the inter-rater reliability, construct validity, and criterion validity are currently being collected. However, usability feedback from professionals highlighted the tool's ease of use, quick completion time, and value in supporting decision-making processes. Early data suggest that the tool may help professionals to streamline the referral process, reducing the time taken to identify children requiring specialized mental health care.

Discussion: The Decision Tool Youth has the potential to effectively addresses the challenges of inconsistent referrals and long waitlists by providing a standardized, evidence-based approach to identifying children in immediate need of specialized mental health services. By reducing reliance on subjective judgment, the tool minimizes bias and enhances the accuracy of referral decisions. One limitation of the study is its focus on a limited geographical area, which may affect the generalizability of the results. Further studies are needed to examine the long-term impact of the tool on service delivery and mental health outcomes and assess the implementation in a diverse setting of primary health and social care services.

Implications for Health Care Provision and Use: The Decision Tool Youth has the potential to improve access to specialized mental health services by ensuring timely, accurate referrals. Its ease of use and adaptability across various healthcare settings can help streamline service provision and reduce the burden on specialized mental health services.

Implications for Health Policies: The adoption of the Decision Tool Youth could support policy initiatives aimed at improving mental healthcare referral systems, reducing wait times and unnecessary medical expenditure, and ensuring equitable access to care for all children and adolescents.

Source of Funding: None declared.

Involvement in the Shadows: A Qualitative Study on How Stigma and Systemic Barriers Shape the Experiences of Informal Caregivers in Supporting Loved Ones with Mental Health Disorders

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Abstract

Background: Informal caregivers play a critical role in supporting individuals with mental health disorders by providing care that complements and, at times, substitutes for formal healthcare services. However, their involvement is often hindered by systemic barriers and healthcare professionals' attitudes, which can negatively impact the quality of care and caregivers' well-being.

Aims of the Study: This qualitative study explores the experiences of informal caregivers within formal healthcare and social support systems. It investigates how interactions with healthcare professionals influence caregivers' roles and involvement, aiming to identify barriers and facilitators to caregiver engagement and propose strategies to enhance collaboration with formal services.

Methods: Guided by the "Involvement in the Light – Involvement in the Dark" framework, we conducted semi-structured interviews with informal caregivers involved in the care of individuals with mental health disorders. Participants were recruited through purposeful, convenience, and snowball sampling methods. Thematic analysis was employed to identify key patterns and themes in the data, focusing on the spectrum of caregiver involvement and its impact on care trajectories and caregivers' lives.

Results: Caregivers often described their experiences with mental health services as a "luck of the draw," reflecting the variability in caregiver involvement. Preliminary findings indicate that caregiver involvement varies widely based on factors such as the willingness of care recipients to engage with formal services and accept caregiver participation. Both caregivers and healthcare professionals influence the facilitation or hindrance of meaningful involvement. When caregivers were actively engaged, they reported greater confidence in managing caregiving responsibilities and better personal outcomes in balancing caregiving with other life obligations. However, barriers to caregiver engagement were identified, including negative attitudes from professionals, concerns about patient confidentiality, and stigma surrounding mental health disorders.

Discussion: The study highlights the complex dynamics of caregiver involvement within the healthcare system, emphasizing the need for better integration of informal caregivers into the care process. Meaningful involvement enhances care quality and benefits both care recipients and caregivers, yet numerous barriers remain. These include professionals' reluctance to involve caregivers due to confidentiality concerns and systemic biases, as well as stigma associated with caregiving roles.

Implications for Health Care Provision and Use: The findings suggest that healthcare systems should adopt inclusive practices to engage informal caregivers as partners in care. Training healthcare professionals on the value of caregiver involvement and addressing confidentiality issues could improve collaboration and enhance care quality for individuals with mental health disorders.

Implications for Health Policies: Policy reforms should focus on promoting caregiver involvement by addressing systemic barriers, reducing stigma related to caregiving roles, and providing support structures that recognize and value informal caregivers' contributions. Policies that balance patient confidentiality with caregiver inclusion are essential for fostering collaborative care models.

Implications for Further Research: Further research is needed to explore caregiver involvement across diverse cultural and healthcare settings and the long-term impact of caregiver engagement on mental health outcomes. Future studies could investigate interventions aimed at overcoming systemic barriers and enhancing collaboration between informal caregivers and healthcare professionals.

Source of Funding: None declared.

Patient Centered Outcome Measures: Driving Care That Matters to People

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Abstract

Background: Goal directed care (GDC) is crucial for recovery-oriented mental health services, focusing on life goals rather than just symptom management and aligns with the prioritization of person-centered, 'holistic' care by the Substance Abuse and Mental Health Services Administration (SAMHSA)[31] and NIMH. Certified Community Behavioral Health Clinics (CCBHCs), a federally supported model of comprehensive behavioral health care, are required to provide patient-centered, recovery oriented services, including GDC but there are no existing quality measures that directly assess GDC outcomes. Patient-Centered Outcome (PCO) measures, a suite of 3 standardized measures under development by the National Committee for Quality Assurance (NCQA) that feature two process measures, goal identification and goal follow up, and one outcome measure, goal achievement, fill this gap by combining individualized treatment goals with formal quantitative process and outcome assessments..

Aim: This project aims to develop and evaluate three standardized PCO measures and assure they meet criteria for use in United States Federal and state behavioral heath quality programs.

Methods: We are collecting quantitative and qualitative data from seven Certified Community Behavioral Health Clinics in Texas and Arizona that began implementing the measures in the fall of 2022 as part of an NCQA learning collaborative. GAS, a long-standing instrument used for assessing individuals' goals in geriatrics, behavioral health, and physical/occupational therapy, is used for standardized goal and outcome tracking. The data will assess the measures with respect to the measure endorsement criteria for CMS's Measures Under Consideration process and the new criteria set forth by Battelle's Partnership for Quality Measurement. The quantitative data will be used to assess measures' reliability and validity and explore strategies for risk adjustment and stratification. Qualitative data, including interviews with clinicians, administrators, and service users with experience using these measures, will assess stakeholder experience and acceptability.

Preliminary Results: PCO Measure performance data collected from 3/23 to 3/24 shows 5872 patients cared for by 148 clinicians in 8 sites had mean performance of 98.4%, 19.9%, and 6.6% for measures 1, 2 and 3 respectively. Just under 30% of patients were Black or Latinx. Anecdotal conversations with sites suggested good clinician acceptance, but barriers to performance success included staff turnover, health record documentation, and cultural barriers. Continuing quantitative data collection, including additional performance data and participant clinical and demographic data, technical assistance addressing barriers particularly with GDC documentation, and clinical cultural training, as well as formal qualitative analyses, are ongoing.

Discussion and Policy Implications: Performance measures of process and outcomes of GDC will provide an assessment approach, complementary to conventional symptom-based outcome measures, to evaluate delivery of person-centered care in the context of long-term recovery-oriented treatment of SMI, bridging the gap between personalizing care and the standardization needed for regulatory endorsement and quality improvement. These measures can be used to hold providers and plans accountable for person-centered care through public reporting, payment incentives and regulatory requirements.

Source of Funding: None declared.

Cost-effectiveness of Multicentre Primary-Care Based Randomized Controlled Trial on PTSD Symptoms in ICU Survivals (PICTURE)

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Abstract

Background: The survival rate of patients admitted to intensive care units increased markedly over recent decades. Nevertheless, approximately 20% of patients develop post-traumatic stress disorder (PTSD) following a stay in an intensive care unit.

Aim: The aim of this study was to assess the cost-effectiveness of a novel brief multicomponent primary care-based intervention for intensive care unit survivors suffering from PTSD over 12 months from societal perspective.

Methods: The PICTURE trial was a multi-centre, randomised controlled superiority trial that recruited adult survivors of critical illness with symptoms of PTSD who were discharged from intensive care units. The participants were randomly assigned to receive either an intervention based on Narrative Exposure Therapy (NET) or to receive improved treatment as usual (iTAU). The cost-effectiveness analyses after 12 months were evaluated from a societal perspective. As cost measures, we used mental healthcare costs (primary outcome) and total costs (secondary outcome). Mental health costs included the cost of psychiatric/psychosomatic hospitalisation, psycholeptics and psychoanaleptics drugs, outpatient visits to psychiatrists, psychotherapists and GPs. Total costs included intervention

costs, healthcare use and work absenteeism. Healthcare use and work absenteeism were collected using modified German version CSSRI. As the effect measures we used the change in PTSD symptoms from baseline-follow-up (primary outcome) and quality-adjusted life years (QALY), secondary outcome. PTSD symptoms were measured by Posttraumatic Diagnostic Scale (PDS-5,0-80) and QALY by the EQ-5D-5L. Analyses followed the ITT principle. To account for missing data we conducted MICE. The differences in the costs and effects were assessed using seemingly unrelated regression method. We calculated ICER and a cost-effectiveness acceptability curve. Nonparametric bootstrapping was used to show uncertainty around the ICER.
Results: Between 10.2018-01.2023, 1,283 patients discharged from ICU were screened for PTSD symptoms and 319 were randomized. In total, 160 belonged to the intervention group and 159 to the control group (average age 57.6(SD13)). At baseline, mean PDS-5 score was 30.6 and EQ-5D index value was 0.71.
Preliminary results showed that, in adjusted analyses after 12 months, the NET group had significantly higher mental health care costs(+€1,293;[95%CI €754–€1,883]), and non-significantly higher total costs(+€11,384;[95%CI€ -458–€23,604]). In addition, compared to the iTAU group, the intervention group had a greater reduction in mean PDS-5 score (1.91 [95%CI-3.00–6.82]) and had non-significantly more QALYs (0.008 [95%CI-0.031–0.047]). The ICER was 677.48€ per one point reduction of PDS-5 score. The cost-effectiveness acceptability curve showed that the intervention had moderate probability of being cost-effective in reducing PTDS symptoms. For QALYs and total costs, intervention was unlikely to be cost-effective.
Discussion: Our preliminary analysis revealed that even though the NET oriented intervention in comparison to iTAU was effective in reducing PTSD symptoms in ICU survival individuals, this intervention had moderate probability of being cost-effective.
Implications for Health Care Provision and Use: Although beneficial in reducing PTSD symptoms, further analysis of healthcare costs over longer term is needed before adoption as standard care.
Implications for Further Research: It would be beneficial to extend the timeframe to ascertain whether the incremental costs and effects of the intervention are sustained.

Source of Funding: DFG-Grant:GE2073/8-1

Post-COVID-19 Suicide Attempts and Self-Directed Violence: Using Latent Class Analysis to Identify Those at Greatest Risk

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Abstract

Background: COVID-19 infection is associated with increased risk of long-term mental health sequalae and adverse outcomes, including post-infection suicide attempts and self-directed violence (SASDV). In the US Veterans Health Administration (VHA), which is the largest US integrated healthcare system and serves about six million patients annually with a high prevalence of COVID-19 infections and high risk of suicide, identifying patient subgroups at high risk for post-COVID SASDV may uncover disparities and inform more equitable mental health care delivery.
Aims of the Study: To identify subgroups of VHA patients with incident COVID-19 at increased risk for SASDV.
Methods: We assembled a cohort of patients with a first documented COVID-19 case between May 1, 2021, and April 30, 2022, using data from VHA's electronic health records. To identify patient subgroups, we used latent class analysis (LCA) with indicators for individual- and geographic area-level socio-demographics, physical and mental health conditions, a validated mortality risk score,and prior 2-year healthcare utilization. Bayesian information criterion (BIC) was used to determine optimal number of latent classes. We used multinomial regressions to model outcome risk and marginal risk ratios (RR) to compare SASDV risk across latent classes.
Results: The cohort comprised 285,235 patients with incident COVID-19 who were predominantly non-Hispanic (93%), White (69%), and male (87%), with 40% ≥65 years old. Nearly a quarter (24%) resided in areas in the highest quartile of area deprivation. The overall 12-month SASDV rate was 76 per 10,000 patients. The four-class LCA model provided the best fit and identified two subgroups at high risk for SASDV. The highest risk subgroup included 29% of the cohort and had a SASDV rate of 166 per 10,000—more than twice the overall rate.
Discussion: We identified two distinct patient subgroups with high rates of post-COVID SASDV. Patients in the highest risk subgroup represented a younger, and more racial and gender diverse profile of patients who were engaged in mental health care but may require further interventions to mitigate risk in this subgroup. Our analysis did not include people who may have had mild COVID managed at home.
Implications for Health Care Provision and Use: We found two subgroups with distinct health profiles and high rates of SASDV that may require different approaches to suicide prevention after COVID-19 infection.
Implications for Health Policies: Policies that encourage increased suicide screening in medical care settings among the class with the highest risk after a COVID-19 illness may be warranted.
Implications for Further Research: Given the increased risk of SASDV after COVID-19, these results inform ways to tailor suicide prevention to those at highest risk.

Source of Funding: US Department of Veterans Affairs C19-21-278/9.

Medications for Opioid and Alcohol Use Disorder in Outpatient Behavioral Health Treatment Programs: National Estimates of Availability and Potential Policy Levers

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Abstract

Background: Medications for opioid and alcohol use disorder (MOUD/MAUD) are efficacious, important components of relapse prevention care. Yet not all US-based programs treating substance use disorders (SUD) offer them.

Aims of Study: We examined program characteristics associated with providing MOUD or MAUD in routine outpatient behavioral health care programs, focusing on potential policy levers (state licensure, national accreditation) that could increase MOUD/MAUD access.

Methods: Cross-sectional analysis of the US Substance Abuse and Mental Health Agency's 2022 National Substance Use and Mental Health Services Survey (N-SUMHSS) of programs offering non-intensive outpatient SUD treatment, excluding opioid treatment programs (N=9,921). Multi-level regression models assessed associations of state licensure and national organization accreditation with providing MAUD (naltrexone, acamprosate, disulfiram) and MOUD (buprenorphine, naltrexone) for maintenance or relapse prevention, accounting for program and state characteristics, and program clustering within states.

Results: Fifty-five percent of programs provided MOUD or MAUD (MOUD: 51%, MAUD: 45%). Eighty-five percent of programs were state licensed; 55% were nationally accredited. In regression-adjusted analyses, MOUD availability was lower in state licensed (48%) vs. unlicensed (63%) programs (difference[95%CI] =-14.5% [-22%, -7%]) but higher in accredited (61%) than non-accredited programs (37%) (23% [16%, 31%]). For MAUD, availability was 40% and 58% in state licensed vs. unlicensed programs (-18% [-27%, -10%]) and 52% vs. 31% in nationally accredited vs. non-accredited programs (20% [13%,28%]). Between-state variation post adjustment in MOUD/MAUD availability was large and varied by accreditation and licensure status (e.g., among unlicensed and non-accredited programs ninety-five percent had MOUD availability ranging between 7% and 70% across states; among licensed and accredited programs, range was between 14% and 68%).

Discussion & Limitations: Opportunities for patients to receive MOUD and MAUD remain relatively low in US specialty behavioral health programs. Licensure by a state agency was negatively associated with a program offering MOUD/MAUD, while national organization accreditation was positively associated—however, wide variation existed. Limitations include: (i) not all US specialty mental health and SUD programs participated in the N-SUMHSS; (ii) the MOUD/MAUD outcomes were reported by treatment programs; mis-specification/reporting is possible; and, (iii) programs that report offering medications may not have patients to whom they were prescribed.

Implications for Health Care Provision & Use: A wide treatment gap remains in the availability of medications to treat opioid and alcohol use disorders in specialty behavioral health care.

Implications for Health Policies: Lack of state licensure/certification and national organization accreditation requirements for programs to provide MOUD/MAUD represent missed policy opportunities to improve evidence-based care for individuals with opioid and alcohol use disorders

Implications for Future Research: Future research is needed to evaluate changes in state licensing/certification requirements and national accreditation strategies that can improve access to MOUD/MAUD in specialty behavioral health treatment programs.

Source of Funding: None declared.

Geographic Variations in Efficiency of Mental Healthcare Spending for Young Adults: Role of Local Supply

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Abstract

Background: Mental health disorders induce a heavy economic burden. Young adults are disproportionally affected by psychiatric and addictive problems compared to the general population: one over four young adults in Europe declare a mental health problem. However, the availability of appropriate mental healthcare services for young adults varies considerably across geographical areas. Practice variations in care delivery for mental health are strong and point to a mismatch between need and care provided with evidence of both under-met need, overprovision of services and inappropriate care.

Aims of the Study: This study aims to shed light on the appropriateness and efficiency of mental care provision for young adults in France by analyzing the link between mental healthcare spendings and mental health outcomes. We further investigate the impact of local mental care supply on territorial efficiency.

Method: Our sample consists of young adults (18 to 25 years old) who consumed a mental healthcare as a first time between 2014 and 2019 (called first-time consumers) who are identified in the National Health Data System which is an exhaustive claims database covering all care settings. We calculated average mental health spending (across all types of facilities and in ambulatory settings) against outcomes (prevalence of first-time consumers and severity) over three years from the day of first consumption aggregated at the local area where the young adult lives. Final analysis is based on a panel of 2,643 life territories from 2014 to 2019. First, we run a stochastic frontier model to estimate the efficiency of the mental healthcare spending in each life territory. We focus on technical efficiency with multiple outcomes adjusting for health needs (age, sex and prevalence of physical long-term disease) and the socioeconomic situation at local level (median income and number of young adults in a life territory). Second, we run a multilevel GLM model exploiting the differences in efficiency at two territorial level: life-territory level (level 1, N=2643) and local authority level (level 2, N=96). The model allows estimating the link between the efficiency scores and quality of care (prevalence of act of despair, compulsory hospitalization, unprogrammed hospitalization), controlling for the local supply of primary, secondary and social mental care providers.

Results: Mental health spending is positively correlated with the prevalence of severe disorders, of long-term disease and the number of first-time consumers in life-territories and negatively with the income level of the local area and share of female amongst young adults. Efficiency scores vary significantly with an average of around 39%. All else being equal, efficiency scores are higher in areas where the density of psychologists are higher and lower in areas with a high density of psychiatrists and high number of beds in post-acute care facilities. Efficiency studies are fundamental to identify better practices given the significant variations in mental healthcare within and across countries. Our analysis proposes ways to improve mental care provision for young adults.

Source of Fundings: This article is part of Julie Cartailler's PhD which is financed by a CIFRE convention with the association

Nightline France (The Cifre system allows French companies, local authorities or associations to entrust a doctoral candidate with an assignment in the framework of a research collaboration with an academic research laboratory affiliated to a doctoral school.)

Integrated and Standardised Directory of Adult Mental Health Services in the Trieste Region (Italy)

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Abstract

Background: Trieste and the neighbor area is part of the Azienda Sanitaria Universitaria Giuliano Isontina (ASUGI). It has a specialized level of community mental health services (MHSs) within its general healthcare system. The MHSs are connected with primary care and coordinated with social, employment, education, and justice services. The Trieste model was developed in the 1970s, being the first community mental health system developed in Southern Europe and a reference of community mental health care worldwide. However, there is a dearth of information on its delivery system using standardized methods to allow its comparison.

Aims: To analyze the public MHSs and the Community Managed Organisations (CMOs) in ASUGI and to develop a directory of standardized adult MHSs

Methods: Information on MHSs in ASUGI was collected using administrative databases combined with information provided by planners and managers. We used the Description and Evaluation of Services and DirectoriEs (DESDE) system for the standardized evaluation and description of services from a comprehensive perspective. DESDE is an internationally validated instrument for the standard description and coding of services. It classifies the type of care provided by individual care teams within each service, across multiple axes: target population (age, specific population group and diagnosis/reason for using service), the main type of care the service provides and other relevant information – e.g., whether the service has stable ongoing funding.

Results: MH is addressed by primary care, and more complex cases are transferred to the specialized level, which includes units in general hospitals, day hospitalization, rehabilitation centers, outpatient care, home care, and residential alternatives in the community, offered by both the public and contracted private sectors. This portfolio of services is organized into geographic areas of care, which include hospital and community outpatient services areas. The complete network of services indicates a high diversity in the provision of MHSs and a significant level of complexity of the care system, that has been overlooked in previous analysis.

Discussion: Our preliminary data indicates that MHSs in ASUGI should be examined from an integral and multisectoral perspective, including services managed directly or through public contracts by health administration, social services, education, employment, and justice. The complexity of the care provision system in ASUGI would require a detailed survey including all managers of the organisations involved. These study highlights the importance of a detailed analysis of the MHSs from a whole system perspective as the one carried out in other regions of Europe and Australia.

Implications for Health Care Provision and Use: This study has shown the relevance of using a Standardized classification of services allows the comparison of care units and service activities, with important implications for the system efficiency. A clear understanding of the public and the CMOs -contracted private sector- is needed to enhance integration, avoiding overlapping of activities, and for the analysis of the evolution of the system

Implications for Health Policies: Stakeholders may benefit by a validated service evaluation and standard classification for focusing on specific healthcare targets. This also allows international comparison, which is crucial to understand strengths and limitations of MHSs worldwide and to drive evidence-based policy actions.

Implications for Further Research: Next steps may include the detailed analysis of all the services of the MH care ecosystem in the Trieste region, the application of the Geographic Information System (GIS) to incorporate the territorial component in the analysis of service provision, and the development of an "Integrated Mental Health Atlases", following the approach already developed in areas of Europe and Australia as part of the GLOCAL project (Global and Local Observation and mapping of CAre Levels).

Source of Funding: None declared.

Top-Rated Healthcare and Ease of Getting Medications Linked to Lower Medicare Costs, Including Dementia Patients

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Abstract

Background: Little is known about the extent to which patient self-perception of care experience is associated with costs, especially for people with Alzheimer's disease and related dementias (ADRD).

Objective: This study examined the relationship between self-reported quality measures and Medicare payments, including those of Medicare beneficiaries with ADRD.

Research Design: The study used linked datasets from the 2018, 2019, and 2021 Medicare Beneficiary Summary File and the Medicare Consumer Assessment of Healthcare Providers and Systems (CAHPS) Survey. The sample included community-dwelling Medicare fee-for-service beneficiaries. State-fixed effect generalized linear models were applied to estimate the association between beneficiary self-reported quality measures and the annual total Medicare payment per person.

Results: The study included 230,617 Medicare fee-for-service beneficiaries aged 65 and older, including 16,452 beneficiaries with ADRD. Results showed significant variations in Medicare costs by healthcare rating and ease of getting medicines and care. After adjusting for demographic characteristics and health needs, regression results consistently showed significant negative associations between quality measures and total per-capita payments. Specifically, patients who reported it was always easy to get prescribed medicines had reductions of \$1,645 (95% CI, -\$2,009 to -\$1,280, $p<0.001$) in total Medicare payments. More pronounced payment reductions associated with higher quality measures were observed among ADRD patients.

Conclusion: Our findings suggest that high-quality care does not

necessarily lead to high costs. Focusing on ease of access to needed care, obtaining prescription drugs, and effective communication about medication is critical in improving care quality while reducing costs.

Source of Funding: None declared.

Association of Organization Size and Receipt of Care for Those with Schizophrenia

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Abstract

Background and Aims: Individuals with schizophrenia experience high rates of adverse health and social outcomes, including premature mortality, homelessness, and substance use. While guideline-concordant care (GCC) has been shown to improve outcomes for this population, rates remain low and vary significantly across patient and provider characteristics. This study aims to examine whether organizational characteristics, such as size, are associated with the receipt of GCC among individuals with schizophrenia.
Methods: We conducted our analysis using the Massachusetts All-Payer Claims Database (APCD) from 2014 to 2021, provided by the Center for Health Information and Analysis. The APCD includes medical and prescription claims, along with insurance eligibility data from public and private insurers in Massachusetts. Our study population consisted of individuals aged 18-64 with schizophrenia who had at least seven months of primary medical insurance and at least one prescription in a year between 2014 and 2021. Inclusion required at least one medical claim with a principal or secondary diagnosis of schizophrenia (ICD-9: 295.X excluding 295.7; ICD-10: F20.X). The outcome of interest is a binary indicator of any use of antipsychotic medication, based on the National Committee for Quality Assurance (NCQA) guidelines. Other measures of guideline concordant care will be added to final results, including measures of medication adherence and metabolic monitoring for those on antipsychotics. The key independent variable is the size of the organization of the patient's primary mental health prescribing clinician, defined as the total number of individual clinicians affiliated. We applied logistic regression controlling for patient characteristics, including age, sex, 5-digit zip codes, insurance type, and comorbidities, with calendar year fixed effects.
Results: Among 30,638 individuals and 144,795 person-years with schizophrenia from 2014 to 2021, 87.4% had a primary mental health prescribing clinician affiliated with an organization of more than 10 members. Approximately 69.4% of patients received antipsychotic medication in a year, ranging from 65.9% in 2021 to 71.5% in 2018. Our findings indicate that patients whose primary prescribing clinician worked in larger organizations were more likely to receive antipsychotic medications compared to those in smaller organizations. Additional measures of guideline-concordant care will be added to final results.
Discussion and Limitations: Larger organizations with more clinicians are associated with higher rates of antipsychotic medication use among people with schizophrenia. This suggests there may be organizational factors influencing care provision that should be implemented for all clinicians caring for those with schizophrenia; for example, adherence to international guidelines or internal quality monitoring.
Implications for Health Care Provision and Use: Receipt of guideline-concordant care remains low for those with schizophrenia, and understanding organizational factors influencing this care may provide information about ways to improve care for this population.
Implications for Health Policies: Policies implemented by larger organizations to care for individuals with schizophrenia may need to be expanded to improve access to necessary treatments.
Implications for Further Research: Future research should explore factors such as organizational composition, adherence to clinical guidelines, internal policies, and delivery system innovations to identify policy levers that could further enhance the proportion of schizophrenia patients receiving appropriate care.

Source of Funding: National Institute of Mental Health (R34MH123628)

Integrated Care for Mental Health and Psychosocial Support Needs of Children and Youth: A Systematic Overview of Reviews

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Abstract

Background: Diagnoses and interventions for neuropsychological developmental disorders are rising globally, driven both by an increased focus on early identification, and by an increase of mental distress manifestations in young people, as internet addiction, isolation at home (exacerbated by the pandemic period) and gang involvement. Young people, especially the most vulnerable ones, often forego mental health (MH) care, despite clear needs, experiencing structural and non-structural barriers in access. To cover unmet needs, more integrated and multidisciplinary services are needed.
Aims of the study: This systematic overview of reviews aims to shed clarity on the field, mapping MH services for youth internationally, identifying mechanisms for services integration across sectors. The study aims to provide a synthesis of the fragmented and often context-specific literature on integrated care in MH for children and youth.
Methods: A PRISMA-guided systematic review was conducted on English-language literature from 2013 to the present. Searches across four databases (Scopus, PubMed, Web of Science, and Ovid) yielded 6,179 unique records. Review articles on MH interventions for children and young adults up to age 25 across various care sectors were included. Title and abstract screening excluded 5,991 records, leaving 188 articles for full-text analysis. As of October 2024, full-text assessment is underway using a pre-defined extraction grid to capture key article details, target groups and specific social categorization regarding ethnicity, gender/sexual orientation, migrant background, etc., type of MH needs (e.g. anxiety, developmental issues, depression, etc.), sectors (education, social and health care) and setting (prevention, treatment, rehabilitation) of the MH interventions, specific goals, activities, and outcomes (clinical and organizational) of the interventions.
Results: Findings will be interpreted using Valentijn et al.'s (2013) integrated care framework, categorizing MH interventions by type (systemic, organizational, professional, or clinical) and level (macro, meso, micro) of integration. Also, a framework interlinking MH interventions, integrated forms of care provision and relevant outcomes, both on patient- and organizational-level, will be provided to orient practice and policy-making.
Discussions and Limitations: The review will theoretically contribute to the integrated care literature, where sound evaluation of outcomes is often noted as a significant gap. Possible limitations could regard the numerosity of studies that include a rigorous outcome measurement and thus, having enough evidence to generalize results across contexts.

Implications for Health Care Provision and Use: Combining evidence on integration form and outcomes of MH interventions, this analysis will provide decision-makers and practitioners with relevant information on which integration mechanisms yield specific outcomes, assessing their intensity and long-term sustainability.
Implications for Health Policies: This analysis will contribute to inform policymakers on the factors to be aware of when designing and implementing policies to facilitate integration in MH provision.
Implications for Future Research: Future research is necessary to acquire more granular knowledge on the specific vulnerabilities of the target population, adopting an intersectional approach and lens of analysis, in order to develop more effective and needs-based tailored interventions.

Source of Funding: None declared.

The Impact of Medicaid Accountable Care Organizations on Mental Health Screening and Treatment among Pregnant and Postpartum People

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Abstract

Background: Pregnant and postpartum people experience significant unmet mental health (MH) needs, especially within low-income, Medicaid-insured populations. In 2018, Massachusetts initiated a transformative value-based Medicaid accountable care organization (ACO), with an emphasis on integrating and coordinating MH services. Approximately 70% of members were quasi-randomly assigned to the ACO, yet it is unknown if Medicaid ACOs impact MH access among pregnant and postpartum people.
Aims of the Study: Our objective was to leverage a novel natural experiment in Massachusetts to evaluate the effects of Medicaid ACOs on utilization of MH services among pregnant and postpartum people.
Methods: The primary data source was 2016-2020 Massachusetts All-Payer Claims Data on Medicaid-covered deliveries. We examined six utilization-related MH measures: depression screening, office visits with a MH diagnosis, psychotherapy visits, medication use for mood-related disorders, MH-related emergency department (ED) visits, and follow-up visit within 7 and 30 days after a MH-related ED visit. For each measure, we examined the prenatal period and 60 days-, 6 months-, and 12 months-postpartum. We used a difference-in-differences (DID) approach with generalized linear models to compare measures before (2016-2017) versus after (2018-2020) Medicaid ACO implementation among ACO versus non-ACO patients, where delivery-quarter was the unit of analysis. Models adjusted for a vector of patient-level characteristics (e.g., age, insurance enrollment days, comorbid conditions) and included hospital, county, and time fixed effects, with robust standard errors clustered at the individual-level.
Results: Observable characteristics of ACO-attributed (N=80,011) vs non-ACO-attributed (N=10,355) Medicaid-enrolled patients were similar. Medicaid ACOs were associated with relative increases in MH care engagement across the prenatal and postpartum periods. For instance, Medicaid ACOs were associated with increases in depression screening during the prenatal (DID=4.3 percentage points [PP], 95% CI: 3.0, 5.5) and 60 day postpartum (DID=2.5 PP, 95% CI: 0.9, 4.0) periods. Medicaid ACOs were further associated with increases in number of office visits with MH diagnoses during the 6 month postpartum period (DID: IRR = 1.16, 95% CI: 1.01, 1.34) and psychotherapy visits during the prenatal period (DID: IRR = 1.34, 95% CI: 1.08, 1.65) and all intervals of the postpartum period (e.g., 60 day postpartum period DID: IRR=1.46, 95% CI: 1.15, 1.85). Medicaid ACOs were also associated with decreases in prenatal medication use for mood-related disorders (DID=-1.7 PP, 95% CI: -2.7, -0.7). Medicaid ACOs were not associated with changes in MH-related ED visits or receipt of a follow-up visit after a MH-related ED visit.
Discussion and Limitations: Medicaid ACOs were associated with improved access to MH-related screening and treatment among pregnant and postpartum patients. Limitations included potential selection bias due to provider-level selection into the ACO; potential patient misclassification into ACO vs non-ACO groups; and underreporting of some measures in claims data.
Implications for Health Care Provision and Use: Incentivizing provider participation in ACO models, including through flexible model structures and implementation resources, could improve perinatal MH.
Implications for Health Policies: Expanding policy adoption of Medicaid ACO models in the 37 states without ACO may improve MH screening and treatment among low-income perinatal populations.
Implications for Further Research: Future study is needed to understand heterogeneity in Medicaid ACO effects and whether increases in MH care engagement lead to reductions in total cost of care.

Source of Funding: This research was funded by the NIH National Institute on Minority Health and Health Disparities (NIMHD) (R01 MD017703-01)

Evaluating the Effectiveness of a Community-Based Screening and Support Intervention on Reducing Youth Mental Health Treatment Disparities

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Abstract

Background: Early detection of mental illness is associated with better health outcomes and lower healthcare costs, yet few healthcare systems deploy resources outside of the clinic walls to identify high-risk youth in the community in need of prevention and treatment.
Aims of the Study: This study assesses the impact of a community-based intervention that includes computerized adaptive screening, personalized feedback, and referral to treatment, on mental health care utilization among youth aged 14-18. We compare mental health care access, emergency department (ED) visits, and behavioral health hospitalizations to determine if the community-based intervention improved youth treatment and reduced acute care, and whether the intervention disproportionately benefited racial and ethnic minority youth.
Methods: Utilizing electronic health (EHR) data from 2021-2023, we analyzed data on 334 youth (116 in the intervention group; 218 propensity score-matched controls balanced on demographic and health covariates). Individual fixed effects models were applied to evaluate changes in outcomes over time, focusing on level and slope shifts post-intervention, and assessing differences by race and ethnicity.

Results: The intervention had no significant overall impact on outpatient mental health visits, ED visits, or inpatient behavioral health admissions. However, significant subgroup differences emerged: White youth in the intervention cohort demonstrated a reduction in ED visits and increased outpatient care use, whereas no statistically significant benefits were observed for Black and Latino youth.

Discussion and Limitations: Findings suggest that screening, feedback, and brief support alone may be insufficient for racial and ethnic minority youth, possibly due to systemic barriers (e.g., treatment obstacles related to finances and transportation) impacting their engagement with subsequent care. Regarding limitations, the propensity score method balances observed covariates between the treatment and control groups but may not fully account for unobserved factors. Some participants may have sought care outside of the healthcare system that was not identified in the EHR, potentially affecting the findings.

Implications for Health Policies: Community-based screening services conducted by healthcare systems can help to identify youth with unmet need for mental health services. The limited efficacy of a screening and brief support intervention on access to mental health treatment for racial and ethnic minority youth highlights the need for additional policies to connect youth with psychological distress to services.

Conclusions: Study results demonstrated limited impact on overall access to care; however, it showed potential benefits for White youth with greater access to post-screening resources. Policy enhancements to expand resources and support pathways following community-based screening could help address persistent mental health treatment access disparities for racial and ethnic minority youth.

Source of Funding: None declared.

Care Continuity and Outcomes for Those with Schizophrenia: Systematic Review

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Abstract

Background: People with schizophrenia have high rates of hospitalization, healthcare costs and utilization, and premature morbidity and mortality. Understanding the impact of care continuity for this population is crucial in informing efforts to provide ongoing high-quality care . Although continuity of care (CoC) is perceived as important for care quality generally, multiple measures of care continuity and coordination are used in the literature, particularly for those with serious mental illness. Previous systematic reviews have assessed associations of care continuity with health outcomes broadly and for those with mental illness more specifically, but little is known about this relationship for those with schizophrenia.

Aims of the Study: The goal of this study is to review and compare estimates of associations between continuity of care and outcomes for those with schizophrenia.

Methods: We searched PubMed/MEDLINE and APA PsycInfo for articles published in English between database initiation and April 2023 using search terms to capture CoC and outcomes for working-age adults with schizophrenia and related psychotic disorders. Inclusion criteria included measuring an association of a quantitative measure of CoC with at least one outcome.

Results: 25 studies were included, with 48% reporting results from the United States and over half published in 2014 or later. Nearly half of studies found increased CoC was associated with improved outcomes. Service continuity, utilized in 40% of studies, was the most widely used measure of CoC with 60% of studies finding improved associated outcomes. Over two-thirds of studies evaluated hospitalizations as an outcome measure with 41% finding improved outcomes and 41% finding no association. Only one study linked CoC with improved quality of life.

Discussion and Limitations: Across included studies, there was wide variation in measures of CoC used as well as in outcomes measured. Thus, definitive evidence of a consistent relationship between CoC and outcomes for those with schizophrenia is lacking. About half of the studies reported the relationship between follow-up after an emergency department visit or hospitalization with subsequent healthcare utilization, costs, and outcomes, with varying results.

Implications for Health Care Provision and Use: While most studies suggest increased CoC is associated with increased connection to the healthcare system, there are variable results with regards to cost and other health outcomes. Developing consistent measures of care continuity for this population is a key step to monitoring quality and understanding effects on outcomes.

Implications for Health Policies: Examining impacts of care continuity is important for informing efforts to provide ongoing high-quality care for people with schizophrenia, who may experience substantial clinical and non-clinical barriers to continuous care.

Implications for Further Research: Our findings suggest a need for standardized measures of care continuity that can be monitored in clinical practice, although an increase over time in studies analyzing these associations may reflect growing attention to this topic.

Source of Funding: National Institute of Mental Health (R34MH123628).

From Addiction to Aggression: The Spillover Effects of Opioid Policies on Intimate Partner Violence

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Abstract

Background: Intimate partner violence (IPV) is the most common form of violence experienced by women, and imposes substantial economic and health costs for victims and their children. Substance abuse is a major risk factor for intimate partner violence.

Aims of the Study: This study explores the link between opioid misuse and IPV in the U.S. by investigating how a key supply-side intervention – the abuse-deterrent reformulation of a widely-diverted

opioid, OxyContin – impacted the risk of IPV exposure for women.
Methods: We combine administrative incident-based IPV reports to law enforcement agencies, from the Federal Bureau of Investigation's National Incident Based Reporting System, with county-level opioid prescriptions prior to the reformulation of OxyContin. Our research design leverages this baseline spatial variation in treatment intensity within a difference-in-differences framework, and examines whether areas that were more vs. less exposed to prescription opioids prior to the reformulation experienced differential shifts in IPV risk after this intervention.
Results: The results indicate that counties with greater baseline rates of prescription opioid usage experienced relatively larger declines in IPV after OxyContin's reformulation. The reformulation reduced IPV, however, only in states with smaller and less developed illicit drug markets, while states with larger and more developed illicit drug markets experienced increased heroin-involved IPV consistent with greater substitution towards illicit opioids.
Discussion: The results from this study suggest that the OxyContin reformulation generated overall additional cost-savings through beneficial spillover effects on women's risk of IPV exposure. The findings, however, also underscore the importance of identifying populations at high risk of substitution to illicit opioids and moderating their higher risk of IPV exposure with evidence-based policies.

Source of Funding: None declared.

Mental Health as a Determinant of Work: A Scoping Review on the Impact of Mental Health on Precarious Employment

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Abstract

Background: While many studies have examined the impact of employment and other related work outcomes on mental health, the reverse – the impact of mental health on employment – has received less attention. Poor mental health can serve as a barrier to obtain and maintain employment and play a key role in shaping poor labour market outcomes such as low productivity, absenteeism, and reduced earnings. Poor mental health can also negatively impact the job search process as it can lead to decreased levels of energy and reduced availability, resulting in lower motivation and capacity to actively engage in job search activities. Employers are also less likely to hire people who have health problems, resulting in reduced employment success probabilities. Some reviews have summarised the impact of precarious employment on mental illness; however, to date, no reviews have synthesised the existing evidence on the reverse relationship.
Aims of the Study: The aims of this scoping review were to ascertain the existing literature examining the impact of mental illness on precarious employment as well as to describe, synthesize, and critically appraise it.
Methods: A scoping review was conducted using established methods. MEDLINE, Embase, PsychINFO, Business Source Premier, EconLit, and Web of Science were searched from January 1st, 1980, to August 30th, 2024. Relevant searches were also undertaken in Google, specific websites of interest and the references of key papers. Relevant data were extracted on all studies and the quality of each study was assessed, namely whether studies examined simple associations between mental health and precarious employment or whether they attempted to address causal inference and accounted for endogeneity and/or unobserved heterogeneity. Evidence was synthesised by type of mental disorder using a narrative synthesis; summary tables were used to describe the findings.
Results: After duplicates were removed (n=6,412), the search yielded 9,693 unique records; after reviewing titles and abstracts and confirming eligibility with full text review (n=40), 17 relevant studies were included. Among these studies, many examined the reciprocal relationship between mental health and precarious employment; however, few studies specifically focused on mental health as a determinant of precarious employment. The research team is currently undertaking data extraction, quality assessment, and evidence synthesis.
Discussion and Limitations: Despite a large body of literature examining the impact of precarious employment on mental health and mental health outcomes, less attention has been paid on mental health as a determinant of precarious employment. Preliminary evidence indicates that people with poor mental health are at a higher risk of precarious employment. However, more high-quality, causal inference studies are needed to provide clear policy recommendations.
Implications for Health Policies: It is important to ensure that workplaces and job roles consider workers' mental health and how best to accommodate workers. Improving access to mental health services both in and out of the workplace may also support workers living with mental illness.

Source of Funding: None declared.

Measuring the Economic Impact of Digital Population-Level Mental Health Portals: Considerations and Lessons Learned from Wellness Together Canada

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Abstract

Background: Between April 2020 and April 2024, the Government of Canada funded Wellness Together Canada (WTC), a free, population-wide, 24/7, digital mental health and substance use health portal. While evaluation data suggests that WTC had positive economic impacts, the specific considerations required to fully measure

the economic impact of digital mental health portals like WTC are not well understood.

Aims of the Study: This study aims to identify elements that should be considered when evaluating the economic impact of digital mental health portals, such as WTC.

Methods: We reviewed the economic lessons learned from the internal evaluation of WTC, and the relevant literature evaluating the economic impact of population-level mental health portals. We then summarised the key considerations for evaluating the economic impact of digital platforms using a narrative synthesis approach.

Results: Evaluation data suggests that WTC contributed to improvements in mental health status (which is known to be linked to productivity), averted use of other publicly-funded services, and reached people who would otherwise not have accessed help. However, WTC's prioritization of open access and the broader lack of methodological guidance regarding the economic impact of digital health portals limited the ability to fully measure the economic impacts. Key considerations for future evaluations include: (i) monetizing the value of having access to a service regardless of utilization, (ii) assessing the economic value of the awareness of mental health resources, (iii) identifying which data are most beneficial for measuring the economic impact, (iv) building in controls and counterfactuals where possible, and (v) assessing which economic framework is fit for purpose (e.g. value for money, health system vs societal impacts, return on investment, economic evaluation, etc.).

Discussion and Limitations: This research outlines considerations for the economic impact of digital population-level mental health portals, highlighting the need for fully developed implementation guidance for economic evaluations. This paper is designed to provide some considerations when undertaking these types of analyses and open discussion on emerging questions. This research draws primarily on lessons learned from the implementation of WTC in the Canadian context during the COVID-19 pandemic. The considerations identified may need to be adapted to the specific context of other countries, and to implementations outside of a public health emergency. Further work is needed to develop comprehensive evaluation guidance.

Implications for Health Care Provision and Use: Digital mental health portals have the potential to expand access, including for underserved populations, and to improve mental health outcomes and service satisfaction. Moreover, digital mental health portals can contribute to reduced reliance on existing public health services, potentially leading to some cost-savings.

Implications for Health Policies: The suggested considerations should be accounted for when evaluating digital mental health portals in Canada and beyond. Canadian health policy makers may want to consider the implementation of digital mental health portals as a cost-effective and sustainable way to expand access to publicly-funded mental health care.

Implications for Further Research: Future research should ensure that evaluations of digital mental health portals make use of high-quality data and employ robust economic methods.

Source of Funding: None declared.

Artificial Gold Standards in Mental Health Services Performance Evaluation: Implementation and Potentialities

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Abstract

Background: In practical settings, decision-makers often estimate the outcomes of policy initiatives or management actions (such as reallocating staff resources or adjusting bed availability) in constrained ways. The inherent complexity, uncertainty, non-linearity, high dimensionality, and multi-scale nature of challenges in mental healthcare planning necessitate the integration of diverse disciplines, research domains, and analytical approaches to create effective, interoperable Decision Support Systems (DSS). However, these systems frequently rely on a single performance indicator, which may not sufficiently capture the comprehensive functioning of the system.

Aims of the Study: To test the precision and sensitivity of a DSS that integrates artificial gold standard units in assessing the performance of mental health (MH) services/systems and interventions.

Methods: This study implements a decision-making tool based on a hybrid model, combining Monte Carlo simulation, "if-then" knowledge-based rules, and Data Envelopment Analysis. This approach generates a Relative Technical Efficiency (RTE) score and reproduces the process with an artificial unit based on optimal feasible values defined by expert knowledge, yielding a gold standard (GS) RTE score. The model was tested on 413 adult psychiatric sectors in France, using 13 inputs and 4 outputs to evaluate DSS utility. First, the DSS assessed the performance of the psychiatric sectors; subsequently, a total of 30,000 random interventions, based on resource reallocation in each sector, were generated and their effects on system performance were evaluated.

Results: Results based on RTE classified 206 sectors (54.96%) as efficient or weakly efficient, while GS-RTE identified only 19 weakly efficient sectors (4.60%). Average scores differed, with RTE at 0.972 (SD=0.039) and GS-RTE at 0.355 (SD=0.19). Regarding interventions, the DSS revealed six different effects on the system, based on combinations of reductions and increases in RTE and/or GS-RTE, identifying a misclassification of 37.93% when only RTE was used.

Discussion: The tool proved useful in accurately identifying efficient units and interventions in a large MH setting, supporting more effective resource allocation. Additionally, it identified distinct effects on the system, offering greater sensitivity than the single-indicator model, which may overlook interventions that reduce sector heterogeneity while increasing distance from the theoretical optimal.

Conclusion: The dual-indicator DSS based on artificial GS units appears suitable for complex MH system assessments and for selecting effective interventions, enhancing precision in identifying efficient units and interventions.

Implications for Health Policy: This methodology improves current DSS precision in identifying efficient units and facilitates better intervention selection for resource allocation in complex systems.

Implications for Further Research: These findings open avenues for developing more sophisticated, precise, and user-friendly tools, advancing from service/system assessment to recommendation systems for new managerial interventions grounded in theoretical gold standards.

Source of Funding: None declared.

Identifying the Impact of Extreme Heat on People with Behavioral Health Conditions

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Abstract

Background: In many nations around the world, the impact of *extreme* heat on health is an increasing concern. Heat exacerbates chronic medical conditions leading to hospitalization and death. This is particularly alarming because >60% of American adults have one comorbidity and >40% have two or more. Patient records do not typically provide measures of heat exposure or capture lagged associations such as elevated hospitalization rates that persist in days following a heat wave.
Aims of the Study We hypothesize that heat events leave people with chronic conditions such as substance use disorders, cardiometabolic conditions, respiratory conditions, and mental illness at greater risk for emergency department visits, hospitalizations, and death. We further hypothesize that those at greatest risk are among the most vulnerable populations. Our central question is: *who is at greatest risk of poor outcomes when extreme heat events occur?*
Methods: To answer this question, we use a broad set of comorbidities from millions of Arizona residents, linked with sophisticated micro data on important climate factors. This target is not just critical for the state of Arizona, but broadly applicable globally given our warming climate. It is especially critical since heat events are generally predicted with fewer than 10 days' notice but can have catastrophic consequences if the right people aren't identified immediately. Using statewide all-payer hospital discharged data from the state of Arizona from 2016 – 2022, focusing on May – October each year, we created counts of the number of people hospitalized or using the emergency department (ED) for (i) heat-identified diagnoses (e.g., heat stroke, heat exhaustion); for (ii) one of three substance use disorders shown to leave more susceptible to heat events (opioid use, stimulant use, alcohol use); and (iii) overall (regardless of diagnoses). Analyses on individuals with a severe mental illness are forthcoming. We run GEE Poisson models of the effect of daily minimum and maximum temperatures on outcomes.
Results: We report several notable findings. First, heat-identified diagnoses only pick up a minority (<10%) of hospital events that occur during extreme heat. Second, we see substantial increases in use of the hospital and ED for each of the three substances examined here as temperatures increase. Average marginal effects generated from GEE models indicate that one-unit temperature increases are relatively low in magnitude until the temperature reaches approximately 90F (32C), then exhibit increasingly greater effects on hospital use with greater temperatures, through 120F (49C).
Discussion & Limitations We find that emergency department and hospital visits for people using any of the three types of substances are much more responsive to extreme heat than are those visits coded as due to heat. This indicates both that heat effects are grossly undercoded and that extreme heat has disproportionate effects on people using alcohol, opioids, or stimulants.
Implications for Health Policies and Further Research: Future work should determine whether additional risk factors, such as housing insecurity and homelessness could be confounding these results and whether communities experiencing extreme heat should work to provide extra protection such as cooling centers that are welcoming to people using drugs during extreme heat events.

Source of Funding: None declared.

Assessing the Impact of COVID-19 Eviction Moratoriums on Substance Use and Mental Health Treatment Engagement

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Abstract

Background: Substance use disorder (SUD), overdose rates, and mental health conditions are critical public health concerns in the U.S. and globally; these conditions are exacerbated by housing insecurity. Housing instability not only limits recovery and treatment options but can also increase symptoms for individuals with SUD and mental health conditions. Policies designed to increase housing stability may improve SUD and mental health outcomes.
Aims of the Study: This study aims to quantitatively assess the impact of COVID-19 eviction moratoriums on SUD and mental health treatment engagement and service utilization.
Methods: We used a quasi-experimental design, employing Callaway & Sant' Anna's difference-in-differences approach to account for the different timings of state-level eviction moratoriums. Outcome data were obtained from IQVIA medical and pharmacy claims of patients with substance use or mental health-related diagnoses from 2015 to 2022. These data include 93% of all prescription drug claims in the US and medical claims from over 75% of licensed physicians. The analysis consisted of two time periods: the first examined the effects of state-level moratorium expirations (March 2020 to August 2020) and the second, later in the pandemic, focused on states expirations after the federal eviction moratorium (January 2021 to December 2021). Outcome measures included SUD and mental health outpatient service utilization and SUD and mental health medication use, with analysis at the state-week level.
Results: The initial time period (1,041 state-months) showed no significant change in SUD treatment utilization following the expiration of state-level eviction moratoriums. However, we did find a significant increase (3.6%; 95%CI 0.1%,7.2%) in the use of mental health outpatient treatment after eviction moratorium expired. In the second time period (2,548 state-months). SUDrelated outpatient services (4.8%; 95%CI 0.1%-9.9%) and medication usage (5.0%; 95%CI 1.1%, 8.9%) were significantly higher after state's eviction moratorium expired but without differences in mental health.
Discussion and Limitations: Our findings suggest that the termination of housing policies may slightly increase SUD and mental health treatment engagement, with differing effects early versus later in the pandemic. Our study has several limitations, including the coarseness of our outcome measures, our inability to measure symptoms, and the representativeness of the IQVIA data.
Implications for Health Care Provision and Use: The slight increase in service utilization post-eviction moratoriums underscores the role of housing stability in shaping health service demand. However, the effects were context dependent, suggesting that a range of factors may impact the effectiveness of housing policies to reduce the burden of SUD and poor mental health.
Implications for Health Policies: The study highlights a nuanced effect of eviction moratoriums on SUD and mental health treatment

engagement, suggesting that while these policies offer short-term housing stability, their expiration may prompt individuals to seek care. Policymakers should consider ensuring both housing stability initiatives with accessible health services to ensure that individuals with SUD and mental health conditions can continue receiving support during and after policy transitions.

Implications for Further Research: Future research should examine the long-term effects of housing policy expirations on SUD and mental health outcomes, including potential delays in care and differential impacts across demographic groups.

Source of Funding: None declared.

Financial Assets and Mental Health After Job Loss

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Abstract

Background: While there is strong evidence on the effects of job loss on mental health, there is less evidence about the role wealth may play in protecting mental health following job loss. While income is the most studied economic variable, wealth may be a stronger predictor and protector of mental health and may help to reduce the effects of job loss on mental health.

Aims of the Study: Using data from the CLIMB study, a nationally representative longitudinal cohort of U.S. adults ages 18-64 years surveyed from Spring 2020 through Spring 2024 (n=590), we assessed depressive symptoms following job loss and test for effect heterogeneity by wealth. We seek to answer: 1) Did early pandemic job loss increase depressive symptoms through Spring 2024? 2) Did wealth (defined by total household savings) have a protective effect against job loss on mental health?

Methods: Job loss was defined by self-reported self or household job loss or reduction in hours in March 2020. First, we estimated the effect of early pandemic job loss on depressive symptoms (PHQ-9 scores, 0-27) over 5 survey periods from 2021 through 2024 using survey weighted and propensity score balanced generalized estimating equations (GEE). A doubly robust propensity score (PS) model was used to estimate the average treatment effect on the treated (ATET): the difference in the observed depressive symptoms versus the estimated depressive symptoms had the participant not lost their job. The following variables were included in both the PS model and GEE model: age, gender, race or ethnicity, housing status, savings, marital status, region, income, and previous diagnosis of depression. Second, we estimated the effect of job loss on depressive symptoms stratified by savings groups, using GEE with survey weights and PS weights to balance differences between persons who did and did not have job loss.

Results: Of the 590 adults included in the cohort, a survey-weighted 37.9% reported income or job loss in March-April 2020 due to the COVID-19 pandemic. The full model estimated that adults who experienced job loss in April 2020 experienced an increase of 1.07 points (p=0.18) in depressive symptoms relative to if they had not experienced job loss on average across the 5 timepoints. The stratified models showed an increase of 0.87 points (p=0.16) for those with over $25,000 in savings relative to a 1.04 point increase (p=0.30) for those with under $25,000.

Discussion: Using longitudinal survey data and propensity scores to align groups who did and did not lose jobs in March-April 2020, we found evidence of a small but non-significant effect with near significance of job loss on depressive symptoms overall in U.S. adults from 2021 through 2024. While persons with lower savings had higher depressive symptoms than persons with higher savings, we did not find evidence of a significant difference in the effect of job loss on mental health across savings groups, potentially due to sample size.

Implications: Further work is needed in larger datasets to explore the potential protective effect of savings on mental health following life stressors.

Source of Funding: Part of this work was funded by the de Beaumont Foundation (PI: Ettman).

Trends in Telehealth Use Across Area Deprivation During and After the COVID-19 State of Emergency

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Abstract

Background: While telehealth has the possibility to improve access to care for some, it may also widen gaps in health care access for groups who have different assets. During the first year of the COVID-19 pandemic, outpatient psychiatric care was essentially only possible via telehealth. However, in-person care became possible again once

COVID-19 state of emergency declarations lifted (July 1, 2021).
Aims of the Study: Using electronic health records from patients with depression in a large, urban U.S. academic medical system, we assessed odds of telehealth use by levels of area deprivation from July 1, 2020, through March 31, 2024, for outpatient mental health care (primary care: n=27,872; psychiatry: n=7,116 patients).
Methods: We used generalized estimating equations (adjusted for patient and visit covariates), with and without interactions with time period (during versus after the Maryland COVID-19 state of emergency) to estimate the average odds ratios for telehealth use among the visits of patients living in low and medium deprivation areas, relative to high deprivation areas.
Results: During the state of emergency, primary care visits of patients living in low deprivation areas had higher odds of being conducted via telehealth (aOR: 1.51, 95% CI:1.40-1.63, $p<0.001$) compared to patients living in high deprivation areas, while no significant difference in odds of telehealth use was found in psychiatry visits (aOR: 0.85, 95% CI:0.71-1.02, $p=0.080$). In the two years following the conclusion of the state of emergency, gaps in use of telehealth for mental health by area deprivation emerged in psychiatry ($p<0.001$) but persisted in primary care ($p=0.083$), with higher odds of telehealth use in low deprivation areas for primary care (aOR: 1.63 95% CI:1.54-1.74 $p<0.001$) and psychiatry (aOR: 1.22 95% CI:1.06-1.41, $p=0.006$).
Discussion: Telehealth has become a key feature of mental health services since the start of the COVID-19 pandemic. However, it is unknown whether there are differences in the use of telehealth among patients with access to different assets. We found overall that patients living in less deprived areas were more likely to use telehealth for mental health care than patients in high deprivation areas (relative to in-person care) and that differences widened after the initial year of the pandemic.
Implications: Action is needed to ensure that differences in use of telehealth across socioeconomic groups do not lead to differences in care.

Source of Funding: This work was funded by NIMH grant R01-MH126856 (PI: Dr. Stuart), by Johns Hopkins School of Medicine inHealth (PI: Dr. Zandi), by a gift from Meta (for Dr. Ettman's time; PI: Dr. Stuart), by the Johns Hopkins Business of Health Initiative (for Grace V. Ringlein; PI: Stuart, Co-Is: Zandi, Ettman).

A Prospective Study of Mental Health Service Use among Children with Chronic Physical Illness

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Abstract

Background: Mental comorbidity is common in children with physical illness and has negative consequences in childhood and across the life course. However, there is limited longitudinal data on mental health service use among children with physical illness.
Aim: This study investigated the distribution of mental health service use among children with physical illness over 24 months, estimated costs associated with mental health service use, and identified predictors of higher service use costs over time.
Methods: Data come from the Multimorbidity in Children and Youth across the Life-course (MY LIFE) study, a cohort of 263 children aged 2-16 years with physician-diagnosed chronic physical illness (e.g., asthma, diabetes) recruited from outpatient clinics at a paediatric hospital in Canada with assessments at recruitment, 12, and 24 months later. Mental illness was measured using the Mini International Neuropsychiatric Interview for Children and Adolescents (MINI-KID); children were categorized as having no mental comorbidity (n=162), externalizing only (n=25), internalizing only (n=58), or comorbid internalizing-externalizing (n=17). Mental health service use was measured using parent reports and categorized as hospitalizations and contacts with health professionals. Estimated costs (CAD) were based on the Schedule of Benefits issued by the Government of Ontario.
Results: Children had a mean age of 9.4 (4.2) years and 52.5% were male. The mean duration of physical illness was 4.3 (4.0) years at baseline. While few children reported being hospitalized for their mental health [n=5 (2.2%)], hospitalizations represented the largest mental health-associated cost overall ($2,667 to $33,326). Cost variation differed across morbidity groups with regards to total costs and those attributable to professional contacts ($p\leq0.04$ for all)—costs were highest for children with internalizing-externalizing comorbidity, followed by internalizing only, externalizing only, and no comorbidity. For children without comorbidity, most mental health service costs were associated with social workers (32.6%); for externalizing only and internalizing-externalizing comorbidity, hospitalizations were the highest proportion of costs (46.8% and 69.8%, respectively); and, for internalizing only, psychiatrists represented the highest cost (31.2%). Higher log-transformed costs were associated with older children ($B=0.09$, $p<0.01$) and greater impairment, as measured using the WHO Disability Assessment Schedule 2.0 ($B=0.04$, $p=0.02$).
Conclusion: Mental health service use is common among children with physical illness and increases (frequency and costs) with the presence of mental comorbidity. Child impairment, a proxy for severity, can be a target for intervention that reduces mental health service use. Recruitment from a single centre may reduce generalizability of the findings.
Implications for Health Policies and Practice: Given the persistence of childhood physical-mental comorbidity, early mental health assessments by health professionals are upstream approaches to identify children requiring supportive resources to promote positive mental health. Integrated pediatric care can reduce the burden on the health system.
Future Research: Constructing models that delineate patterns of mental health services use for children with physical-mental comorbidity can inform opportunities for service integration that supports timely and appropriate care for children. Analyses of patterns of care and their impact on quality of life are needed to estimate health system and individual costs of physical-mental comorbidity in children.

Source of Funding: Canadian Institutes of Health Research (PJT-148602, PAV-190378, PJA-192200, PJT-195853).

Predictors of Physician Follow-Up Care among Patients Affected by an Incident Mental Disorder Episode in Quebec (Canada)

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Abstract

Background: Receiving prompt, adequate, and continuous physician follow-up care after detection of an incident mental disorder (MD), including substance-related disorders (SRDs), is crucial for patient recovery and a key trend in system reforms. Such follow-up care may prevent adverse outcomes like high emergency department

use, hospitalization, and death.

Objectives: This study identified predictors of prompt (1+ outpatient physician consultations/within 30 days), adequate (3+/90 days) and continuous (5+/365 days) follow-up care from general practitioners (GPs) or psychiatrists among patients with an incident MD episode.

Methods: Study data were extracted from the Quebec Integrated Chronic Disease Surveillance System (QICDSS), which covers 98% of the population eligible for health-care services under the Quebec (Canada) Health Insurance Plan. This observational epidemiological study investigating the QICDSS from 1 April 1997 to 31 March 2020, is based on a 23-year patient cohort including 12+ years old patients with an incident MD episode (n=2,670,133). Risk ratios were calculated using Robust Poisson regressions to measure patient sociodemographic and clinical characteristics, and prior service use, which predicted patients being more or less likely to receive prompt, adequate, or continuous follow-up care after their last incident MD episode, controlling for previous MD episodes, co-occurring disorders, and years of entry into the cohort.

Results: A minority of patients, and fewer over time, received physician follow-up care after an incident MD episode. Women; patients aged 18-64; with depressive or bipolar disorders, co-occurring MDs-SRDs or physical illnesses; those receiving previous GP follow-up care, especially in family medicine groups (i.e., GP clinics with patient registration working with psychosocial clinicians); patients with higher prior continuity of GP care; and previous high users of emergency departments were more likely to receive follow-up care. Patients living outside the Montreal metropolitan area; those without prior MDs; patients with anxiety, attention deficit hyperactivity, personality, schizophrenia and other psychotic disorders, or SRDs were less likely to receive follow-up care. However, data from clinicians other than physicians (e.g., nurses, psychologists) were not available, thus underestimating "global" follow-up care provided by extended physician teamwork.

Conclusion: This study shows that vulnerable patients with complex clinical characteristics and those with better previous GP care were more likely to receive prompt, adequate or continuous follow-up care after an incident MD episode. However, only a minority of patients had received physician follow-up care and care actually decreased over the study period. Overall, physician follow-up care should be greatly improved for patients with MDs. Better incentives and training for GPs including collaborative care with psychiatrists may also be promoted, encouraging them to prioritize MD follow-up care and to increase their expertise in mental health. Further research may identify profiles of outpatient physician follow-up care and other practice features, after detection of incident MDs, and their associations with patient characteristics and subsequent adverse outcomes, for identifying distinct physician follow-up care profiles.

Source of Funding: This study was funded by the Canadian Institutes of Health Research (CIHR, grant number: 8400711).

Medicaid Expansion and Racial/Ethnic Disparities in Medication for Opioid Use Disorder among Adults Accessing Substance Use Treatment for Illicit Opioid Use

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Abstract

Background: In the US, Opioids account for >75% of all drug-related overdose deaths and is one of the prime contributors to the decline in life expectancy. Despite the disease burden, few receive any treatment and even fewer receive evidenced-based treatment, medication for OUD (OUD). The Affordable Care Act (ACA) expanded health insurance eligibility and access to substance use treatment. It is unclear if the ACA impacted MOUD use or led to equitable improvements.

Aims of the Study: To estimate the extent to which the ACA was associated with changes in MOUD use across racial/ethnic groups.

Methods: Using the Treatment Episode Dataset-Discharges (2009-2019) and a quasi-experimental difference-in-differences approach, we estimated racial/ethnic differences in MOUD initiation, retention, and completion before (2009-2013) and after (2015-2019) ACA implementation. The study population included adults (18-55) admitted to substance use treatment (SUT) facilities for illicit opioid use (n= 15,328,145 admissions). We estimated linear probability regression models, adjusting for demographics, behavioral health diagnoses, opioid overdose rates, and state fixed-effects. In secondary analysis, we assessed MOUD treatment outcomes among individuals without prior treatment episodes.

Results: Among individuals admitted to SUT for illicit opioid use, the ACA was associated with higher rates of MOUD initiation (2.0 percentage-points (pp), $p<0.001$), retention (2.5pp, $p<0.001$), but lower completion rates (-0.2pp, $p<0.01$) in Medicaid expansion states compared to non-expansion states. Relative to White individuals in non-expansion states, between the pre- and post-periods, in expansion states, Black individuals had lower rates of initiation (-4.8pp, $p<0.001$) and completion (-5.4pp, $p<0.001$); Latinx individuals had lower initiation rates (-1.3pp, $p<0.05$), and higher retention (1.3pp, $p<0.01$) and completion rates (2.6pp, $p<0.001$); Asian individuals had lower initiation rates (-7.7pp, $p<0.01$); and Native American/Alaskan Native (NA/AN) individuals had higher initiation rates (4.5pp, $p<0.01$). Among adults with no prior treatment episodes, relative to White individuals in non-expansion states, between the pre- and post-periods, in expansion states, NA/AN individuals had lower initiation rates (-3.8pp, $p<0.01$); Black and Latinx individuals had higher retention rates (3.3pp, $p<0.001$ and 1.1pp, $p<0.05$, respectively); and Black individuals had lower completion rates (-1.6pp, $p<0.05$) while Latinx individuals had higher completion rates (2.9pp, $p<0.001$).

Discussion: While MOUD treatment gains have been made for some racial/ethnic groups, substantial disparities remain.

Implications for Health Care Provision and Use: SUT facilities should make an effort to be culturally-sensitive and equitable in their distribution of evidenced-based treatment.

Implications for Health Policies: Efforts are needed to de-stigmatize MOUD distribution and use as well as facilitate inexpensive MOUD access.

Implications for Further Research: Studies should assess the reasons behind inequitable MOUD distribution at SUT facilities.

Source of Funding: None declared.

Is a Distressed Birth Associated with Physical and Mental Health Problems As an Adult? Evidence from Panel Data

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Abstract

Background: A considerable amount of research has examined the short-term health outcomes associated with distressed births. Most studies have focused on survival of the newborn, health complications, and medical care utilization. Very little research has considered the longer-term physical and mental health outcomes of distressed births that survive into adulthood.

Objectives: The primary objective of the present study is to determine whether three common types of distressed births—low birth weight, pre-term delivery, Neonatal Intensive Care Unit (NICU) admission—are significantly related to physical (i.e., self-reported overall health status, number of chronic health conditions) and mental (i.e., number of mental health disorders) health among young and middle-aged adults.

Subjects: Respondents to Waves IV (2008-2009; N=15,701) and V (2016-2018; N=12,300) of the National Longitudinal Survey of Adolescent to Adult Health (Add Health) provide the data for our research.

Research Design: Our empirical approach estimates numerous multivariate regression models for Waves IV and V separately, and mixed-effects models for both waves combined.

Results: All three distressed birth measures are negatively and significantly ($p<.05$) associated with physical and mental health status in adulthood.

Conclusions: These findings have important health policy implications for clinicians, hospital administrators, health insurance plans, and society in general as we develop guidelines to allocate scarce health care resources and control the growth of health care spending in the U.S.

Source of Funding: None declared.

Acknowledgements: The authors acknowledge Yang Wen and Nicole Camilliere for research assistance during the preparation and submission of the manuscript. This research uses data from Add Health, a program project directed by Kathleen Mullan Harris and designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris at the University of North Carolina at Chapel Hill, and funded by grant P01-HD31921 from the Eunice Kennedy Shriver National Institute of Child Health and Human Development, with cooperative funding from 23 other federal agencies and foundations. Special acknowledgment is due Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Information on how to obtain the Add Health data files is available on the Add Health website (http://www.cpc.unc.edu/addhealth). No direct support was received from grant P01-HD31921 for this analysis.

Reform in U.S. Public Insurance and Pediatric Behavioral Healthcare Utilization

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Abstract

Background: Almost 40% of children in the United States are insured by Medicaid, a state-federal partnership providing insurance to low-income and/or disabled individuals. State Medicaid programs allow for potential improvement of care delivery for enrollees. Massachusetts implemented primary care focused Accountable Care Organizations (ACOs) in March 2018, partially designed to improve behavioral health care.

Aims of the Study: We evaluated the impact of these Medicaid ACOs on behavioral health (BH) care quality, outcomes, and disparities for children.

Methods: We used the 2014-2021 Massachusetts All Payer Claims Database to identify privately, and publicly insured children aged 0-17 years old living in Massachusetts with mental illness. We used difference-in-differences models to compare emergency department (ED) utilization and mental health quality of care measures pre- versus post- ACO implementation (first difference) for those with Medicaid compared to those with private insurance (second difference), controlling for child (age, sex, comorbidity) and community characteristics.

Results: Preliminary results show 1,145,253 child-year observations for 479,671 unique children with mental illness (43.4% privately insured, 56.6% Medicaid insured). 14.1% of Medicaid-insured child-years had at least one ED visit or hospitalization with a behavioral health diagnosis or crisis services use prior to ACO implementation, with lower rates among those with private insurance. There was a significant decrease in these visits for those with Medicaid post-ACO implementation, but the difference-in-difference estimate compared to privately insured children was not significant when controlling for covariates. Further analyses will examine impacts on quality indicators.

Discussion and Limitations: The initial introduction of MA Medicaid ACOs was associated with limited changes in disparities compared to privately insured children for acute care utilization. Further analyses (completed by conference presentation) will assess changes in quality and other outcomes.

Implications for Health Care Provision and Use: Small reductions in ED utilization and improved outcomes for mental healthcare quality measures for those with Medicaid after ACO implementation, both overall and compared to those with private insurance, suggests that Medicaid ACOs may be a way to reduce disparities in access to and quality of care.

Implications for Health Policies: As the MA Medicaid program has renewed the ACOs for 2023-2028 with an additional increased focus on pediatric populations, understanding the initial impacts will be important for identifying necessary changes.

Implications for Further Research: Further research needs to examine the long-term effects of these programs and should also include measures relating to outpatient care. In addition, examining

the differential impacts of the ACOs by specific organizational characteristics may uncover additional factors influencing their success.

Source of Funding: National Institute of Mental Health (NIMH), R01MH134176.

Racial and Ethnic Disparities in Substance Use Disorder Treatment and Harm Reduction Services: Findings from the VOICES Survey

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Abstract

Background: Minoritized populations have been disproportionately affected by fatal overdoses, yet little is known about disparities in access to harm reduction and treatment services.

Aims of the Study: To quantify racial and ethnic disparities in harm reduction and treatment use among people who use drugs using a novel disparities analysis approach aligned with the Institute of Medicine (IOM) definition of disparities.

Methods: Data include survey response data collected from phone interviews of people who used drugs in the last year residing in Milwaukee County, Wisconsin, Flint/Detroit, Michigan, and statewide in New Jersey and New Mexico. A total of 1,651 people who use drugs responded, of whom 572 identified as White, 479 non-Hispanic Black (N=479), 453 Hispanic, and 147 as American Indian/Alaska Native. We estimate racial and ethnic disparities in service use using a novel disparities analysis method, propensity scores with rank-replace method, which involves carefully adjusting for social determinants of health and underlying health conditions without distorting the underlying association between race, ethnicity, and service use. We compare results from our primary specification against more standard logistic regression model approaches to highlight the importance of using novel disparities analysis approaches to prevent underestimating true disparities. Specific services analyzed included any harm reduction services, fentanyl test strips, naloxone possession, any substance use disorder (SUD) treatment, and buprenorphine, methadone, and naloxone use in the last 30 days.

Results: Black respondents were 15.5 to 19.8 percentage points less likely to use harm reduction services and 7.6 to 9.2 points less likely to use SUD treatment. They also had significantly lower naloxone (19.8 to 21.7 percentage points) and fentanyl test strip use (12.4 to 13.7 percentage points). Hispanic respondents were 5.6 to 5.0 points less likely to use fentanyl test strips and had a 12.4 to 11.7 percentage point lower likelihood of SUD treatment. Disparities were also found among American Indian/Alaska Native respondents, primarily in SUD treatment.

Discussion: Our findings indicate a significant need to address barriers to treatment and harm reduction use through additional SUD program development, policy reform, and equitable resource allocation. Treatment disparities were particularly prevalent, especially for medication access and use. Our results also point to substantial harm reduction gaps, which have been less well characterized in the literature. Results around specific harm reduction service disparities indicate significantly lower use of naloxone and fentanyl test strips among non-Hispanic Black respondents and, to a lesser extent, Hispanic respondents. Overall, our study supports previous literature regarding structural inequalities in the delivery of services along racial and ethnic lines that have been linked to rising overdose deaths in these underserved communities.

Implications: Significant racial and ethnic disparities in harm reduction and treatment access exist, necessitating targeted investment in underserved communities to close these gaps.

Source of Funding: None declared.

The Impact of Telehealth Cost-Sharing on Utilization of Care for Major Depressive Disorder

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Abstract

Background: Between 8 to 16% of American adults experience major depressive disorder, yet many Americans with this mental health condition do not receive adequate support and treatment from the healthcare system. Compounding this problem is the growth of high-deductible health plans, a common insurance mechanism now covering almost 60% of privately-insured Americans. High-deductible health plans are characterized by a lack of first dollar coverage, with most care, including that for mental health management, subject to deductibles, which are a minimum of $1300 for an individual and $3200 for a family in 2024. Experimental evidence, as well as a host of quasi-experimental evidence, indicates that as cost-sharing increases, people forego use of medical care, including for high-value services. However, the impact of cost-sharing reduction is less explored.

Aims of the Study: We examine whether and how utilization for mental health care is affected when cost-sharing decreases.

Methods: Our identification strategy leverages a policy shock that occurred in 2020: some insurers waived all cost-sharing associated with telehealth visits, including deductible payments. Our treatment group consists of persons with major depressive disorder enrolled in high-deductible health plans (HDHPs) from 2019 to 2020; our control group consists of persons with major depressive disorder continuously enrolled in non-HDHPs from 2019 to 2020. As a result of this policy shock, HDHP enrollees experienced a substantial decline in cost-sharing for telehealth visits for major depressive disorder, while nonHDHP enrollees experienced a small decline in cost-sharing for such visits. We conduct balanced panel difference-in-difference models using these treatment and control groups, employing entropy balancing weights to address any residual confounding, including any confounding due to the co-occurring COVID-19 pandemic. We also conduct event study models to evaluate changes over time. Our outcomes include: use of in-person outpatient care; use of $0 telehealth; and $0 telehealth as a proportion of outpatient care. To test whether any differences were due to preferences for the care modality (telehealth or in-person care) versus cost-sharing, we further evaluated use of non-$0 telehealth.

Results: We found no difference in change in overall outpatient visits for major depressive disorder. However, HDHP enrollees significantly increased their use of $0 telehealth and shifted their care to $0 telehealth (versus in-person care). There was no difference in uptake

of non-$0 telehealth, indicating that patients with major depressive disorder were responsive to the decline in cost-sharing, but not responsive to the shift to the telehealth visit modality.

Implications for Health Policies: Our results provide evidence that new federal legislation exempting telehealth from HDHP deductibles could help reduce the gap in realized access to care for persons with major depressive disorder.

Source of Funding: None declared.

High-Deductible Health Plans and Receipt of Evidence-based Care for Persons with Major Depressive Disorder

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Abstract

Background: High-deductible health plans (HDHP) are a common insurance mechanism, enrolling almost 60% of privately-insured Americans. However, it is not clear whether they support receipt of recommended medical care for persons with serious healthcare needs, including mental health needs.

Aims of this Study: We evaluate whether persons in high-deductible health plans recieve evidence-based care for major depressive disorder.

Methods: We use national 2016-2019 MarketScan data to evaluate care received by 18-64 year olds with major depressive disorder. Our identification strategy combined various quasi-experimental strategies. The treatment group consisted of persons newly forced to enroll in a HDHP; the control group consisted of persons in nonHDHPs. New enrollment in a HDHP was instrumented by employment in a full-replacement firm (an employer that only offered HDHPs), a bespoke variable created for the study team by the data vendor. Analyses employed difference-in-differences models combined with this instrumental variable. Entropy balancing was used to address any residual confounding. Our outcome was use of annual recommended medical care, which was abstracted from the American Psychiatric Association's Workgroup on Major Depressive Disorder clinical practice guidelines and consisted of: visits to medical or psychological professionals for the purpose of addressing mental health; for patients on anti-depressants, at least 80% of days covered by prescription medications; and a composite measure evaluating both clinical visits and prescription drugs. Hypotheses were formulated prior to data collection.

Results: Our cohort consisted of 49,005 adults with major depressive disorder, followed for 3 years. Treatment and control groups exhibited covariate balance after entropy balancing. Forced enrollment into a HDHP reduced use of recommended medical care, with persons with major depressive in HDHPs reducing their use of annual recommended medical care by 11 percentage points relative to persons with the same condition in nonHDHPs. Results were driven by both declines in visits to medical/psychological professionals and by a reduction in use of prescription drugs.

Implications for Health Policy: Our results indicate that HDHPs do not support receipt of recommended medical care for patients with major depressive disorder. Our findings have important implications for recently-proposed U.S. federal legislation that proposes to exempt chronic illness management from HDHP deductibles and suggest that major depressive disorder, which can affect between 8 to 16% of Americans, should be included in such legislation.

Source of Funding: None declared.

A Digital Psychoeducational Intervention for Psychiatric Inpatients

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Abstract

Introduction: In the face of high unmet mental health needs and overburdened mental health systems, scalable and cost-effective approaches to increase use of evidence-based interventions are essential. Smartphone apps, e-therapies and other digital interventions offer promise in this regard. As Italy seeks to expand mental health services, digital psychological interventions may be a cost-effective option that may contribute significantly to deliver, support and enhance mental health care globally over the coming years. Such an approach has been taken in other countries. For example, Germany has already integrated digital health applications, including digital psychological interventions, into its healthcare insurance system. The present project addresses the use of digital technologies to design and develop an innovative psychoeducational technique, particularly focusing on providing information and teaching people diagnosed on the schizophrenia spectrum disorders about the nature of the illness, including its aetiology, progression, consequences, prognosis, treatment, and alternatives. Specifically, it consists in developing a psychoeducational program which will include at least 2 digital tools (i.e., serious games) which allow for creation of immersive environments that contribute to a more effective education and lasting recovery of psychiatric inpatients.

Methodology: Serious games will be developed to provide to inpatients scenario-based conversational education training to complement standard psychoeducational skills training for increasing patients' knowledge and understanding of their illness and treatment offered to inpatients admitted to the acute inpatient Unit of Clinical Psychiatry, Department of Clinical Neuroscience, Polytechnic University of Marche, Ancona, Italy. It is supposed that increased knowledge enables people with schizophrenia to cope more effectively with their illness. The inpatients will have access to the serious games using a regular computer, with keyboard, mouse, and monitor. To start the games, the inpatients will access the website in which reside the games and register with a username and password. The games will include short stories, with interactive animated scenes in which the actors experience situations that may cause problems to resolve in daily activities. As the story unfolds, and after each scene, the user will be queried about what happened, and which strategies he would use in the place of actors. The games will provide user feedback and, in the event of dysfunctional responses, they will be able to display a hyperlink with information, education and strategies, whose objective will be to help users understand the scene that they just watched and apply effective coping strategies. Supervision will be conducted by the ward's staff as a routine activity.

Conclusions: The above mentioned digital psychoeducational program, may contribute to the promotion of well-being and health in people diagnosed with schizophrenia and may provide an opportunity to deliver mental health resources and interventions in a cost-effective manner.

Source of Funding: None declared.

Specialist Exodus from the Public Mental Healthcare Sector

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Abstract

Background: Specialists in clinical psychology are increasingly leaving the public sector for the private sector. This trend is problematic as it weakens treatment options for the most vulnerable patient groups, such as those from minority backgrounds, while also contributing to a "brain drain" of experienced professionals, which could negatively impact the training capacity within the sector.
Aims: This study aims to explore the motives for psychologists leaving public healthcare in favour of private practice to contribute to a better understanding of the mechanisms driving such decisions. An in-depth analysis of such motives is important for identifying potential countermeasures.
Methods: To answer our research question, we conducted a qualitative study using semi-structured interviews. All study participants were specialists in clinical psychology who had left the public mental health sector to establish private practices. The data was analysed by using the Framework Approach (FA), as described by Smith and Firth (2011), which belongs to the class of thematic analyses.
Results: Our analysis yielded five main themes: (i) Cross-pressure (time and professional conflict), (ii) Rigidity (control over time and professional focus), (iii) Weakened trust (management practices and oversight), (iv) Distance (top-down management and superficial involvement), and (v) Insecurity (expectations and scapegoating). The findings suggest that the participants shared similar motivations for changing careers. The main impression from the interviews can be summarized by the term "changes," as all participants reported that working in the public sector had become more demanding over time. Examples of these "changes" include an increasing management hierarchy, greater management control, reduced ability to exercise professional judgment, diminished trust, increased standardization and a higher burden of care.
Discussion: The participants expressed frustration over the introduction of new reforms in the public sector such as "care pathways" and "deadlines for treatment initiation". These reforms led to a general reduction in time spent with patients in favour of administrative tasks. It is paradoxical that our participants perceived national reforms intended to improve quality as actually degrading it. Such perceptions may stem from the reforms being perceived as being politically driven and insufficiently grounded in the sector. Our participants were primarily focused on their own patients and gave less consideration to the broader distribution of resources (opportunity costs).

Source of Funding: None declared.

Excess Costs of Post-Traumatic Stress Disorder Related to Child Maltreatment in Germany

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Abstract

Background: Childhood maltreatment (CM) significantly increases the risk of developing post-traumatic stress disorder (PTSD) for which the prevalence in Europe is higher than initially assumed. While the high economic burden of PTSD is well documented, little is known about the health care cost differences between individuals with PTSD-CM and those without PTSD in Germany. This study aimed to determine the excess health care and absenteeism costs associated with PTSD-CM in Germany.
Methods: Baseline data from a multi-center randomized controlled trial on individuals with PTSD-CM (n = 361) were combined with data from individuals without PTSD (n = 4760). Entropy balancing was used to balance the data sets with regard to sociodemographic characteristics. Six-month excess health care costs from a societal perspective were calculated for 2022, using two-part models with logit specification for the first part and a generalized linear model from the gamma family with a log link function for the second part.
Results: The total six-month excess costs associated with PTSD-CM from a societal perspective were €8864 (95% CI: €6855 to €10 873) per person. Of this, the excess health care costs accounted for €4647 (95% CI €3296 to €5997) and the excess costs of absenteeism for €4217 (95 % CI: €3121 to €5314). Individuals with mild to moderate PTSD symptoms incurred total excess costs of €6038 (95 % CI: €3879 to €8197), while those with severe to extreme symptoms faced €11,433 (95 % CI: €8220 to €14 646).
Conclusions: Excess health care and absenteeism costs associated with PTSD-CM were substantial, with absenteeism accounting for roughly half of the total excess costs.

Source of Funding: German Federal Ministry of Education and Research (Bundesministerium für Bildung und Forschung; BMBF, Project ENHANCE, Grant No. 01KR1801A).

Mapping and Gapping Regional Care for Addictions and for Mental Health in Australia and Andalusia (Spain) to Inform Integration Strategies

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Abstract

Background: The integration of mental health (MH) and alcohol and other drug (AOD) care systems is a priority worldwide. Experiences in Europe and Canada indicate the importance of including this strategy in health planning and policy at national, state and local levels. Factors supporting this policy include the overlap of service provision, the comorbidity across these two target groups, the need to increase the efficiency of care provision in the context of a healthcare crisis, and the deskilling and professional shortage impacting both care subsystems. The barriers that hamper this integration strategy include: 1) different organisational and funding schemes; 2) the need for cross-collaboration, knowledge transfer and staff capability development; 3) the alignment of different frameworks and models of care related to different terminology and different understanding of service provision. A comprehensive assessment of the availability, characteristics, overlaps and gaps in the service provision in the two systems is needed to support this strategy.
Aims: This study aims to analyse and compare the patterns of MH and AOD care provision in Spain (Andalucia) and in Australia (4 urban areas in Victoria, Queensland and Western Australia) to better understand gaps in the integrated care provision system.
Methods: The Description and Evaluation of Services and Directories (DESDE) tool was used to describe and classify services according to the main type of care provided by care teams. DESDE includes a comprehensive evaluation of services across the health, social and justice sectors, covering both generic services and services for specific diagnostic groups. The data gathering was coordinated by the same international team in the 8 provinces of Andalusia (Spain), and 4 health districts in Brisbane, Melbourne and Perth in Australia.. Service managers in these regions were identified and completed a questionnaire capturing key information, enabling analyses that quantified and compared accessibility, availability, and capacity rates per 100,000 inhabitants.
Results: The availability of care teams and main types of care per 100,000 inhabitants showed more similarities for AOD in the two countries than for MH. Even though the overall diversity of care was similar in the two world regions, the resulting patterns of care provision were very different. Residential care was predominant in AOD when compared to MH in the two countries. Duplications were identified in the non-acute and non-mobile health outpatient care. Complementarities of care were found in the Andalusian acute hospitals where the wards had two different functions: care in crisis and detoxication, while the latter was insignificant in the Australian regions explored in this study. A major replacement of care types was identified in Australia, where social outpatient care was highly developed to the detriment of day care in MH and AOD. Historically health day care has been replaced by social outpatient care for Mental Health and for AOD in Australia. As a consequence, services keeping their prior names and functions are provided by staff with lower levels of training. Gaps were identified in detoxication units in Australia, and the availability of alternatives to hospitalisation in both subsystems and in the two countries.
Discussion: Service mapping using a standard evaluation, method and tool provides relevant information to planners and managers about duplicities, complementarities, replacement and gaps in the MH and AOD care systems. This evidence will be discussed with experts, researchers, planners and managers to coordinate both networks and progress towards their future integration. Further studies are needed, the service mapping should be accompanied by the study of care pathways of comorbidity cases (dual pathology), service financial flows, and the analysis of the needs of skilled professionals.

Source of Funding: None declared.

Evaluating Mental Health and Addiction Services in Andalusia: Insights for Enhance Service Provision

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Abstract

Background: Regions in Spain have full governance of its health and social systems. Andalusia has developed a public mental health (MH) care system with a community-focused approach, a substantial integration of the MH within primary care system and a network of specialized secondary and tertiary care. The region is preparing its IV Strategic Plan for Mental Health and Addictions. A main priority of the IV plan is t to increase the coordination between MH and addiction service provision.
Aims of the Study: This study describes the service provision and patterns of care in the MH and Addictions, to inform the coordination of these two subsystems as part of the IV strategic regional plan.
Method: MH and addiction services were described and classified based on their main activity (Main Type of Care- MTC), using the Description and Evaluation of Human Services and Directories (DESDE) system which allows descriptions and comparisons across different areas, population groups and health conditions. The study included a comprehensive evaluation of services across the health, social and justice sectors, covering both generic services and services for specific diagnostic groups. Service managers in this region were identified and completed a questionnaire capturing key information, enabling analyses that quantified and compared accessibility, availability, capacity and workforce rates per inhabitant.
Results: The analysis of MH and addiction services provided 725 DESDE codes of "main types of care" (MTC) across 665 care team units. 699 were main codes and 26 secondary codes. Providers in-

cluded 127 different agencies that included public agencies and not-for-profit organisations. Specifically, in MH there were 518 DESDE codes and 25 secondary codes covering 486 care units. Most services were residential (47%), followed by outpatient (31%) and day care (26%). Regarding addiction services, 181 codes or MTCs were provided across 179 care units. Outpatient care was the most prevalent (69%), followed by residential/hospital care (24%). Differences between the patterns of care for MH and for Addictions were significant with a higher availability and diversity for MH.

Discussion: The study provided a detailed overview of Andalusia's MH care provision, highlighting commonalities, overlaps and gaps in the patterns of care in the two subsystems. This information is essential for strategic planning and decision-making in the new MH and addictions Plan. While most services were described by a single type of care, indicating precise functions, some resources required more than one code to describe them which may indicate problems of complexity in the service provision and terminology. Additionally, the geographical distribution of codes, highlighted the need to expand community residential care availability for addictions to ensure equitable access. Overall, the findings indicated a diverse health-social system with room to improve the complementarity in the care delivery.

Policy Implications: The analysis conducted using the DESDE system provided reliable and comprehensive picture to support decision-making in developing the Strategic for MH and Addictions in Andalusia.

Source of Funding: None declared.

Update Guidelines and Costing Manual for Economic Evaluations: Taking a Societal Perspective

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Abstract

Background: Increasingly considerations on cost-effectiveness of healthcare intervention are used to support decisions about health care. Economic evaluations provide a structured framework for determining the efficiency of healthcare interventions. The last update was conducted in 2015. Taking a societal perspective is relevant for interventions in Mental Health care.

Aims of the Study: The aim of this guideline was to update the framework for those who perform economic evaluations for reimbursement decisions in healthcare. The update should align with the latest knowledge and scientific advancements in the field of economic evaluations. The costing manual should contain the reference prices of the most common health services and most up-to-date cost pricing methods.

Methods: The update of the costing manual followed several key steps. First, an inventory of necessary improvements was made through a survey of users and input from experts. Second, the methods were updated to the literature and expert recommendations. Third, the reference prices were revised to reflect current cost data. Fourth, an assessment was made of how to improve the technical accessibility of the reference prices, including exploring options for online access and regular updates.

Results: The updated guidelines focus on several key improvements: enhancing readability with a clearer structure and examples, establishing a hierarchy for cost calculation methods, and increasing transparency in calculating reference prices. Guidelines for applying the friction cost method and include costs from other sectors such as justice and education were updated. Moreover, an increased number of reference prices for mental health care were added.

Discussion: The costing manual contained the most common reference prices of health care services, however due to lack of data some common prices could not be calculated. When a specific reference price is important in an economic evaluation and is not available, researchers should calculate these costs using the cost calculation methods outlined in the costing manual.

Implications for Health Care Provision and Use: By establishing standardized methods and reference prices, these guidelines enhance the credibility of evaluations, ultimately supporting better decision-making in healthcare funding and resource allocation.

Implications for Health Policies: Economic evaluations are increasingly applied to support policy decisions in mental health care. The use of the updated guidelines and costing manual will contribute to the transparency and quality of these policy decisions from a societal perspective.

Implications for Further Research: Future studies should explore the incorporation of costs eHealth interventions and external factors, e.g. climate change, into economic evaluations, providing a more comprehensive understanding of societal costs.

Source of Funding: None declared.

Societal Costs of Borderline Personality Disorders: a Danish Register Based Case-control Study

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Abstract

Background: Despite symptom recovery, research suggests that Borderline Personality Disorder (BPD) is associated with long-term impairments in interpersonal domains, and general functioning, including educational and occupational attainment.

Method: This presentation summarize evidence from three Danish studies that used register data to estimate health care costs, educational status, income and social transfer payments of patients diagnosed with BPD in comparison with other psychiatric patients and the general population with no diagnosis. The study used Danish National Patient Registry to identify all patients with first diagnosis of BPD in contact with Danish Mental Healthcare Services. Using data from the Civil Registration System Statistics Denmark database (CPR registry), we randomly selected controls of the same age, sex, marital status, and municipality of residence as the patients. The population was combined with other Danish national registers.

Results: The study found that patients with BPD had higher health care costs, lower earned income and received more public transfers, except for age pension, early retirement, and child benefit than the controls in the general population. The largest cost item of social transfer payments among patients with BPD was disability pension. Patients diagnosed in adolescence had also lower educational level

(including lower primary school grades) and lower labor market attachment than the controls as early as the age of 20 years.
When adjusting for the parents' educational level, BPD patients were nearly 22 times more likely to be unemployed, and nearly 15 times more likely to be on disability pension than controls. These results underline that initiatives to support patients in finishing school and secondary education and to improve work functioning are highly needed.

Source of Funding: None declared.

Cost-Effectiveness of Community-based Integrated Care Model for Patients with Diabetes and Depressive Symptoms: Cluster Randomized Trial

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Abstract

Objective: To explore the cost-effectiveness of integrated care compared to usual care among patients with type 2 diabetes (T2DM) and depression multimorbidity.
Design: Cluster-randomized controlled trial conducted in community health centers (CHCs) in China, with centers allocated to usual care (4 CHCs) or intervention (4 CHCs) groups.
Participants: We recruited individuals aged 18 years or older both with T2DM and depressive symptoms (PHQ-9 ≥ 10).
Interventions: A comprehensive care plan was developed based on the Community-based Integrated Care Model for Patients with Diabetes and Depression (CIC-PDD) model, which utilized a structured patient management plan to provide scheduled services.
Main Outcome Measures: A within-trial economic evaluation of CIC-PDD is conducted from the perspectives of the health care system, multipayer and societal. The health effects outcomes are quality-adjusted life years (QALYs) and the number of depression-free days (DFDs). The costs were identified from participant health insurance records and survey. We calculated incremental cost-effectiveness ratios (ICERs) in Chinese RMB and the probability of cost-effectiveness.
Results: A total of 275 participants were allocated to integrated care, while 355 were assigned to usual care. In terms of QALYs, integrated care incurred additional costs of 54,192.10 RMB, 53,515.13 RMB, and 50,680.69 RMB per QALY gained from the perspectives of the health system, multipayer, and societal viewpoints, respectively, with a probability of cost-effectiveness ranging from 66.41% to 94.45% (equivalent to one to three times the country's GDP per capita). Regarding DFDs, the costs per gained DFD were 19.26 RMB, 19.02 RMB, and 18.01 RMB, requiring a willingness-to-pay per DFD ranging from 62.50 RMB to 71.00 RMB for a >95% probability of cost-effectiveness. Sensitivity analyses confirmed the robustness of these findings.
Conclusions: The integrated care model demonstrates cost-effectiveness within primary health care (PHC) settings with limited health resources. Further studies are needed to assess long-term sustainability and scalability of the CIC-PDD model.

Source of Funding: None declared.

Association Between Economic Well-Being and Mental Health Outcomes among Pregnant Women in the United States: Results from the 2022 National Survey on Drug Use and Health

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Abstract

Background. The intersection of poverty, mental health, and substance use presents a complex challenge, particularly among pregnant women, a population often vulnerable to multiple stressors. Research indicates that economic wellbeing and poverty increases the risk of mental health disorders but also exacerbates substance use disorder, which can lead to adverse pregnancy outcomes. By examining the interconnectedness of these factors, this study aims to provide insights into the needs of pregnant women facing these challenges and to inform targeted interventions that promote healthier outcomes for mothers and their children.
Aims of the Study. The aim of this study is to estimate the association between economic well-being and mental health outcomes during pregnancy in the United States.
Methods. We use data from the 2022 National Survey on Drug Use and Health; an annual survey conducted by the Substance Abuse and Mental Health Services Administration on the use of tobacco, alcohol, and drugs, and mental health among the U.S. civilian, non-institutionalized population aged 12 and older. Mental health outcome is a score ranging 0-24 indicating the level of psychological distress over the past 30 days. It is based on six questions known as the K6, asking respondents about feeling nervous, feeling hopeless, feeling restless or fidgety, feeling so sad or depressed that nothing could cheer you up, feeling that everything was an effort, and feeling down on yourself, no good, or worthless. Higher score indicates higher level of distress. A negative binomial regression model was used to examine the relationship between mental health outcome and economic wellbeing, pregnancy status, and substance use.
Results show a statistically significant association between pregnancy status, and the psychological distress (IRR=1.10; $p < 0.01$]), indicating pregnancy is associated with a 10% increase in reported psychological distress. Negative economic experiences were associated higher psychological distress (PD). More specifically, housing insecurity increased PD by 36% (IRR=1.36; $p<0.00$), living in smaller urban areas by 11% (IRR=1.11; $p<0.001$), and living in non-metro areas by 9% (IRR=1.10; $p<0.001$). Not utilizing a government welfare program decreased risk by 5% (IRR=0.95; $p<0.004$). Illicit drug use in the last 30 days increased PD by 47% (IRR=1.47; $p<0.001$).
Discussion and Limitations. Women who report threats to their economic well-being, illicit drug use, and utilization of a government program may experience greater psychological distress during pregnancy, which is already a time of greater stress. Limitations due to the cross-sectional nature of the survey and self-report methodology limit assumptions.

Implications for Health Care Provision and Use. Greater attention to screening of women's economic well-being during pregnancy and mental health outcomes may increase referral to mental health support, thus positively impacting maternal and fetal outcomes.

Implications for Health Policies. Low-income and women with reported substance use disorders will benefit from increased attention to their mental health through screening and referrals during pregnancy.

Implications for Further Research. The interaction of economic well-being indicators and substance use may further elucidate particular mental health risks which would benefit from increased referral and support.

Source of Funding: This study 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 $500,000 with 0% financed with non-governmental sources. This study is also supported by the Career Enhancement Core of the NHLBI U54 HL169191 SCORE Grant (to Augusta University) and the NIH Office of Women's Health Research. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by NIH, HRSA, HHS, or the U.S. Government..

Estimating Elasticities of Demand for Marijuana in the United States and Association with Mental Health Outcomes

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Abstract

Background. Marijuana is the most commonly used illicit drug in the United States; estimated 52.5 million individuals used in 2021, including 14% of young adults[1]. Marijuana is legal for recreational use in half of the states in US and for medical use in 38 states[2]. Latest trends in the US laws and policies reflect a significant shift in public policy and societal attitudes towards cannabis over recent years. While some studies suggest that certain components of marijuana may have therapeutic benefits for conditions such as PTSD and chronic pain, others indicate that prolonged use of marijuana may impact mental health. Studying the factors influencing the demand for marijuana will provide a valuable insight for policymakers to regulate the market effectively and balance public health concerns with economic benefits.

Aims of the Study: To estimate the impact of price, polices, socio-economic, and personal characteristics on demand for marijuana in the United States.

Methods. We use data from the 2022 National Survey on Drug Use and Health, which provides comprehensive data on the use of tobacco, alcohol, and drugs, as well as mental health issues among the U.S. population aged 12 and older. We specified a demand equation for marijuana as a function of price, individual socio-economic, demographic, and mental health outcomes, and consumption of other substances such as alcohol, tobacco, opioids, or illicit drugs. Respondents who used marijuana in the past month, were asked what forms of marijuana products did they buy the last time they bought marijuana. If the responded indicated having purchased marijuana in a loose form, they were asked how much they paid for that purchase. Since, the only price information available was for the loose marijuana, our study focuses on the subset of respondents whose last marijuana purchase was only in a loose form. We used a robust ordinary least squares regression to estimate the demand for loose marijuana.

Results: Results indicate that the price elasticity of demand was very elastic; a 1% increase in price was significantly associated with 10 gram decrease in quantity purchased. Marijuana legalization in the states did not affect respondent purchasing behavior. Income elasticity of demand was higher as income increased. Individuals with serious psychological distress reports significantly higher purchasing behavior, however, receipt of mental health treatment resulted in significantly reduced marijuana use.

Discussion and Limitations: Economic policies can be effective in influencing marijuana purchasing behavior, which was found to be associated with mental health outcomes.

Implications for Health Care Provision and Use: Addressing mental health outcomes can provide opportunities to mitigate marijuana use.

Implications for Health Policies: Policies improving mental health outcomes and economic well-being can help to reduce the demand for marijuana. Also, the economic impact of regulatory and tax policies can help policymakers to craft policies that will not backfire by driving the consumers back to the illicit market.

Implications for Further Research: Future research should focus on better understanding the effectiveness of policies aimed at improving mental health and economic well-being on marijuana demand.

Source of Funding: This study 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 $500,000 with 0% financed with non-governmental sources. This study is also supported by the Career Enhancement Core of the NHLBI U54 HL169191 SCORE Grant (to Augusta University) and the NIH Office of Women's Health Research. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by NIH, HRSA, HHS, or the U.S. Government.

Cost-effectiveness of Add-on Celecoxib Treatment in Patients with Schizophrenia Spectrum Disorders and Inflammatory Cytokine Profile: Economic Evaluation of the TargetFlame Trial

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Abstract

Background: Individuals with schizophrenia spectrum disorders have been found to exhibit neuroinflammation, which influences symptoms. Although previous research on the effects of adding anti-inflammatory medications like Aspirin, N-acetylcysteine, and Celecoxib to existing treatments has produced mixed results, to date no studies have specifically targeted a subgroup of patients with an identified inflammatory profile nor included a complementary economic evaluation.

Aims of the Study: The TargetFlame study aims to explore a new precision medicine strategy for enhancing antipsychotic treatment with anti-inflammatory agents using drug repurposing. Specifically, it will assess the effectiveness, safety, and cost-effectiveness of adding 400 mg of Celecoxib to ongoing antipsychotic treatment in patients with schizophrenia spectrum disorders with an inflammatory profile.

Methods: An incremental within-trial economic evaluation compares the value of the used blood-based algorithm for selecting patients for adjunct anti-inflammatory treatment with Celecoxib with treatment-as-usual over 24 weeks. The TargetFlame study is a phase III investigator-led, multicenter, randomized, placebo-controlled clinical trial conducted in Germany that compares two arms: patients exhibiting an inflammatory profile receiving either add-on Celecoxib 400 mg/day or add-on placebo. Screened patients are assessed based on blood levels of three pro-inflammatory cytokines and those identified with an inflammatory profile are randomly assigned to one of the two arms. Patients are assessed at baseline, 8 weeks and 24 weeks. Resource use data are obtained using an adapted patient-self report health economic questionnaire (HEQ) to measure health and social care resource use, medication, informal care, productivity losses and socio-demographics. Costs are calculated using reference unit costs for Germany. For the economic evaluation, outcomes are assessed in terms of Quality-Adjusted Life Years (QALYs) calculated using the EuroQoL EQ-5D-5L based on the German value set, and in terms of broader wellbeing expressed as Capability-Weighted Life Years (CWLYs) based on the OxCAP-MH instrument. Between group differences in costs and outcomes are assessed using a regression-based approach adjusted for missing data and sensitivity analyses.

Results: Patient recruitment for TargetFlame is ending in November 2024 with 39 patients randomized to date. First outcomes, cost and cost-effectiveness results will be presented at the conference.

Discussion: This is the first study investigating the cost-effectiveness of personalized add-on anti-inflammatory treatment of patients with schizophrenia spectrum disorders and an inflammatory profile compared to treatment as usual. Limited sample size is likely to impact cost-effectiveness inferences.

Implications for Health Care Provision and Use: TargetFlame provides currently lacking cost and effectiveness evidence about the use of Celecoxib to enhance schizophrenia treatment through targeted anti-inflammatory interventions.

Implications for Health Policies: Health policies need to support better precision medicine approaches in psychiatric care, encouraging stratified treatments to improve treatment outcomes and cost-effectiveness.

Implications for Further Research: Further research should focus on improving biomarker identification to optimize personalized treatment of patients with schizophrenia spectrum disorders, and assessing the population level budget impact and feasibility of such approaches.

Source of Funding: Funded through the ERAPerMedSchiz project as part of the ERA-Net Cofund in Personalised Medicine

Financial Impact on Hospitals of Initiating Medications for Opioid Disorder in Emergency Department Settings

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Abstract

Background: Like many countries, the US is experiencing an epidemic of opioid misuse and mortality. Effective treatments are available, including medications for opioid use disorders (MOUD), but they are greatly underused due to a variety of financial and other barriers. In response, experts are promoting the use of low-barrier care in settings that routinely treat patients with opioid use disorder (OUD), including emergency departments. In recent years, some US hospitals have established programs to identify ED patients with OUD and start them on MOUD. However, for this model to be widely adopted, it would need to be financially sustainable for hospitals. Little is known about the financial aspects of ED-based treatment models, including insurance billing and reimbursement issues.

Aims of the Study: Our study addressed the following questions about ED-based initiation of OUD treatment: (i) Which components of this model are billable to insurers? (ii) How do hospitals fund the components that are not billable? (iii) Does ED-based initiation generate savings that could help fund the service?

Methods: We conducted a qualitative study, involving semi-structured interviews with officials at selected US hospitals. Potential interviewees were identified using a snowball sampling approach, starting from individuals who had published articles about relevant programs at their ED, or were known to the research team or our professional networks. Those individuals were emailed an invitation and offered $50 to compensate for their time. This resulted in 12 interviews across 10 states, mostly with urban teaching hospitals. We developed an inductive code list which was used by two separate coders, who reviewed their results together to reconcile discrepancies for the qualitative analysis.

Results: For the three research questions, key findings include, (i) medication costs are often billable to insurers, but costs of key para-professional staff like peer navigators are not, requiring the hospital to absorb their salaries. Even some billable costs are reimbursed at low rates which challenge sustainability. (ii) To fund non-billable components, hospitals are typically relying on time-limited grant funding, including the federal 340B drug rebate program. (iii) Several hospitals anticipated cost savings from reduced use of ED services by patients with severe disorders who had no (or low-paying) insurance.

Discussion: The study findings indicate that some hospitals are able to sustain ED-based initiation of MOUD using time-limited grant funding. However, wider dissemination of this model will probably

require more stable funding streams, such as Medicaid reimbursement, paying adequate rates. The main limitation of this study is a lack of information about hospitals that decided not to adopt an ED-based MOUD initiation program.

Implications for Health Care Provision and Use: Despite financial challenges, ED-based initiation appears to be feasible in at least some hospitals.

Implications for Health Policy: To sustain these programs, policymakers need to promote more stable funding streams to support the currently non-billable activities, including coverage by private and public insurers.

Implications for Further Research: It would be valuable to measure the effects of these programs on hospital admissions and ED visits, to document any potential positive implications for hospital budgets.

Source of Funding: The Brandeis-Harvard SPIRE Center: SUD Systems Performance Improvement Research and Engagement (NIDA P30 DA035772).

Comparing Utilities and Estimates of Cost-Effectiveness from Different Quality of Life Measures in Mental Health: A Systematic Review

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Abstract

Background: Measuring health-related quality of life (HRQoL) plays an important role in evaluating the value of new health technologies. Mental health presents challenges for measuring HRQoL and there are criticisms that generic preference-based HRQoL measures do not adequately capture the impact of mental health conditions and symptoms. Previous research has explored the appropriateness of HRQoL measures in mental health by assessing their convergent and divergent validity and responsiveness compared to condition-specific measures. However, findings from this research are mixed and there is a lack of evidence on the impact of using different HRQoL on health utilities in mental health. In this study, we aimed to identify and summarise studies that compare health utilities and estimates of cost-effectiveness for mental health for different HRQoL measures when they are completed by the same population.

Methods: We searched bibliographic databases using a defined set of search terms relating to mental health and HRQoL measures. We also searched sources of grey literature. We included primary studies that reported utility values, quality-adjusted life years (QALYs), and/or incremental cost-effectiveness ratios (ICERs) from multiple measures from the same study population. Our primary interest was HRQoL measures that are supported by preference-based value sets, but studies reporting utility values mapped from condition-specific measures to preference-based measures were also considered eligible. For eligible studies, information was extracted on study characteristics, available HRQoL measures and value sets, summary statistics for utilities at baseline and change from baseline, and incremental QALYs and ICERs.. We pooled utilities using random-effects models to estimate mean differences between HRQoL measures. We also summarized the impact of HRQoL measures on QALYs and ICERs.

Results: We identified 71 eligible studies. These studies were completed in 14 countries and used 17 different HRQoL measures with 37 value sets. The most common comparisons were different versions and value sets from EQ-5D and SF-6D. Most studies related to depression and anxiety, although a range of other conditions were also included. Focusing on studies reporting comparisons of value sets from the same country, pooled estimates suggest that there can be significant differences in utility values between HRQoL measures at baseline and change from baseline. Results from individual studies also suggest that valuation exercises to update value sets for HRQoL measures can have an impact on utilities. In studies that reported QALYs and ICERs, the choice of HRQoL measure can have an impact on maximum incremental cost at a specified cost-effectiveness threshold. However, there is considerable heterogeneity and effects differ across individual studies.

Conclusions: Estimation of health utilities is a key aspect of economic evaluation. Our findings suggest that choice of HRQoL measure can have an impact on utilities and this translates into differences in QALYs and ICERs. However, this impact appears unpredictable. Researchers should carefully consider choice of HRQoL measure during study design and it may be beneficial to select multiple measures to allow sensitivity analysis. It may also be beneficial to explore impact of these outcomes during development and validation of new measures and value sets.

Source of Funding: None declared.

Race/Ethnicity and the Causal Relationship of Social Disadvantage with Mortality among Elderly Medicare Beneficiaries with Schizophrenia

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Abstract

Background: Social disadvantage has been linked to poorer health outcomes, or health inequities. Individuals with schizophrenia, particularly the elderly, are especially at risk for health inequities because of their severe social disadvantage, with racial/ethnic minority individuals possibly at greater risk. Little is known about the causal relationship between social disadvantage, race/ethnicity, and outcomes in this population.

Aims of the Study: Among elderly Medicare beneficiaries with schizophrenia, to determine: (1) the causal effect of person-level social disadvantage on mortality and effect modification by race/ethnicity, and (2) whether area-level social disadvantage further modifies this causal relationship.

Methods: Two U.S. national datasets (person-level Medicare data and the area-level Social Vulnerability Metric (SVM) index, scored -2.46 to 1.98, higher=worse) were linked, forming a cohort of antipsychotic-treated beneficiaries with schizophrenia aged ≥66 (2017-2021). Baseline social disadvantage was defined through Low Income Subsidy or Dual Medicaid-and-Medicare eligibility (person-level) and SVM quintiles (area-level). The outcome was 1-year all-cause mortality. Confounders included demographics and health status indicators (e.g., suicidality, comorbidities). Transfer-learning (TL) improved the efficiency of doubly robust estimators of targeted average treatment effects while accounting for differences in distributional shifts of all variables (mortality, confounders, and social disadvantage).

Results: The cohort (N=45,108) was 65% female and elderly (mean (SD) age=78 (8) years), with 76% White, 13% Black, 6% Latinx, and 4% Other race. Most were socially disadvantaged (LIS/Dual=58%), with LIS/Dual rates highest for Latinx and Black beneficiaries and lowest for Whites. Median SVM scores for Quintiles 1 and 5 were -2.78 and 2.48; more Black (34%) and Latinx (24%) beneficiaries lived in Quintile 5 compared with those of Other (8.9%) and White race (13%). One-year mortality was 21.8% (21.3% for LIS/Dual=Yes; 22.5% for LIS/Dual=No), ranging from 15% (Other race) to 23% (White race). Area-level social disadvantage did not modify the effect of person-level social disadvantage within racial/ethnic groups; however, race/ethnicity modified the TL-estimated causal effect of person-level disadvantage. Estimated causal effects were larger among Latinx beneficiaries, ranging from 3.9% (95% CI: -0.3%, 8.0%; SVM Quintile 1) to 3.7% (-0.5%, 8.0%; Quintile 5) relative to White beneficiaries, ranging from 2.9% (1.2%,4.6%; SVM Quintile 1) to 2.7% (0.0%, 5.5%; Quintile 5).
Discussion and Limitations: Preliminary findings suggest that person-level disadvantage increased 1-year mortality but the effect is modified by race/ethnicity. Area-level social disadvantage did not modify this causal relationship. Limitations include potential unmeasured confounding and robustness of findings to the COVID-19 pandemic's impacts.
Implications for Health Care Provision and Use: These findings support intiatives to promote partnerships between the healthcare system and social agencies aimed at improving the social circumstances of vulnerable individuals.
Implications for Health Policies: Given growing awareneness of health inequities, causal evidence such as that generated by this study is critical for the design of public policies targeting individuals at particularly high risk.
Implications for Further Research: This study demonstrates the use of novel methods to examine the causal relationship between social disadvantage and poor outcomes in a seriously ill population, suggesting that indicators of area-level social disadvantage may be non-informative when person-level indicators are available.

Source of Funding: None declared.

Variation in Chronic Care Management Services for People with Mental Health Conditions in Oregon, 2017-2019

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Abstract

Background: People living with mental health conditions (PWMH) face challenges in managing their health, functional and social needs, and can benefit from chronic care management and transition services (CCM/T). CCM/T reimbursable services include transitional care management, chronic care management, complex advance care planning and behavioral health integration and have requirements for who can deliver the services and frequency. Yet for needs to be met there must be providers in public and private health plans offering these services.
Aims of the Study: To identify and compare providers in one US state (Oregon) who did or did not deliver care CCM/T to PWMH and describe variation in those who delivered these services and across geographic regions.
Methods: Oregon All Payer All Claims (APAC) data were used to identify individuals who had an outpatient claim with accompanying a mental health diagnosis based on the Centers for Medicare & Medicaid Services (CMS) Chronic Condition Warehouse definitions and filed in 2017-2019. APAC data covers more than 90% of state residents. These health insurance claims data were aggregated to provider level. We classified providers as providing CCM/T based on the Current Procedural Terminology (CPT) codes in the claims and compared providers who did or did not provide CCM/T services. We used descriptive analysis and random forest models to determine the most predictive factors.
Results: Of 36,745 providers, 12.4% (4,552) provided CCM/T services to PWMH. Among provider professions, case managers (64.2%), counselors (22%) and social workers (17.4%) were most likely to deliver CCM/T. CCM/T providers serving PWMH had a predominance of their claims reimbursed by Medicaid. In adjusted analyses, CCM/T providers who had 75% or more of their claims reimbursed by Medicaid had seven times more CCM/T claims than providers with a lower proportion of Medicaid services (IRR: 7.04; 95% CI: 5.37 - 9.24). Random forest models confirmed Medicaid utilization and provider type as the most important predictors.
Discussion and Limitations: CCM/T service provision is low among mental health providers in Oregon with less than a quarter providing CCM/T. CCM/T rate was highest among case managers and counselors or therapists. Medicaid, the state-based public insurance, is a key resource for CCM/T among PWMH. As a cross sectional study results represent associations.
Implications for Health Care Provision and Use: Non-physician providers are key drivers of CCM/T provision in Oregon.
Implications for Health Policies: As most CCM/T providers relied on the state Medicaid programs for payment, there may be opportunities to build incentives to further increase services in areas with low uptake.
Implications for Further Research: Findings from these analyses help to characterize CCM/T service provision across the state, and would benefit from qualitative research to better understand patient and provider perspectives about the value and challenges in delivering these services for people living with specific MH conditions.

Source of Funding: Oregon State University.

Estimating the Marginal Cost of Improving Mental Healthcare Quality in the English NHS

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Abstract

Background: Providing high quality mental healthcare at a reasonable cost is a key policy priority in many countries. There is currently a significant evidence gap in understanding the relationship between cost and quality in mental healthcare and the additional cost needed to achieve one unit improvement in mental healthcare quality.
Aims of the Study: This study estimates the marginal cost of quality in mental healthcare services in England for a range of quality indicators.
Methods: We calculate nine quality indicators including waiting times, readmission rates, continuity of care (follow-up), clinician reported outcome measures, inappropriate out-of-area placements, and mortality. We use data from the Mental Health Service Dataset for the period 2016/17-2021/22. Costs for all activity, both outpatient/community and inpatient, were computed using National Cost Collection and Patient-Level Information and Costing Systems unit costs for all working age adults and older people. We run separate

analyses over two time periods from 2016/17-2018/19 and 2019/20-2021/22 due to changes in the costing methodology which made longitudinal analyses over the whole period unfeasible. Our dependent variable is total cost at the patient level, which is heavily skewed and we therefore run weighted generalised linear models (GLM). We control for various factors, including mental health care clusters (a measure of need), socio-demographic characteristics such as sex, age, ethnicity and deprivation, and supply-level factors through staffing levels and hospital fixed effects. Time and region fixed effects were also added to account for temporal trends and regional variations. We remove outliers and employ a range of robustness checks for ensuring stability of our estimates. We also calculate the overall financial impact on the healthcare system if the marginal cost quality improvements were realised.

Results: Our preliminary results are heterogeneous, depending on the quality indicator used. Readmissions are associated with very large negative marginal costs, which suggests the potential for large cost savings if these are avoided or reduced. We find more modest but still relatively large positive marginal costs for continuity of care or follow up in the community post- discharge. This suggests this activity is likely cost increasing. More modest marginal costs are associated with quality indicators such as waiting times.

Discussion and Limitations: Quality improvement efforts amongst mental healthcare providers might not necessarily be more costly. Policymakers will however need to account for the nuances in results to support targeted quality improvement strategies in mental healthcare in the English NHS.

Implications for Health Care Provision and Health Policies: This study provides empirical evidence for decision makers and health planners so that they can make informed decisions about where to invest scarce resources to improve quality of care. Knowing the marginal cost of quality can help policymakers design more effective incentive mechanisms to achieve efficient and equitable levels of healthcare quality.

Implications for Further Research: Further research will explore models that include multiple quality indicators simultaneously as there may be interactions between the indicators e.g. avoiding readmissions may be associated with good continuity of care.

Source of Funding: This research on “What does higher mental healthcare expenditure achieve?” (Award Reference Number: FR-0003758) is supported by the Health Foundation, an independent charity committed to bringing about better health and health care for people in the UK.

Did Telemedicine Adoption Increase the Geographic Reach of Mental Health Specialists?

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Abstract

Background: Wide geographic disparities in access to mental health care exist worldwide, particularly between urban and rural areas. These disparities are, in part, driven by the availability of local mental health specialists. Telemedicine may be a solution to address these access barriers, as mental health specialists can use telemedicine to provide care for more patients in rural and underserved communities. However, to our knowledge, no prior research has assessed the impact of telemedicine adoption on the geographic reach of mental health specialists.

Aims of the Study: To quantify the association between telemedicine adoption and the geographic reach of mental health specialists.

Methods: Using 100% Medicare fee-for-service national data across 40 million enrollees in the United States, we followed a cohort of mental health specialists (psychiatrists, psychologists, social workers, and psychiatric nurse practitioners) from 2019 to 2022 and grouped them by their telemedicine use in 2021: in-person (0-15% telemedicine), largely in-person (16-50%), majority telemedicine (50-89%), and telemedicine-only (≥90%). We compared differential changes across these groups from 2019 to 2022 in the following outcomes: distance between patients and clinicians, fraction of patients who live in rural communities, and fraction of patients living in mental health specialist-shortage communities.

Results: There were 34,849 mental health specialists in the cohort grouped into four categories: in-person (21.6%), largely in-person (17.2%), majority telemedicine (25.3%), and telemedicine-only (34.0%). Between 2019 and 2022, the mean distance between patient and clinician among the in-person group increased by 2.7 miles and the telemedicine-only group by 6.4 miles. The differential change between these two groups was 3.71 miles (95% CI 3.54-3.87). In contrast, we saw no substantial differential change in the fraction of patients living in rural or mental health specialist-shortage communities between clinicians who adopted telemedicine and those who remained in-person.

Discussion and Limitations: While telemedicine adoption appeared to enable mental health specialists to provide care across greater distances, telemedicine adoption was not associated with more care for patients in rural or underserved communities. Limitations of our study include its study population being limited to patients with one form of insurance and potential inaccuracies in capturing patient location in the data.

Implications for Health Policies: Greater use of telemedicine may not automatically increase the availability of mental health care in rural and underserved communities. Tailored policy interventions to incentivize telemedicine use in these communities should be tested and deployed.

Source of Funding: National Institute of Mental Health (R01MH112829)

Does Initial Severity of Mental Health Status Help Explain Variations in Employment and Health over Time among Supported Employment Recipients?

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Abstract

Supported Employment (SE) has been widely recognized as an effective intervention to improve employment outcomes among people with disabilities, particularly those with mental health and substance use conditions. SE models, such as the Individual Placement and Support (IPS), have consistently demonstrated positive effects on job attainment and retention compared to traditional vocational rehabilitation approaches. Some have suggested that IPS may also improve health, substance use, and mental health outcomes, and therefore should be considered a treatment and reimbursable by insurance as medically necessary. However, those results are mixed, and such out-

comes may depend on the severity of illness and functional limitations. The Supported Employment Demonstration (SED) randomly assigned disability applicants with mental impairments to receive a combination of SE and wraparound services or usual services available in the community. Participants completed a baseline survey that assessed mental health and substance abuse using the Colorado Symptom Index (CSI), the SF-12, the Drug Addiction Screening Test (DAST), and the Alcohol Use Diagnostic Disorders Identification Test (AUDIT). The SED study found that, on average for the entire population of participants, SE had a significant positive impact on employment and earnings outcomes. Research exploring the differential impact of SE based on the severity of mental health or substance use conditions, or the co-occurrence of the two, remains limited. Understanding whether SE's effectiveness varies by the severity of mental illness and whether mental illness co-occurs with substance use disorders (SUDs) is crucial for optimizing resource allocation and enhancing intervention targeting. This study aims to address this research gap by examining the impact of the SED intervention on individuals with varying levels of mental health severity, who may or may not have a co-occurring SUDs, and who have applied for Social Security Administration (SSA) disability benefits, using data collected from the Supported Employment Demonstration (SED). We reanalyze SED data using subgroup definitions based on mental health baseline measures to determine if the intervention resulted in different impacts for participants with higher or lower baseline symptomology. We also analyze trends in employment and health using measures gathered annually throughout the three-year period of study enrollment. This novel trend analysis sheds new light on questions about time to employment and clinical recovery.
In addition to tracking employment and health outcomes, the SED collected comprehensive cost information for all participants. We utilize this cost data to examine the differences in costs relative to impacts associated with providing treatment and services to participants with different levels of baseline symptomology, as measured by the CSI score. The findings have implications for research on disability applicants and beneficiaries, and for policymakers designing programs to improve employment and health outcomes tailored to address the mental health and substance abuse challenges faced by disability applicants.

Source of Funding: None declared.

Mental Health Benefit Uptake of Women Before and During the Perinatal Period in Austria

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Abstract

Background: One in five women may experience a perinatal mental illness (PMI) during pregnancy and up to one year after giving birth, during the so-called perinatal period. Although there is strong evidence that this can have a negative effect on the children's future health, many mothers do not receive any treatment.
Aims of the Study: The study aim was to determine whether and what type of mental health services women in Austria claim during the perinatal period.
Methods: The uptake of five key mental health insurance benefits was descriptively analysed using pseudonymised health insurance data from Austria's largest insurance, ÖGK.
Results: In 2017 and 2018, 131,025 ÖGK insured women gave birth, representing 80% of all births in Austria in the two years. Of these women, almost 20% claimed at least one benefit during the perinatal period. Including the year before pregnancy this number increased to 25%. Most often, only one benefit was claimed in only one of the analysed periods (the year before pregnancy, pregnancy, and the year after birth). Psychotherapy was claimed most often, while hospital admissions occurred the least. Further, the youngest (≤ 20 years) and the oldest (≥ 41 years) women claimed benefits more frequently than at other ages. After adjustment for the shorter pregnancy period, benefit uptake was generally highest during pregnancy and lowest after giving birth.
Discussions: Considering the shortage of specialised perinatal mental health services in Austria, the uptake of the five analysed types of services was high and corresponds to international prevalence figures on PMI. The actual number may be even higher, considering the services and the women not covered in the available data.
Implications: As there is a lack of a perinatal mental health infrastructure and specialised healthcare staff in Austria, this warrants further investigations into the quality of care provided to the women and more training and education concerning mental problems occurring during the perinatal period.

Source of Funding: Part of the FWF-funded Connecting Minds research project 'Co-designing perinatal mental health support in Tyrol' which is hosted by the Medical University Innsbruck.

Mental Health Screening of Adults in Primary Care

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Abstract

Background: In Austria, about one in five adults experience mental illness annually, most frequently depression (10%), anxiety disorders (7%), and substance abuse disorders (12%). Those with lower socioeconomic status and with physical illnesses are particularly affected. Screening aims to identify undiagnosed conditions or at-risk individuals and must be understood as a complete system, not just a single test. Due to the high comorbidity of physical and psychological illnesses, screening in primary care might help with identification and timely care of those in need.
Aims of the Study: Systematic review of the evidence for screening for the three most common mental illnesses in primary care, to determine whether screening is effective.
Methods: We conducted a systematic search in five databases and included systematic reviews, HTA reports, and evidence-based guidelines. Additionally, we performed manual searches in G-I-N and TRIP databases and guideline organisation websites. The methodology included blinded literature selection, data extraction with double-checking, and quality assessment using ROBIS for systematic reviews and AGREE-II for guidelines. Evidence was extracted into tables and summarised narratively.
Results: Nine systematic reviews (SRs) and 28 guidelines were included. Five SRs on depression screening showed mixed results and insufficient evidence for general screening, though 18 of 19 guidelines recommended depression screening either for the general population or specific conditions. Two SRs for anxiety disorders found insufficient evidence for screening. Of 13 guidelines on anxiety screening, two recommended screening for the general

population, one for those with risk factors, and ten for specific conditions. For substance abuse, two SRs found no studies on screening effectiveness. Eight guidelines recommended screening for alcohol abuse, three guidelines advocated for tobacco abuse screening in the general population, and two guidelines recommended drug abuse screening (one for the general population and one for socially disadvantaged individuals), while according to one guideline, there is currently no suitable tool for prescription drug abuse screening.
Discussions: SRs on depression screening reached contradictory conclusions, with the US Preventive Services Task Force (USPSTF) finding sufficient evidence for effectiveness, while other reviews viewed evidence as insufficient. The reason might be different inclusion criteria for primary studies in the reviews. For example, contrary to the USPSTF-Review, another review only included studies if randomisation occurred before screening, previously diagnosed patients were excluded, and equal treatment options for screened and unscreened patients were available. Further, some SRs included test accuracy and effectiveness of treatment studies, analysing just individual parts of the screening process. Despite limited evidence of effectiveness, most guidelines recommended screening for depression and anxiety disorders, particularly for risk groups, while substance abuse guidelines advocated for population-wide screening.
Implications Despite available screening tools and effective treatment options, direct evidence that screening for mental illnesses brings more benefits than harm is lacking. Further, most guideline recommendations refer to risk populations. A possible introduction of a screening programme should be carefully weighed against other alternatives for the timely treatment of mental illness (e.g. sufficient publicly funded treatment options, de-stigmatisation).

Source of Funding: None declared.

Effect of the SUPPORT Act on Medication-Assisted Treatment (MAT) Utilization among Medicaid Patients with Co-Occurring Mental Health and Substance Use Disorders

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Abstract

Background: Substance use disorders (SUD) are often associated with co-occurring mental health disorders, contributing to high mortality rates. In 2018, the US government enacted the SUPPORT Act in order to expand access to substance use disorder (SUD) treatment, particularly medication-assisted treatment (MAT), by expanding providers' ability to prescribe, raising the cap on the number of patients a qualified practitioner can treat with buprenorphine, and mandating Medicaid to cover all FDA-approved medications for opioid use disorder. However, it remains unclear whether the Act improved MAT access for patients with co-occurring mental health and SUD, as it did little to address barriers such as lack of integrated care and/or stigma.
Aims of the Study: This study examines the effect of the SUPPORT Act on MAT utilization among Medicaid patients with co-occurring mental health and SUD, and whether that differed from the effect for other patients.
Methods: We analyzed the Treatment Episode Data Set-Admissions (TEDS-A) from 2016 to 2021. This dataset, collected annually by the Substance Abuse and Mental Health Services Administration (SAMHSA), monitors treatment episode characteristics for SUD admissions at specialty facilities receiving public funding. Our sample is restricted to Medicaid SUD patients from five states—Connecticut, Delaware, Illinois, Nevada, and West Virginia—that received both planning and post-planning grants through the SUPPORT Act starting in 2019. The primary outcome variable was receipt of any MAT, and key independent variables were the time of the Act's implementation and the presence of co-occurring mental health conditions.
Results: The effect of the SUPPORT Act on MAT utilization significantly differed between patients with and without co-occurring mental health disorders. The association of implementation of the SUPPORT Act with receipt of MAT was weaker for those with co-occurring conditions than those without co-occurring conditions (Adjusted odds ratio (aOR): 0.64, $p < 0.001$). However, the Act alone was associated with a significant increase in MAT utilization (aOR: 1.78, $p < 0.001$), and the presence of co-occurring conditions was also linked to higher MAT use (aOR: 1.46, $p < 0.001$).
Discussion: While the SUPPORT Act improved overall MAT access for Medicaid SUD patients, its benefits were not equally distributed. The association of implementation of the SUPPORT Act with receipt of MAT was weaker for patients with co-occurring conditions, potentially due to barriers such as a lack of integrated mental health and SUD services and persistent stigma. The shortage of providers trained to treat both mental health and substance use issues simultaneously might reduce MAT access for these patients.
Implications for Health Care Provision: Integrated care approaches that address both SUD and mental health needs are crucial. Expanding provider training and increasing funding for integrated care programs can help for those with co-occurring conditions.
Implications for Health Policy: Health policies should target patients with co-occurring conditions by enhancing provider training and promoting integrated care models.
Implications for Further Research: Future studies should investigate specific barriers to MAT access for patients with co-occurring conditions, including stigma and the fragmentation of mental health and SUD care.

Source of Funding: None Declared (Dr. Kim); Support from the Brandeis-Harvard SPIRE Center: SUD Systems Performance Improvement Research and Engagement (NIDA P30 DA035772) (Dr. Hodgkin).

Healthcare Costs Associated with Gender Dysphoria in Germany: A Prevalence-Based Analysis Using Statutory Health Insurance Data

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Abstract

Background: There has been an increase in individuals presenting to healthcare services with gender dysphoria (GD), the psychological distress that may arise when an individual's birth-assigned sex does not align with his/her experienced gender. The current study aimed to analyze resource use and costs associated with prevalent GD in individuals aged 4 to 30 years.
Methods: The analysis was a prevalence-based cost study using data of the two largest German health insurance companies (BARM-

ER and TK) from 2018, 2019, and 2020. Individuals with prevalent GD were identified based on ICD-10 diagnosis codes related to gender dysphoria. These were compared to a control group balanced for (i) age, birth-assigned sex, type of county, and (ii) additionally for psychiatric diagnoses using entropy balancing. Outcomes of interest were total and sector-specific annual costs (outpatient, inpatient, medications) and health-related resource use (hospital days, defined daily doses of medications). Groups were compared stratified by age groups, birth-assigned sex, and for a subgroup of individuals with GD receiving hormone therapy.

Results: Individuals with prevalent GD aged 4-30 years had higher average resource use and costs compared to controls, with little variation between years (e.g. difference in 2019 +€4,843 [95% confidence interval €4,306; €5,380], balanced for age, birth-assigned sex, type of county). The group difference was observed across age groups and cost sectors, with the largest differences found in somatic and psychiatric inpatient hospitalizations, and with psychiatric costs accounting for 50% of the total cost difference. Comparing individuals with GD receiving hormone therapy with controls, the difference in total costs was similar, but the contribution of psychiatric costs was less pronounced (29%). The cost difference decreased considerably in all subgroups and sectors when additionally balancing groups for psychiatric diagnoses.

Conclusions: Individuals with GD aged 4-30 years had higher annual resource use and costs than controls. Future studies analyzing resource use and costs over multiple years and examining the temporal-causal relationship between GD and psychiatric disorders would allow a more accurate estimate of the costs directly attributable to GD.

Source of Funding: Federal Joint Committee (Gemeinsamer Bundesausschuss; G-BA, Project TRANSKIDS-CARE, Grant No. 01VSF20033).

Trends in the Economic Burden of Mental Disorders Over Time: Results from the Netherlands Mental Health Survey and Incidence Study-2 and Study-3

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Abstract

Objective: This study aims to provide updated cost estimates of the economic burden associated with mental disorders and examine time trends by comparing Netherlands Mental Health Survey and Incidence Study-2 (NEMESIS-2) and NEMESIS-3 in both the general population and in the workforce of the Netherlands.

Method: Data from the NEMESIS-3(N= 6,194) was used to provide up-to-date cost estimates concerning healthcare costs, productivity losses, and patient and family costs associated with DSM-5 mental disorders (in 2022 Euro). Additionally, trends between the NEMESIS-2 (DSM-IV) and NEMESIS-3 (DSM-5) studies were investigated.

Results: Mood disorders incurred the highest total costs, mainly due to productivity losses. Across the main categories of disorders, productivity costs formed the largest proportion of total costs, though this pattern varied for individual disorders. Healthcare costs were substantially lower for mood and drug use disorders in NEMESIS-3 compared to NEMESIS-2. This was mainly explained by a large reduction in daycare or overnight stay at a mental health facility. For all disorders, there appears to be a slight increase in the use of primary care in the later cohort, likely as a result of the introduction of the mental health nurse practitioner. In all conditions but alcohol use disorder, productivity costs and total annual costs were lower in the NEMESIS-3 cohort (note: assuming the same unit cost prices for both cohorts).

Discussion: Results indicate that mood disorders incur the highest economic costs in the Netherlands. When comparing mental service use in the Netherlands between 2009 and 2022, it can be concluded that the mean costs per capita have decreased over time indicating that we are capable of treating people more efficiently in current times.

Source of Funding: None declared.

Balancing Health and Mental Health in a Pandemic : A Discrete Choice Experiment in 8 EU Countries

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Abstract

Background: Policy decisions, often made hastily and prioritising short-term considerations with a focus on physical health, raise questions about the alignment of policymakers' choices with the preferences of the general population. This study addresses this uncertainty through a discrete choice experiment (DCE), examining the preferences of both the population and stakeholders regarding four well-being attributes (physical health, mental health, employment and liberty) during a pandemic. The aim is to uncover the core values guiding mitigation policies.

Method: The DCE method, rooted in random utility theory, modelled individuals' choice behaviour. An online survey gathered responses from 1,600 individuals, representative of the general population and 250 health stakeholders across eight European countries (Belgium, France, Germany, Italy, The Netherlands, Spain, Sweden, United Kingdom). Respondents assessed two fictitious countries (A and B) in six blocks, each representing pandemic mitigation policy consequences differing on four attributes: hospital admissions (low, medium, high), psychological distress, job loss, movement restrictions.

Results: Results indicated that most respondents engaged in trade-offs between attributes, with psychological distress exerting the greatest influence and mobility restrictions the least. Stakeholders prioritized psychological distress more than the general population (Chi2=15,7, p<0.01), while the opposite was true for mobility restrictions mobility (Chi2=22,5, p<0.01). Respondents with higher stigmatisation of mental health issues were less sensitive to psychological distress.

Conclusion: In conclusion, this study reveals divergent preferences between stakeholders and the general population regarding mental health and civil liberties restrictions, providing insights into essential considerations for shaping effective mitigation policies.

Source of Funding: None declared.

The Effect of Medical Cannabis Laws on Use of Pain Medications among Commercially Insured Patients in the United States

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Abstract

Background: To date, 35 states and the District of Columbia have adopted medical cannabis laws (MCLs). Chronic pain is a major trigger for opioid prescribing in the United States, and chronic pain is the most common condition qualifying for medical cannabis access.
Aims of the Study: In this article, we assess nationwide changes in opioid analgesic and non-opioid pain medications dispensed in response to two state medical cannabis access policies (medical cannabis legalization and medical cannabis dispensary openings). This paper extends the current literature, by focusing not only on finding plausibly causal effects, but also further exploring how these changes have emerged by different subpopulations along dimensions such as age, race and gender.
Methods: We estimate a series of state-specific synthetic control case-studies using comprehensive claims data of commercially insured individuals in the United States, capturing approximately 15 to 20 million patients per year (2007-2020). This methodology allows us to construct a stable counterfactual in the pre-policy period for each case and to accommodate heterogeneity across treated units and their treatment timing. For each of the three classes of pain medication we examine (opioids, NSAIDS, and non-opioid pain medications), we construct three outcome measures: the number of patients with prescriptions filled per 10,000 enrollees in each state and each quarter (rate of patients with prescriptions dispensed), the average number of days (average daily supply per prescription) per patient across all prescriptions, and the average number of prescriptions per patient in a given quarter in each state (average number of prescriptions per patient).
Results: In all except one of the 22 examined states, we find reductions in the rate of patients receiving any dispensed prescriptions of opioids (extensive margin) following the legalization of MCLs, several of which were statistically significant at conventional levels. The rate of patients with opioids prescriptions following MCL legalization decreases between 12.6% to 16.6% on average, relative to the pre-policy baseline (decreases range from 12% to 30% across statistically significant individual state-cases). We also find a significant reduction in the intensive margin, measured as both the average daily supply of dispensed prescriptions and as the average number of dispensed prescriptions per patient. For other non-opioid pain medications, we find some evidence of complementarity between cannabis and non-steroidal anti-inflammatory agents (NSAIDs), as the rates of patients prescribed NSAIDs and the average number of NSAID prescriptions per patient dispensed increases (albeit with lower daily supply per prescription) in response to state cannabis legalization.
Implications: Our study highlights the large positive spillovers of MCLs on prescription opioid utilization among commercially insured Americans across U.S. states. Findings suggest that cannabis may offer an alternative for pain management with opioid analgesics. Thus, policymakers should consider MCLs as an alternative tool for pain management, specifically when other policies that constrain supply of opioids might push some Americans to more harmful substances.

Source of Funding: None declared.

Changes in the Utilization of Mental Health Medications among the Medicaid Population Following the Introduction of Medical and Recreational Cannabis

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Abstract

A large body of research has examined the effects of medical and recreational cannabis legalization on the utilization of medications for the treatment of pain in the United States. This body of work consistently finds decreases in the utilization of pain medications following cannabis legalization among insured populations in the United States, including Medicaid, Medicare and commercially insured. However, less is known about the potential for cannabis legalization to impact the utilization of medications used to treat mental health conditions in the United States, such as depression and anxiety. Mental health conditions are common in the
United States, impacting about half of Americans at some point in their lives, and cannabis has emerged as a potential treatment option for some mental health conditions. Using Medicaid claims data (2008-2022), this study will examine the extent to which the Medicaid population experiences changes in utilization of medications used to treat mental health conditions (i.e., benzodiazepines, antidepressants, antipsychotics, barbiturates, and sleep medications). We extend our prior research by focusing on the Medicaid population and examining the effects of cannabis legalization across beneficiary characteristics, including sex, age and race/ethnicity.

Source of Funding: None declared.

Access to Treatment for Individuals with Co-Occurring Mental Illness and Substance Use Disorder in the United States: Impact of Medicaid Institutions for Mental Diseases Waivers

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Abstract

Background: Approximately 21.5 million adults in the United States have a co-occurring mental illness and substance use disorder (COD). CODs lead to lower treatment engagement and higher rates of morbidity and mortality compared to a single diagnosis. The Medicaid Institutions for Mental Diseases (IMD) Exclusion limits Medicaid reimbursement for residential behavioral health treatment services. However, some states are now using Medicaid waivers to overcome this barrier to accessing services.
Aims of the Study: Examine the impact of Medicaid waivers on access to inpatient treatment facilities for adults with CODs.
Methods: Using a difference-in-differences approach, this research analyzes changes in wait times for treatment for individuals with CODs before and after Medicaid waivers were implemented in selected states. I am using SAMHSA's nationally representative Treatment Episode Data Set - Admissions (TEDS-A) for years 2014-

2021, which include 1,761,410 admissions on average per year and variables for wait times, COD diagnosis, and state. I include states that did and did not adopt the waiver between 2016-2018.

Results: Preliminary results found significant differences (Pearsons's chi-squared p-value <0.05) in days waiting to enter treatment, COD admissions, and health insurance status between states that did and did not adopt the waiver. Results of the difference-in- differences analysis will be presented at the conference.

Discussion: This research will elucidate the current and potential impact of waivers on access to services for individuals with CODs. The TEDS-A data are nationally representative, but only for noninstitutionalized Americans. The survey is voluntary, and TEDS-A is a compilation of facility data from state administrative systems and does not include all facilities. Further, the difference-in-differences estimator may not account for all time-varying factors that changed at the same time the IMD exclusion waiver was put in place.

Implications for Health Care Provision and Use: With the implementation of recent policies intended to expand access to behavioral health care, it is important to consider how state policies impact timely access to services. Studies assessing whether existing inpatient behavioral health treatment facilities are equipped to continue to accept more patients and how this may impact wait times are crucial in understanding if policies are effective.

Implications for Health Policies: A greater understanding of barriers and facilitators to accessing behavioral health treatment requires an understanding of current federal, state, and facility-level policies and regulations. Medicaid waivers were introduced to allow for state-level innovation, allowing success in one state to become a model for implementation in others.

Implications for Further Research: With the recent focus of Medicaid waivers on innovations surrounding behavioral health treatment, there is an exciting opportunity for research regarding the impact of state regulations on access to treatment.

Source of Funding: None declared.

Economic Analysis of Improving Experiences for People Detained under the Mental Health Act in the UK: Findings from the CO-PACT Study

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Abstract

Background: In the UK and other countries, admission to hospital for people with serious mental illness is often compulsory. In the UK, the Mental Health Act (MHA) allows for such detentions. Experience of people detained under the MHA are often negative and ways of improving this situation are required. As with any new intervention, it is important to address their economic consequences and value for money.

Aims of this Research: We aimed to (i) map care pathways for people who have experienced detention under the MHA and (ii) assess the potential cost-effectiveness of interventions identified by those with lived experience of using mental health services.

Methods: The primary source of information for identifying key events with economic implications that occur prior to and following admission under the MHA were 'roadmaps' provided by study participants. These roadmaps helped to understanding precursors to, and reasons for, detention under the MHA and a nuanced picture emerged, revealing a complex interplay of factors. We were particularly interested in those factors which were likely to have key cost implications. We developed decision models to assess the potential economic of two interventions to improve experiences of those detained under the MHA: independent advocacy and discharge planning. In the advocacy model it was assumed that the patient received support from an advocate or not. This was followed by an improvement or not in service satisfaction and then by a readmission or not. In the discharge model Inpatients are assumed to either receive a formal discharge plan or not to receive it. As with the advocacy model, the main impact with substantial economic consequences is readmission or not.

Results: Key events prior to detention were childhood trauma, family crises, education or work issues, alcohol and substance abuse, sexual abuse, stays in foster care, serious mental or physical health problems in childhood/adolescence, prior hospitalisations, contact with the criminal justice system including stays in prison. Understandably most participants would have experience only some of these and indeed some were admitted under the MHA with few or none of these occurring. Increasing the level of independent advocacy and discharge planning was shown to substantially decrease healthcare costs due to reduced time spent in hospital.

Discussion: It is apparent that much of what occurs prior to admission under the MHA has substantial economic consequences. Intervening early may improve well-being and quality of life in this preceding period as well as potentially reducing the likelihood of admission.

Implications: The results from this study will help to further develop approaches to improving the experience of people detained as psychiatric inpatients in the UK and elsewhere.

Source of Funding: National Institute for Health Research.

Economic Evaluation of Digitally Supported Therapy for People with Psychosis Who Hear Distressing Voices: The AVATAR 2 Trial

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Abstract

Background: Schizophrenia affects approximately 0.28% of the population, leading to significant impairments in quality of life and high disability levels. This condition incurs substantial economic costs related to healthcare services and lost productivity. A prominent symptom of schizophrenia is auditory hallucinations, commonly referred to as "voices," which affect nearly 70% of those diagnosed and can cause significant distress. While traditional therapies are beneficial for some patients, many do not respond adequately.

Aims of the Study: This study aimed to evaluate the cost-utility of two forms of AVATAR therapy—brief (AV-BRF) and extended (AV-EXT) —against treatment as usual (TAU) for individuals experiencing distressing voices. Secondary objectives included assessing the cost-effectiveness of both therapy formats based on reduced voice severity and analysing cost consequences regarding primary and secondary outcomes.

Methods: This three-arm, parallel-group, randomized controlled trial involved participants from four UK research sites. Eligible participants (n=345) with schizophrenia spectrum disorders were randomized into three groups: AV-EXT + TAU, AV-BRF + TAU, and TAU alone. Interventions included a series of therapeutic sessions

involving avatar creation and active dialogues. The primary clinical outcome was measured using the distress dimension of the Psychotic Symptoms Rating Scale (PSYRATS-AH). Cost-utility was assessed using Quality-Adjusted Life Years (QALYs) derived from EQ-5D-5L scores. Costs were calculated from a healthcare perspective using the Client Service Receipt Inventory (CSRI) and relevant national cost data.
Results: Both AVATAR therapy groups demonstrated significant reductions in voice-related distress at the 16-week follow-up compared to TAU, with AV-EXT showing superior outcomes. Cost analysis indicated that AV-BRF had higher costs than TAU, while AV-EXT showed cost savings. The incremental cost-effectiveness ratios (ICERs) were £44,121 per QALY for AV-BRF and £6477 per QALY for AV-EXT.
Discussion (with limitations): While AV-EXT emerged as the most cost-effective option, the analysis focused on average sample data and did not account for individual implementation challenges of psychological therapies. The necessity for therapist time remains a consideration for real-world application, highlighting the opportunity costs involved in utilizing therapist resources for AVATAR therapy.
Implications for Health Care Provision and Use: The findings show benefits to patients but to achieve this extra investment is required in the technology.
Implications for Health Policies: The results provide evidence supporting the inclusion of AVATAR therapy in treatment guidelines for schizophrenia spectrum disorders, particularly given its favourable cost-effectiveness profile.
Implications for Further Research: Future studies should explore the long-term effects of AVATAR therapy on patient outcomes and the feasibility of implementation in diverse healthcare settings to better inform policy decisions.

Source of Funding: This research was funded by a Wellcome Trust grant no. 215471/Z/19/Z.

Health Consequences of Strategic Delay in the Pharmaceutical Industry: The Effect of the Suboxone Product Hop on Opioid Overdose

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Abstract

A product hop is an anti-competitive practice in which a brand pharmaceutical manufacturer acts to switch patients from an existing product (i.e., an originator) to a newer and slightly modified version (i.e., a line extension) that has additional patent life just before a generic enters for the originator. As a result, generic manufacturers of the originator product struggle to penetrate the market upon entry, allowing the brand manufacturer to maintain its high market share and monopoly pricing on the new line extension. A product hop can harm patients financially by reducing the likelihood they are prescribed a generic for the originator product and reducing the incentive for additional generic entry and more aggressive price competition. Still, little is known about how product hops might affect patient health. Our study estimates the effect of the 2012 Suboxone product hop on opioid overdoses among Medicare beneficiaries between 2010-2017 using a counterfactual analysis. Specifically, after obtaining empirical demand estimates, we predict demand in the counterfactual absence of the product hop. We then link counterfactual demand to a survival model to get an estimate for the counterfactual opioid overdose rate. The results from this model suggest that had the product hop never occurred, there would have been roughly 10% fewer opioid overdoses between 2010-2017 due to increased treatment use in the counterfactual largely stemming from lower patient out-of-pocket costs. In response, we call for greater scrutiny of product hopping by antitrust regulators, changes in orange book listing processes for line-extended products, and consideration of clinical harm in financial damages calculations during antitrust litigation.

Source of Funding: None declared.

Health-Economic Model for Cost-Effectiveness of Preventive Interventions in Children of Mentally Ill Parents

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Abstract

Background: Children of parents with a mental illness (COPMI) are at a heightened risk of developing mental health issues, leading to long-term societal and health-related costs. Preventive interventions targeting this vulnerable population exist, but there is limited evidence on their cost-effectiveness, especially concerning long-term outcomes.
Aims of the Study: This study aimed to evaluate the cost-effectiveness of preventive interventions for COPMI in the Netherlands, focusing on a group-based cognitive behavioural therapy (CBT) intervention.
Methods: A decision-analytic model was constructed to simulate the progression of COPMI over time. The model used data from the *Avon Longitudinal Study of Parents and Children*, with health states defined as healthy, depression/anxiety, comorbidity, remission, and death. The time horizon of the analysis spanned 28 years, from ages 7 to 35, and considers both a healthcare and a societal perspective. Outcomes are expressed in terms of total costs, quality-adjusted life years (QALYs), and incremental cost-effectiveness ratios (ICERs).
Results: The group-based CBT intervention provided an additional 0.02 QALYs at an increased cost of €188 per patient, resulting in an ICER of €9,430 per QALY gained. The intervention had a 72% probability of being cost-effective at a willingness-to-pay threshold of €20,000 per QALY gained. Value of information analysis indicated that further research on intervention costs and relative risk reductions may be valuable.
Discussion and Limitations: The developed model offers a flexible tool for evaluating preventive interventions for COPMI. However, key limitations include reliance on data from a single longitudinal study and assumptions regarding long-term transition probabilities,

which may not fully reflect the diversity of individual trajectories in this population.

Implications for Health Care Provision and Use: Group-based CBT appears to be a promising, cost-effective strategy for preventing mental health issues in children of parents with mental illness. Healthcare providers could consider the adoption of such preventive programmes to mitigate the long-term burden of mental illness.

Implications for Health Policies: The findings support the implementation of group-based CBT as a cost-effective preventive intervention for COPMI. Policymakers could leverage these results to promote funding for early intervention programmes to address the mental health needs of this vulnerable group.

Implications for Further Research: Further research should focus on refining estimates of intervention costs and effectiveness, particularly through randomised controlled trials, to strengthen the evidence base for COPMI preventive strategies.

Source of Funding: None declared.

Medicare Advantage Disenrollment Decisions Following New Depression Diagnoses

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Abstract

Background: Over half of Medicare beneficiaries in the United States are now enrolled in the privately administered Medicare Advantage (MA) program. Prior descriptive studies have found evidence that MA plans may have particularly restrictive mental health coverage, including narrow provider networks for mental health specialists. Yet, there is limited evidence evaluating the extent to which MA meets the needs of beneficiaries with mental health needs.

Aims of the Study: The aims of this study are to evaluate 1) whether individuals enrolled in MA who develop new diagnoses for depression are more likely to disenroll from their plans and 2) whether disenrollment varies by state supplemental Medicare insurance community rating policies or psychiatrist provider network breadth.

Methods: Using 2016-2019 Medicare administrative claims and enrollment data, we identified a cohort of people enrolled in an MA plan for two consecutive years (2016-2017) without a diagnosis for depression. We then compared enrollment decisions between a treatment group of enrollees (N=150,934) who developed a new depression diagnosis in year 3 (2018) to a comparison group of people who continued to not have a depression diagnosis in year 3 (N=2,319,309). We compared rates of plan disenrollment between the two groups, assessing overall disenrollment and disenrollment to other MA plans or traditional Medicare (TM) fee-for-service. We then compared differences in disenrollment rates between the treatment and comparison groups (i) across states with vs. without community rating policies for Medicare TM supplemental insurance and (ii) in people enrolled in plans with above vs. below the median percentage of local psychiatrists in their plan network.

Results: Among people who developed a new depression diagnosis, 22.0% disenrolled from their MA plan, compared to 18.1% of the comparison group. Among individuals with new depression diagnoses that switched, 81.7% switched to another MA plan as opposed to Medicare TM. In states with community-rated TM supplemental insurance, 29.2% of individuals with new depression diagnoses disenrolled from their MA plans. The increased disenrollment was driven mostly by a 68.5% increase in the rate at which individuals switched to Medicare TM. Compared to the comparison group, there was a 11% greater increase in MA disenrollment to TM in community-rated supplemental insurance states in people with a new depression diagnosis. We found no evidence that that psychiatrist network breadth was associated with differences in disenrollment patterns.

Discussion: People with a new depression diagnosis were more likely to disenroll from their MA plans than people without a depression diagnosis. Community rating policies in Medicare supplemental insurance is associated with higher rates of people with new depression diagnoses switching to Medicare TM.

Implications for Health Policies: People who develop new mental health needs may find that their MA plans no longer suit their needs. Community rating policies in the Medicare TM supplemental insurance market may make it easier for people who develop new mental health conditions to find alternative coverage.

Implications for Further Research: Future research should further explore the MA plan characteristics linked to greater rates of disenrollment following a new mental health condition.

Source of Funding: None declared.

Psychotherapy after Mental Health Hospitalization

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Abstract

Background: In Germany, psychiatric hospitals provide emergency care during episodes of severe mental illness. After the patients stabilize, outpatient providers, such as psychotherapists, are tasked with follow-up treatment. Yet, take-up rates of psychotherapy after mental health related hospitalization are low, which may be driven by an undersupply of psychotherapy.

Aim: We study the effectiveness of psychotherapy after mental health hospitalization. In particular, we investigate the role of improving access to psychotherapy in patients' recovery from episodes of mental illness.

Methods: We analyze the health insurance records of more than 70000 individuals in Germany who suffered a mental illness-induced hospitalization in 2017. We first compare the mental health care uptake of individuals who underwent therapy in the year after hospital discharge with a matched comparison group of individuals without therapy after their discharge. We further investigate the health effects of a higher supply of psychotherapy. For that, we exploit the fact that cognitive behavioral therapy takes fewer hours to complete than other forms of psychotherapy. Thus, holding constant the total number of therapists, regions with higher shares of cognitive behavioral therapists can treat more patients.

Results: Undergoing psychotherapy in the year after discharge from a mental health-related hospitalization is associated with lower propensity of rehospitalization and lower mental healthcare costs. We then document that a regionally higher supply of psychotherapy increases the uptake of therapy and shortens waiting times until the first contact with a therapist. However, we find that the increased availability of psychotherapy has no measurable health benefits for patients recovering from their mental illness. Analogously, additional psychotherapy does not lower the health care costs of further hospitalizations with a mental health diagnosis.

Limitations: The effects of psychotherapy supply are local and do not apply to patients whose decision to undergo therapy is insensitive to an undersupply of providers. These patients may greatly benefit from their therapy. Moreover, the identification of the effects relies on regional comparisons which do not allow to fully address unobserved spatial heterogeneity.

Implications for HC Provision and Use: Psychotherapy in general is not an efficient treatment for all patients recovering from mental illness. Suggestively, patients benefiting from psychotherapy the most self-select into therapy regardless of is supply.

Implications for Health policy: Additional resources allocated to psychotherapy supply may not be efficient in improving recovery from episodes of severe mental illness.

Implications for HC Research: Undersupply of therapy plays a subsidiary role in high rates of relapse after episodes bad mental health. Alternative treatments should be investigated.

Source of Funding: None declared.

The Burden of Presence, Persistence, and Disturbance of the "Passively Received Experiences" of Schizophrenia in Digital Health

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Abstract

Background: Schizophrenia affects approximately 1% of the population worldwide and is among the fifteen leading causes of non-fatal disability. 5%-6% of individuals with schizophrenia die by suicide and about 20% attempt suicide. The socioeconomic burden of schizophrenia has been estimated at about $340 billion (2019) in the United States. The burden of schizophrenia is not limited to its evaluation in the socioeconomic sphere. The burden of the personally disturbing psychopathology in schizophrenia, directly noticed only by the patient, is currently not defined, measured or addressed by research, treatment guidelines, regulation procedures, and clinical care. Patients, mental health professionals, health technology providers, payers of mental health services, and other stakeholders do not have access to *any* information about the specific effectiveness of *any* treatment on the measured personally disturbing, elementary experiences of schizophrenia. That includes information on *any* FDA-approved antipsychotic medication since the introduction of chlorpromazine in the early 1950s. Psychiatry must actively tackle this structural, systematic, persistent, discriminatory omission in the best interest of people with schizophrenia. The process includes: (i) reformulation of the incomplete and potentially misleading construct of "*symptom burden*" (e.g., Accelerating Medicines Partnership®), (ii) development of reliable and efficient measurement, and (iii) use of digital technology to easily transfer granular information on this specific dimension of the illness, crucially significant from the patient's perspective, for research and usual care purposes.

Method: The operational definition of *Passively Received Experiences* in schizophrenia constitutes a necessary *precondition* to the precise conceptualization and evaluation of this specific psychopathology dimension in the various domains of schizophrenia. The PRE scale, self-assessed by the patient, is aimed to measure presence, persistence, and personal disturbance of the elementary *passively received experiences* of schizophrenia directly noticed only by the patient. The PRE scale can be digitally self-administered using a web-based application (www.preinstitute.org). The PRE, self-assessed by the patient, and either administered by interview or digitally self-administered, has been evaluated internationally in people with schizophrenia.

Results: The PRE-121 demonstrated good test-retest reliability, internal consistency, and correlations with PANSS, social functioning, and suicidality in individuals with DSM-5 schizophrenia receiving treatment in nonacute psychiatric services. Patients overwhelmingly reported that their doctor should know about and that treatment should help them (91.7%) with their disturbing *PRE experiences*. Shorter forms of the PRE scale (e.g., PRE-43 and PRE-30) were highly correlated with the PRE-121, and constitute viable options for research and usual care. The digital self-administered version of the PRE was comparable to the interviewer-administered version. All individuals who were offered and accepted the PRE digital self-administration completed the PRE questionnaire.

Conclusion: The reformulation of the construct of "symptom burden" in schizophrenia enables the definition and evaluation of **t**he personally disturbing *Passively Received Experiences*, directly noticed, assessed, and reported by people with schizophrenia. This dimension of the illness, crucially significant from the patient's perspective, requires to be finally addressed by research, treatment, regulation.

Implications for Research and Treatment: The PRE scale is intended to enable future research to evaluate the effectiveness of pharmaceutical and non-pharmaceutical treatments on remission/relief of this specific dimension of experienced psychopathology, a dimension of illness currently omitted from evidence-based treatment, regulatory procedures, and clinical guidelines. The *Digital Service Information Aid (PRE-DSIA)* allows the person with schizophrenia in non-acute care to digitally transfer information about personally disturbing PRE experiences to the clinician, for inclusion of their remission/relief in treatment plans.

Source of Funding: None declared.

The Cost-Utility of an Intervention for Employees with Common Mental Disorders in Germany: A Health Economic Evaluation of a Multicentre Randomised Controlled Trial

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Abstract

Background: Preliminary evidence suggests that a low-threshold workplace psychotherapy intervention can reduce depressive symptoms and improve work functioning. The FRIAA trial implemented a workplace psychotherapy intervention with the aim of reducing waiting times in the health care system, improving mental health care, and reducing sickness absence from work. However, health economic analyses of such a novel prevention approach are still scarce.
Aim of the Study: Presentation of the results of a cost-utility analysis for the FRIAA project from the perspective of the German health care system.
Method: A multicentre randomised trial evaluated the use and costs of health and social services for a sample of 545 employees in five regions of Germany. Service use was assessed using the German version of the Client Sociodemographic Service Receipt Inventory (CSSRI). Information on inpatient, outpatient, and medication use was collected. Quality of life was measured using the EQ-5D-3L, and quality of life years (QALYs) were calculated, using the corresponding utility value sets. Differences in costs and QALYs were calculated and an incremental cost-utility ratio (ICUR) was estimated.
Results: While we found a positive but not significant difference in QALYs, the annual societal costs were significantly higher in the intervention group. The ICUR was €161.327,14, located in the upper right quadrant (intervention dominates usual care and has higher costs). The ICUR variance is distributed across all four quadrants of the cost-effectiveness plane, and the probability of acceptance was less than 50% across the willingness-to-pay (WTP) threshold range of 0 to €125.000.
Discussion: There were significant differences in costs between the intervention and control groups, but no significant differences in QALYs. The point estimate is in the upper right quadrant, but did not reach a reasonable acceptance probability. Therefore, no clear conclusion can be drawn about the cost-effectiveness of the FRIAA intervention.
Implications for Further Research: The study results suggest that the FRIAA trial was not cost-effective from a societal perspective. However, it is possible that the study period was too short to observe the expected preventive effects of the intervention, particularly on productivity losses due to sickness absence.

Source of Funding: We thank the German Federal Ministry of Education and Research (grant no. 01GX1902) for funding this study.

The Influence of Childhood and Youth Adversity on Lifetime Health and Economic Outcomes

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Abstract

Background: There is growing evidence of the link between adverse childhood experiences (ACEs) and youth mental health problems. In this research, we present results from work package 5 of ATTUNE project focusing on economic outcomes associated with ACEs in youth and later in their life. The ATTUNE project aims to explore young people's mental health following ACEs using arts-based methods, including co-designing (with youth) and testing the effectiveness of a novel digital intervention for mental health of adolescents.
Aims: The purpose of this research is to assess the effect of home and community level ACEs on health-related quality of life (HRQoL) and employment in adolescence and later in life, respectively. It also synthesises the evidence on cost-effectiveness of digital interventions to support mental health of adolescents. Estimates of cost effectiveness of the ATTUNE intervention will be conducted when data becomes available. Finally, decision analytic modelling will be used to assess longer term effectiveness of the interventions.
Methods: Systematic review, rapid review and quantitative analyses will be used. A systematic review is undergoing to synthesise the evidence of the association between ACEs and employment outcomes. Quantitative data from United Kingdom cohort surveys, including DASH, Oxwell, and Understanding Society, is used for secondary data analysis while a rapid review of literature synthesised evidence on cost-effectiveness of digital interventions for supporting mental health in adolescents. Various regression models are used to assess association between ACEs and HRQoL, health status, and health service utilisation.
Results: Preliminary results from quantitative analysis show that ACEs are important predictors of HRQoL in adolescents with dose-dependent effect. The average effect of ACEs on HRQoL varied depending of the sex of the respondents. The rapid review found a small body of literature that assessed the implementation of various digital (and other) interventions to prevent the occurrence of ACEs or treat the impact thereof. However, the evidence on cost-effectiveness of the digital interventions for youth mental health is sparse. Nonetheless, the available few studies indicated the potential for cost-effectiveness of digital interventions for supporting mental health in adolescents.
Discussion: The findings from this research contribute to understanding the broader impact of ACEs on youth, cost-effectiveness of digital interventions for mental health of the youth, and impact on economic outcomes in adulthood. To date, the literature on the impact of ACEs focused on adversities experienced at home and on adult health outcomes with limited evidence of the impact of ACEs on multidimensional health outcomes in adolescents. Furthermore, this research includes a selection of adversities experienced at community level which are shown to be equally harmful but less investigated in the context of studies assessing the impact of ACEs.
Implications: The results from this research will inform the effect of ACEs on economic outcome at individual level and the broader social care systems through poor health and lost productivity. It also informs the longer-term cost-effectiveness of interventions for prevention of ACEs or treatment of ACEs related mental health challenges in youth.

Source of Funding: UK Research and Innovation [UKRI] award (MR/W002183/1).

Assessing the Economics Burden of Mental Health Disorders Causes by COVID-19 among Household in Benin City, Nigeria.

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Abstract

Background: Mental health caused by COVID-19 constitutes a public health challenge in Nigeria. Several studies have reported that mental health challenges increased during the pandemic. It is pertinent to examine the economic burden associated with the mental health challenges during COVID-19.
Aim of the tudy: The aim of the study is to examine the impact of COVID-19 on the economic burden of mental health challenges. The study estimated the economic burden of mental health challenges before COVID-19 and post COVID-19 using the Cost of Illnesses (COI) approach.
Method: A cross-sectional study was undertaken among secondary school teachers in Benin City, Edo State, Nigeria. A random sample of 250 people was recruited and interviewed using a self-administered questionnaire. In addition, 130 interviews were conducted among patients of COVID-19 who received treatment from the University of Benin Teaching Hospital, Benin City. The study computed the economic burden (direct and indirect) of mental health issues before and during the pandemic.
Results: According to the result, 80.7% of the participants reported one sign of mental health (weakness, lack of passion, anxiety, depression, nervousness, suicidal intention, frustration, isolation) due to the lockdown and fear of economic downturn due to the pandemic. According to the results, the direct costs of mental health treatments (therapy sessions, consultants, and medications) before the pandemic were US$1207 per household per month, while the indirect costs (opportunity costs of income foregone) were US$18,035 per household per month. During the pandemic, the direct costs of mental health treatment rose to US $1890, and the indirect costs rose to US $19,087. The indirect costs of mental health treatment and indirect costs were higher during the pandemic.
Discussion and Limitations: The evidence supports the reports by several studies that COVID-19 increased mental health challenges. This further resulted in an increase in burden as both direct costs of treatments and opportunity costs of labour foregone during the pandemic rose astronomically. The direct costs of treating mental health in the COVID-19 period were over 12% of household monthly income. In the absence of financial risk protection, households in Nigeria face catastrophe associated with out-of-pocket payment for mental health treatment. This can also have impoverishing effects, as several households may deplete resources in an attempt to pay for COVID-19 treatments. The only limitation is that the data is gotten through verbal reporting without validation using an objective source, e.g., a healthcare card.
Implications for Healthcare Provision and Policies: The direct cost of mental health challenges is high and may be in excess of 12% of household income. The high cost of treatment can discourage mental healthcare utilisation and result in suboptimal use of mental care. The Nigerian government should consider subsidising mental healthcare treatments. Also, mental healthcare should be incorporated as an important care coverage by health insurance schemes in Nigeria.
Implication for Further Research: It is recommended that further studies should compare the economic burden of mental health challenges due to COVID-19 and other causes. Further study should estimate the catastrophe associated with mental health treatment due to COVID-19.

Source of Funding: None declared.

Emergency Department Boarding of Youth with Acute Mental Health Concerns: Association Between Inpatient Psychiatric Admission and Subsequent Service Use

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Abstract

Background: In the United States, youth who need inpatient psychiatric care often wait multiple days (known as “boarding”) in emergency departments (EDs) for a bed to become available, and not all children who board ultimately receive inpatient care.
Objectives: We estimated the impact of being admitted for inpatient psychiatric care on subsequent service utilization for youth ages 5 to 17 who boarded in EDs while awaiting inpatient psychiatric admission.
Methods: Retrospective, quasi-experimental analysis of 2016- 2019 Medicaid (public insurance) claims data from the state of Massachusetts in the United States. Among youth who boarded for 2 to 7 midnights in EDs, we assessed the association between receiving inpatient care and follow-up utilization of primary care, outpatient mental health treatment, mental health ED visits, and inpatient psychiatry admissions in the 7, 30 days, and 180 days following discharge. We utilized augmented inverse probability weighting (AIPW) to estimate the association between inpatient admission and subsequent service utilization after accounting for differences in age, sex, geographic region, diagnosis, day of week of ED presentation, calendar month, year, service utilization prior to the ED visit between youth who were admitted and youth who were not.
Results: 2,782 eligible first-episode mental health ED visits with 2 to 7 midnights of boarding were identified, and 1,199 (43.1%) resulted in inpatient psychiatry program admission. Admission rates varied by diagnosis, from 22.9% for youth with adjustment disorders to 59.7% for youth with suicidality or self-injury. After discharge, 15.3% of youth discharged without inpatient care returned within 7 days, compared to 4.0% of admitted youth. After AIPW adjustment, admitted youth were still 11.0 percentage points (pp) less likely to return to the ED within 7 days compared to those who were not (95% CI: -13.2pp, -8.8pp), with similar trends at 30 days but no difference at 180 days. Both before and after adjustment, youth admitted for inpatient care were less likely to receive inpatient psychiatric care in the 7 or 30 days after discharge, with no difference in 180 days. A lower percentage of youth admitted for inpatient care had any PCP or any outpatient mental health visit within 7 days of discharge, with no differences in rates of any outpatient mental health care in the 30 days after discharge, and higher rates at 180 days.
Discussion: These findings suggest that being admitted after boarding with a mental health condition reduces subsequent mental health ED and inpatient care use. Our findings are limited by not being causal, possible confounding by clinical severity and patient/family characteristics, setting of a single state in the United States, and data that predates the COVID-19 pandemic.
Implications for Health Care Provision: Our findings suggest that

inpatient psychiatric care does help to stabilize youth in crisis, so providing access to inpatient psychiatric care should be prioritized.
Implications for Future Research: Future research is needed to assess the causal impact of inpatient treatment on a wide range of patient outcomes; plus to assess heterogeneity between groups and by health care system context**.**

Source of Funding: None declared.

Evaluating a Proposed Psychological Therapy Service for Addiction and Severe Mental Health Problems

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Abstract

Background: This study assesses the cost-effectiveness of providing National Institute for Health and Care Excellence (NICE)-recommended psychological therapies for addiction and severe mental health problems (schizophrenia, bipolar disorder, and personality disorder) over two years. The analysis focuses on the effects of treatment on employment, wellbeing, healthcare utilization, and mortality.
Aims of the Study: To evaluate the benefits and costs associated with the treatment of addiction and severe mental health problems through the use of psychological therapies, considering both direct and indirect effects on individuals and public services.
Methods: The study models four conditions (addiction, personality disorder, schizophrenia, and bipolar disorder) using data from meta-analyses, randomized controlled trials (RCTs), and large-scale panel datasets. It calculates the treatment benefits (reduced symptoms, improved quality of life, and reduced mortality) and public sector costs (therapy costs, salaries, training costs, and overheads) over a two-year period. Benefits are monetized through Wellbeing-years (WELLBYs) and Quality-adjusted life years (QALYs), while public sector savings are derived from reductions in healthcare and criminal justice costs.
Results: For each condition, treatment yields significant benefits in terms of increased wellbeing, reduced mortality, and improved employment outcomes. The net cost savings to the public sector are substantial due to reductions in healthcare usage, welfare dependency, and criminal justice costs. In each case, the savings to public sector are sufficient for treatment to pay for itself within a two-year period.
Discussion and Limitations: The findings make a strong case for the introduction of a standalone treatment service for addiction and severe mental health problems in the UK, in the style of the current Talking Therapies service for common mental disorders. While the model shows that treatment for severe mental health issues yields substantial benefits, the simplifying assumption of a one-off treatment period could limit generalisability.
Implications for Health Care Provision and Use: The study highlights the economic and health-related benefits of investing in psychological therapy services for addiction and severe mental health conditions. It further shows the capacity for reduced healthcare usage in all domains following psychological therapy.
Implications for Health Policies: Health policy should prioritise funding for NICE-recommended psychological therapies, given the potential for cost savings and improved quality of life. This should be organised within a new standalone service, as has been shown to be highly effective in the UK with the Talking Therapy programme. The evidence shows that this service would start to pay for itself within two-years.
Implications for Further Research: Future research should explore the long-term effects of treatment beyond a two-year timeframe, explicitly modelling cases requiring continuous or repeated therapy. The one-off costs involved in creating such a service should also be modelled based on available evidence. Additionally, further investigation is needed into the cost-effectiveness of treating individuals with comorbid mental health conditions.

Source of Funding: None declared.

The Health Service Utilisation and Costs of Perinatal Anxiety: A Cost of Illness Analysis

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Abstract

Background: Perinatal mental health (PMH) problems affect one in five women and cost the UK £8.1 billion for every year of births. Only 30-50% of women with PMH problems are identified, and 7% are referred to specialist care.
Aims of the Study: The MAP ALLIANCE study aimed to determine the costs of health service use for women with and without perinatal anxiety from a health service perspective at six and twelve months postpartum.
Methods: Cost of illness (COI) analysis was conducted using a bottom-up approach in which the cost of services was based on the resource consumption of individual participants. Self-reported health service resource use was measured using items from an adapted Client Service Receipt Inventory (CSRI) questionnaire at six months and twelve months postpartum. The COI analysis identified the different components of costs and the size of the contribution of each health resource and quantified the direct costs incurred by the National Health Service due to perinatal anxiety. The mean cost of healthcare was compared between women with and without perinatal anxiety at both timepoints.
Results: Overall, 794 women completed the MAP ALLIANCE study. Overall, women with perinatal anxiety use services more frequently and have higher total healthcare costs than women without anxiety. At six months postpartum, the mean total healthcare cost per woman with perinatal anxiety was £1174 (95% CI: 1080.67, 1263.05) compared with £1046 (95% CI: 975.16, 1123.83) for women without perinatal anxiety. At twelve months postpartum, the mean total healthcare cost per woman with perinatal anxiety was £414 (95% CI: 347.76, 488.87) compared with £267 (95% CI: 226.06, 314.81) for women without perinatal anxiety. There was no significant difference in the change in costs at twelve months between the two groups (-£14; 95% CI: -161.88, 135.65, p = 0.808).
Discussion and Limitations: The COI bottom-up approach provided a comprehensive snapshot of the health resources use and cost of perinatal anxiety within a UK health service perspective. The subgroup analysis of this study should be interpreted with caution partly due to 46% missing data regarding parity. Additionally, there was a high percentage of participants of white ethnicity and low percentage of those from a minority ethnic background, as per the general population of the UK, there is only a marginal difference in total mean costs within this subgroup analysis.
Implications for Health Policies: The findings from this study have implications for health policy in which implementation of better care

for pregnant women who are unemployed and/or have previously experienced psychological and mental health problems could effectively reduce the health service cost burden for perinatal anxiety.

Implications for Further Research: Women from ethnic minority groups with perinatal anxiety used health services less than women of white ethnicity. Further research in this area focusing on ethnic minority women would provide further insight into how these services may be improved in a culturally and linguistically appropriate way that is cost-effective, potentially reducing the long-term cost burden and inform perinatal mental health service strategy.

Source of Funding: The MAP ALLIANCE study is funded by the National Institute for Health and Care Research (NIHR) Health and Social Care Delivery Research (HS&DR) (Award ID: NIHR133727). The views expressed are those of the authors and not necessarily those of the NIHR or the Department of Health and Social Care.

E-Cigarette Taxation and Queer Youth

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Abstract

Background: Electronic nicotine delivery systems (ENDS) use among lesbian, gay, bisexual, and questioning (LGBQ) teenagers is over 30 percent higher than among their heterosexual counterparts. Yet little is known about how recent efforts to curb nicotine vaping through ENDS taxes impact sexual minorities. This study was the first to explore this question.

Aims of the Study: The current study sought to explore whether ENDS tax differentially affected LGBQ-identifying teenagers and young adults as compared to heterosexual-identifying teenagers and young adults. The study also sought to explore whether other public policies that affected access to ENDS products exacerbated or narrowed disparities in ENDS use between sexual minorities and other youths.

Methods: Data were available for n=434,665 heterosexual identifying youths and 91,823 LGBQ-identifying youths in the State and National Youth Risk Behavior Surveys. The independent variable was the ENDS tax per mL of e-liquid equivalent and the dependent variables included prior-month ENDS use, prior-month ENDS use on at least 20 of the last 30 days, and ENDS use everyday in the last 30 days. In addition, the study measured combustible cigarette smoking along the same margins. Two-way fixed effects logistic regression models were used to estimate the relationship between ENDS taxes and youth ENDS use. Models were adjusted for respondent's demographic characteristics and state-level controls for combustible tobacco policies, ENDS policies, alcohol policies, and drug policies.

Results: ENDS taxes were associated with a statistically significant ($p < .05$) reduction in ENDS use among heterosexual-identifying youths, as measured by any, frequent, and everyday ENDS use. However, for LGBQ youth, ENDS taxes were not significantly associated with ENDS use. We find that ENDS taxes had the unintended consequence of widening disparities in LGBQ versus heterosexual youth tobacco use.

Discussion: The findings show that a one dollar (in 2021$) increase in ENDS taxes reduces prior-month ENDS use among heterosexual teens by 4 percentage-points and habitual ENDS use by 2 percentage-points. In sharp contrast, queer youths' ENDS use is largely unresponsive to taxes. Taxes significantly widen disparities in vaping between queer and straight teens. Descriptive analyses suggest that LGBQ youths' tax insensitivity may be explained by their use of e-cigarettes to cope with unique stress-related psychological challenges, including those associated with targeted bullying victimization.

Implications for Health Policies: The findings suggest unintended consequences of ENDS taxes on disparities in ENDS use. They also suggest that ameliorating psychological trauma of LGBQ youth could result in tobacco control policies being more effective at curbing LGBQ youths' ENDS use.

Implications for Further Research: Our findings highlight challenges to policymakers aiming to curb queer teens' tobacco use. They also that supply-side restrictions, such as raising the minimum legal purchasing age from 18 to 21 may be more effective at curbing tobacco use among LGBQ young adults.

Source of Funding: None declared.

Regional Patterns of Mental Health Care in Australia and Western Europe

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Abstract

Background: The comparison of mental healthcare systems is hindered by terminological variability and incommensurability. The former implies that services performing different activities may have the same name or, conversely, that two services delivering the same activity may have different names. The latter refers to the use of different units of analysis in comparative studies.

Aims: This study aims to analyse the abundance and diversity of mental health services by comparing the mental healthcare patterns in Australia and Western Europe.

Methods: The Glocal project (Global and Local Observation and Mapping of Care Levels) aims to generate local health system metadata sets collected from Integrated Mental Health Atlas projects developed worldwide. A multi-level, multi-site, whole-system meta-analysis framework allowed us to combine social and demographic factors and local system metadatasets in one integrated analysis of the care provision of regional health districts in 19 health areas in Australia and 17 in Western Europe using the Description and Evaluation of Services and DIrectoriEs (DESDE) tool. DESDE system to describe and classify services according to their activities. The dataset intends to create a knowledge base for evidence-informed policy and planning to enable national and international comparisons, benchmarking, and data analytics. We used a collective case series approach and interviewed service managers in the 36 regions coding 3,166 main types of care, capturing key information, enabling analyses that quantified and compared accessibility, availability, and capacity. The abundancy of service provision was estimated bythe availability rates of care teams and main types of care per 100,000 inhabitants. The diversity of care was estimated using two indexes of diversity adapted from ecological sciences, the Jaccard coefficient and Margalef's index, within and across regions.

Results: The availability of care teams and main types of care per inhabitant is significantly higher in the Australian areas. Margalef's index shows that the diversity within areas is high, especially in Australia, and the Jaccard coefficient shows that the diversity across regions is slightly higher in Australia. However, this difference across regions is not significant. Australia's pattern stands out for higher availability in acute hospital care, acute mobile outpatient care, non-acute mobile social-related outpatient care, and both mobile and non-mobile non-acute health-related outpatient care. Western Europe, on the other hand, has the highest availability in both high- and non-high-intensity community residential care and day care. Alternatives to hospitalization with 24-hour medical support are limited in both regions.

Discussion: At world regional level, Australia and Western Europe health districts show a very different context of care. This may have an impact in the outcome of similar interventions in both regions. The higher diversity of the Australian system may require further analysis as it may be related to a policy that converts in new services any change of activity (for example information and accessibility services are integrated in the mental health community services while they have been designed as separate services in Australia). The Australian MH care system, which resembled that of Western Europe a few decades ago, underwent a shift from community to hospital-based care and from day care to social-related outpatient care in the 2000s. It is important to note that Australia has remote areas with lower population densities, which results in differences in service availability but not in care patterns. The results provide a better understanding of mental healthcare in both regions.

Source of Funding: None declared.

Paving the Road to Comparative Effectiveness: A Metaframework, Tools and Ontoterminology

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Abstract

Introduction: Since the IoM's seminal report on Comparative Effectiveness Research (CER) in 2011 to the recent NICE real-world research framework (2022), CER has added new levels of complexity to evidence-informed decision making, beyond traditional Cost Effectiveness Analysis. However, early recommendations advocating for new tools and methods and for a semantically integrated, information based system, have not been fully accomplished. This introductory comment aims to describe new frameworks and tools relevant to conduct CER and how to understand context to identify "what works best in health care, for whom and under what circumstances".

CER Meta-Framework: First, health economics and health policy research could be considered part of implementation sciences applied to real world problems that should focus on what works from a realist synthesis perspective. This premise indicates that complexity in dynamic systems should be considered an integral part of CER, and this encompass several frameworks of reference. The unidimensional model of scientific knowledge represented by the Cochrane Pyramid of Evidence-based Medicine, should be replaced by the Agora or Greek Temple model of Scientific Knowledge where pillars of scientific knowledge based on evidence and quantitative data (Experimental/RCT, Observational and Contextual-geographic), coexist with subjective/qualitative knowledge provided by cultural, expert-based and experiential knowledge. Under this frame, cultural and contextual aspects play an essential role for "globalising evidence and localizing decisions". The Healthcare Ecosystem Research framework provides a useful model to evaluate the key components including drivers, context, target and connections, to produce decision support systems usable in real world setting and practice, and to improve organizational learning. In the context of complexity research, the main aim is not finding the final truth but to reduce uncertainty, provide meaning, identify pathways and ascertain relative efficiency. In addition, cross-collaboration and bridging is an imperative in complexity science and health system research.

Advancing Innovative Designs and Analytic Tools: Multiperspective, multilevel designs could include Case control matching and Collective case studies, among others. Knowledge Discovery from Data (KDD); standard techniques to record and formalise expert knowledge (for example Expert-based Collaborative Analysis -EbCA); Blended Modelling (for example combining Relative Technical Efficiency or Self -Organised Networks); use of scenarios. The use of Heuristics using visualization tools facilitates knowledge extraction from experts. Knowledge synthesis and transfer are also critical. Real world impact analysis is essential to "continue beyond the transition from testing to practice". This should include domains such as the Technology Readiness Level of new health applications and interventions and the analysis of its adoption and uptake. Generative intelligence is being incorporated the analysis of dynamic health systems.

Onto-Terminology: This includes the development and adoption of typologies, classifications, taxonomies, and formal ontologies, as well as the related glossaries of terms. While these systems exist for the description of diseases, human functioning, and interventions (for example the WHO Family of Classifications), we still lack an internationally agreed system of ontoterminology of health services and of the health ecosystem. Previous research conducted by our group identified than less than 25% of the names and definitions of mental health services in Europe are clear enough to be used in comparative analysis. The importance of the use of a standard classification of service provision for organizational learning within the healthcare ecosystem approach is shown in three different cases: the standard description of a benchmark region for mental health community care (Trieste), the comparison of care provision in two world regions, and the regional gapping analysis of two subsystems: mental health and addictions.

Source of Funding: None declared.

Effect of Medicaid Recipiency on Mental Health Seeking Behavior Among Black and Hispanic Women

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Abstract

Background: According to Substance Abuse and Mental Health Services Administration (SAMHSA), in 2021, nearly 25% of adults reported mental illness. Getting access to receive mental health treatment is essential. Some of the access to mental health services for low-income adults was ameliorated by Medicaid expansion un-

der the Affordable Care Act. Medicaid expansion increased access to mental healthcare thus leading to better mental health outcomes. However, literature suggests that Blacks and Hispanics were less likely to receive mental health services. These disparities are also documented among Medicaid recipients.
Aims of the Study: The objective of this study is to estimate the association between Medicaid recipiency and mental health utilization outcomes among Black and Hispanic single women while controlling for other socio-economic and demographic factors.
Methods: We use data from the 2022 National Survey on Drug Use and Health, which is an annual survey conducted by the Substance Abuse and Mental Health Services Administration and provides comprehensive data on the use of tobacco, alcohol, and drugs, as well as mental health issues among the U.S. civilian, non-institutionalized population aged 12 and older. Outcome of interest is whether the respondent received mental health treatment in the past year when they felt they should get treatment but did not seek treatment. Logistic regression was used to address the aim of this study.
Results: Lack of Medicaid reduced the likelihood of receiving needed mental health treatment by 30% (OR=0.71; p>1%) compared to those who had Medicaid. Single women living in poverty were 40% more likely (OR=1.40; p>1%) to need a treatment that they did not seek, compared with those more than 2 times the federal poverty threshold. Black single women have 60% less likelihood (OR=0.40, p>1%) of receiving mental health care and Hispanic single women have 54% less likelihood (OR=0.46, p>1%) of receiving mental health care compared to their white counterparts.
Discussion and Limitations: The results indicate the racial/ethnic differences exist when receiving mental health care among low-income single women even though they may have access to Medicaid. Further analysis can focus on what are the main reasons behind what are the limiting factors for these women while accessing mental health care. Since this is one-year cross sectional data and the results should not be interpreted as casual analysis.
Implications for Health Care Provision and Use: The results of this study will provide a nuanced understanding of whether low income, single, women who suffer from psychological distress and may not have adequate access to healthcare. It would also indicate what are the main reasons behind unmet needs for mental healthcare access for these women.
Implications for Health Policies: These findings would help identify what type of targeted interventions can be developed to provide better access to this “high need” population.
Implications for Further Research: Based on the results of this study, further research could address to what extent improved access to mental health services affects mental outcomes for “high need” clients.

Source of Funding: This study 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 $500,000 with 0% financed with non-governmental sources. This study is also supported by the Career Enhancement Core of the NHLBI U54 HL169191 SCORE Grant (to Augusta University) and the NIH Office of Women’s Health Research. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by NIH, HRSA, HHS, or the U.S. Government..

Definitions and Estimations of Adolescents’ Psychosocial Interventions’ Costs in Economic Evaluations: A Systematic Review

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Abstract

Background: Mental health disorders prevalence among adolescents has increased in recent years. The treatment of adolecents’ mental disorders should generally include psychosocial therapeutic treatment, and used methods should be effective as well as cost-effective. From decision makers’ point of view assessing mental healthcare intervention is challenging while required resources depend on various settings, professionals and complex nature of psychosocial interventions. At an organizational level lack of funding and resources can be a barrier when implementing evidence-based practices. The validity and transferability of cost-effectiveness results is influenced by the accuracy of the estimations concerning the costs of mental health interventions.
Aims of the Study: The aim of this systematic review is to find out how the costs of psychosocial interventions for adolescents are defined and estimated in economic evaluation studies (cost-effectiveness, cost-utility, cost-benefit, cost-minimization and cost-consequence analyses).
Methods: The population included were adolescents aged 13–26-years with certain common mental disorder diagnosis. Psychosocial interventions were included. Preventive interventions were excluded. A systematic review was conducted in summer 2024 with search string defined by Population, Intervention, Comparison, and Outcome (PICO) framework to the following databases PsycINFO, PubMed, Scopus and Health Economic Evaluations Database (HEED). Selected eligible studies were appraised critically in duplicate by two reviewers independently using the Consensus Health Economic Criteria (CHEC) -extended checklist. Extracted data was summarized and described using descriptive tables. The review and its findings are reported in accordance with the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) 2020 guidelines.
Results: The database search yielded 2447 studies. After duplicates were removed, 1246 studies went through title and abstract screening, after which 1134 were classified as irrelevant. 112 full-text studies were assessed for eligibility and 98 studies were excluded for different reasons. Quality assessment and data collection was carried out for 30 studies. 47% of the studies presented intervention costs as total costs, 53% of the studies specified costs in more detail. More detailed results will be presented at the conference.
Discussion: The way intervention costs are reported is a question of validity of the economic evaluation results. Presenting the intervention costs at the micro-costing level, local information on required resources and related unit costs can be transferred to another setting. In addition, it allows the decision-maker to understand whether the intervention can be implemented in a real-world setting.
Implications: Good practices for calculating and reporting intervention costs identified based on previous literature can guide future economic evaluation studies of psychosocial interventions.

Source of Funding: Strategic Research Council (SRC) established within The Research Council of Finland (Improving mental wellbeing as a means of increasing inclusion of young people), grant numbers 352700 and 352702.

Addressing the Crisis in Mental Health Care and Medicine

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Abstract

Background: There is a crisis in psychiatry: Only 25% of known mental health patients receive any care, and most of it is substandard. Yet 70% of those with a physical disease receive quality care.
Aims: Propose a new solution to the mental health crisis.
Methods: Review of mental health care training in medical education.
Results: Primary care and other medical doctors conduct over 75% of all mental care, but they have not been trained for this role. Unsurprising, they fail to recognize most diagnoses, and when they treat, it usually fails to meet minimum standards. Psychiatrists and psychologists conduct only about 12% each of all US mental health care. The obvious solution: train the clinicians who provide the care. Many have produced research-based arguments and detailed instructions for taking this logical step. But medicine has not changed its training in mental health in over 100 years: 2% of total training time across four years of medical school and several years of residency. Yet mental disorders are the most common health condition clinicians face in practice, but medicine fails to prepare its graduates.
Discussion/Limitations: Many have implored medicine to drastically improve its mental health education since the 1960s to enable them to better function in the "de facto mental health services system" of primary care. Its complete unresponsiveness suggests we must bypass the medicine to obtain change. This worked with other recalcitrant systems that ignored the public's needs. For example, when the auto industry failed to install seat belts, Ralph Nader's *Unsafe at Any Speed* enraged the public and, in turn, forced the government to form the National Traffic and Motor Safety Vehicle Act that now ensures safety. To combat an errant chemical industry, an enraged public led the feds to create the Environmental Protection Agency; see Rachel Carson's *Silent Spring.* Such experiences reveal that an enraged public can induce politicians to correct the harmful impact of institutions who refuse to place public interests foremost.
Implications for Health Policies: Over 100 years ago, medicine itself showed how to root out nonscientific practices in the medical schools: have an independent commission evaluate how scientific their teaching was (Flexner Report of 1910). A Presidential or Congressional Commission would now evaluate the quality of scientific education conducted by all American medical schools. The commission would judge how well modern medical education adheres to the biopsychosocial model, the specific systems view for medicine; all sciences other than medicine are guided by a systems approach.
Implications for Healthcare Provision and Use: If medical schools are found wanting, the commission will recommend a massive change to full implementation of the biopsychosocial model. This would include vastly increased training in psychosocial material in all years of education, a major part of which would prepare all graduates to be as competent in mental health care as they are in disease care.
Implications for Further Research: Present research suffices; action is now needed.

Source of Funding: None declared.

The Disparate Effects of Medicaid Expansion on Mental Health Outcomes: Black-White Differences

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Abstract

Background: In the US, Black-White differences in mental health have been persistent. Since Black adults have been disproportionately represented in the low-income population, they disproportionately benefited from the change in Medicaid eligibility that increased maximum allowable household income beginning in 2014, as part of the Affordable Care Act.
Aims of the Study: From a "population health" perspective, to determine the causal effect of Medicaid expansion on mental health outcomes in Black compared to White adults.
Methods: Doubly-robust difference-in-differences models were estimated to evaluate Medicaid expansions occurring due to the Affordable Care Act in the US using 2011-2021 Behavior Risk Factor Surveillance Study (BRFSS) repeated cross-sectional data. Parallel trends tests were performed. The primary outcome measure was the number of days that mental health was not good, based on the question: "Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?" Models thus included two outcomes: (i) prevalence of any days during which mental health was not good, and (ii) the number of days that mental health was not good, conditional on there having been any days during which mental health was not good. To allow for misreporting of income or discrepancies in eligibility income and reported income, all analyses were restricted to individuals with a high school degree or less, regardless of income. Thus, this was an intent-to-treat analysis. Control variables included age, sex, race, education, marital status, and household income.
Results: The sample included 113,231 Black adults and 749,019 White adults. There were no statistically significant effects on prevalence of days during which mental health was not good for either group. However, conditional on there having been any days that mental health was not good, Black adults experienced 18.1% ($p=0.02$) fewer such days, while there was no statistically significant effect for White adults (1.3% fewer days, $p=0.77$). In both cases, the reductions only lasted for a single year before mental health effects ceased to be statistically different from baseline.
Discussion: Medicaid expansion briefly reduced the severity of mental health problems for Black adults relative to White adults. Limitations included the use of single dataset and a single mental health indicator. Other datasets and other mental health indicators may yield somewhat different results.
Implications for Health Care Provision and Use: Equitable access to mental health care via Medicaid expansion and vis other means reduced Black-White mental health disparities among adults. In states that did not expand Medicaid, private foundations and other charitable organizations may be able to provide additional mental health care for this population, which should yield similar outcomes.
Implications for Health Policies: Equitable access to mental health care via Medicaid expansion reduced Black-White disparities and should be implemented in all states.
Implications for Further Research: This analysis should be replicated with other datasets and other mental health outcomes to determine the robustness of these results. The reason for the very short impact of Medicaid expansion on mental health outcomes should be examined.

Source of Funding: None declared.

State Regulations and Co-Location of Opioid Treatment Prescribers

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Abstract

Background: In 2017, new regulations allowed nurse practitioners (NPs) and physician assistants (PAs) the ability to become authorized to prescribe buprenorphine for opioid use disorder treatment in office-based settings, which was previously limited to physicians. Prior research has found that state regulations limiting the ability of NPs and PAs to prescribe medications without physician oversight slowed the rate at which they pursued authorization to prescribe buprenorphine. This slowing could affect both the extensive margin – the geographic spread of buprenorphine-authorized clinicians – and the intensive margin – the number of authorized clinicians located in a specific area.
Aims of the Study: This paper posits that restrictive scope of practice regulations not only inhibited NP and PA applications for approval to prescribe buprenorphine but also created a barrier to them establishing new practice sites (i.e., reduced geographic spread). We examine the locations of newly-authorized NPs and PAs to learn the degree to which their ability to obtain authorization affected both the extensive and intensive availability of buprenorphine-authorized clinicians.
Methods: Our primary data source is the roster of clinicians who had authorization to prescribe buprenorphine as reported by the U.S. Drug Enforcement Agency (DEA) from 2019 through 2022. These data were merged with indicators for the regulatory environment faced by NPs and PAs, including whether they must have physician oversight and whether physicians must co-sign prescriptions. We also merged control variables to measure the health care infrastructure, opioid-related policy investments, demographics, and economic characteristics at the county level. We are in the process of estimating regression equations for the percentage of authorized clinicians per county who are co-located, for each clinician type, as well as for whether a newly-authorized clinician is at the same practice location as other authorized clinicians. We will test whether variables indicating that physician oversight is required for prescribing have a statistically significant effect on the likelihood of co-location. We also will interact indicators for physician oversight requirements with rural location to learn whether these regulations have a greater impact on co-location in rural communities.
Results: Preliminary analyses have found that NPs are less likely to have waivers when they are required to have physician oversight, but that PA regulations do not have a significant effect on the (low) share of PAs with waivers. Analyses also have found that these effects are greater in rural communities, suggesting that physician oversight requirements may affect the geographic spread of buprenorphine treatment.
Discussion: The expansion of the clinician workforce providing buprenorphine treatment is important to addressing ongoing treatment needs of people with opioid use disorder. Restrictions on NPs and PAs could have particularly important effects in rural communities, because prior research finds that not only are NPs and PAs more likely to practice in rural areas of states that allow them to practice independently but they also are often the only health care clinicians in underserved communities.

Source of Funding: None declared.

The Impact of Shocks to Provider Productivity on Suicide-Related Events

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Abstract

Background: The United States and many western countries are facing a severe shortage of mental health care professionals, contributing to widespread unmet behavioral health needs. To address strained capacity, health care systems can attempt to improve access by increasing the productivity of existing providers. However, the demands of caring for individuals with mental health conditions present unique challenges, and efforts to boost productivity may exacerbate work-related stress and provider burnout.
Aim of the Study: To examine the relationship between mental health provider productivity, staffing levels, and suicide-related events (SREs) among U.S. Veterans receiving care within the US Veterans Health Administration (VHA), focusing on therapy and medication management providers.
Methods: We used administrative data from the US Department of Defense and VHA from 2014 to 2018, encompassing 109,376 Veterans who separated from active duty between 2010 and 2017. The data were obtained from the VHA Corporate Data Warehouse and the VHA Survey of Enrollees. A panel study design was used to estimate the effects of facility-level provider work rate and staffing on the likelihood of SREs, adjusting for facility and patient characteristics. We employed an Instrumental Variables approach to account for potential endogeneity.
Results: The work rate of therapy providers led to an increase in SREs. Specifically, a 1% increase in work rates was associated with a 21.38% (SE=4.11) increase in the probability of an SRE. In contrast, a 1% increase in staffing of therapy providers led to a 1.20% (SE=0.20) reduction in the probability of an SRE, particularly in low-staffed facilities. For medication management providers, no overall impact of work rate on SREs was observed, except in medium-staffed facilities. However, higher staffing for medication management providers reduced the likelihood of an SRE across facilities: a 1.52% (SE=0.19) reduction in the probability of an SRE for a 1% increase in staffing.
Discussion: Our study demonstrates that increasing provider work rate, particularly among therapy providers in low- and medium-staffed facilities, leads to an elevated risk of suicide-related events. In contrast, higher staffing levels consistently reduce the probability of SREs, suggesting that staffing increases are a more effective strategy for improving both access to care and patient safety. A key limitation is that we do not observe Veterans' use of mental health services outside the VA, limiting our ability to capture the full spectrum of care that Veterans may have received.
Implications for Health Care Provision and Use: Prioritizing staffing increases over productivity gains may promote safety and higher quality of care for US Veterans.
Implications for Health Policies and Further Research: Relying solely on productivity increases to meet demand is unlikely to be sufficient or sustainable. Instead, policymakers should consider broader workforce development initiatives, such as creating targeted recruitment and retention strategies and/or alternative care models such as team-based care or task-sharing to alleviate pressure on individual providers by distributing the workload more evenly. Deeper understanding of the linkage between work rate and SREs identified in this study and possible burnout of providers will be a useful avenue for future research.

Source of Funding: None declared.

Supporting Adolescents' Mental Health in Schools: A Mixed-method Evaluation

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Abstract

Background: Adolescents' mental health is a critical area of concern, with increasing rates of mental health disorders among young people. Previous literature indicates that certain low-threshold interventions for adolescents with mental disorders are effective in the school setting. However, estimating the cost-effectiveness of such interventions is limited due to the heterogeneity of the methods used in the studies. More research is needed on the mental health interventions for adolescents in the school setting, including their effectiveness and cost-effectiveness as well as the means of implementation.

Aims of the Study: The study investigates the role of psychiatric outreach nurses in supporting adolescents' mental health within school setting in one wellbeing services county in Finland, aiming to evaluate the effectiveness and cost-effectiveness of this approach compared to conventional care provided by student welfare services in schools.

Methods: A mixed-method evaluation study will be conducted involving 160 adolescents aged 12–16-years seeking help for mental health disorders in student welfare services. Participants will be divided into an intervention group receiving outreach services from psychiatric nurses and a control group receiving conventional care. The primary outcomes include perceived mental health status assessed through the PHQ-9-A and GAD-7 measures, while secondary outcomes focus on quality of life and substance use assessed with EQ-5D-Y and ADSUME (Adolescents Substance Use Measurement) measures. The costs from wellbeing services county's perspective will include both the costs of implementing the outreach service and the costs of other social welfare and healthcare service utilisation of the adolescents. Qualitative data is gathered through interviews (n=15) with psychiatric nurses, collaborating student welfare service professionals and teachers to explore their experiences with the service. Same target groups will be interviewed (n=15) in the control schools on their experiences on how conventional care in schools meets the service needs of adolescents with mental health problems.

Results: The anticipated results will provide insights into the effectiveness of psychiatric outreach nurses in improving adolescents' mental health and quality of life over a 6-month and 12-month follow-up period. Additionally, a cost-effectiveness analysis will assess whether the outreach service is worth its costs compared to conventional services in schools. Furthermore, the experiences of different occupational groups on the intervention and on conventional student welfare services will be studied. Preliminary results will be presented at the workshop regarding the interviews and baseline data on the adolescents involved in the study.

Discussion: This study aims to contribute to the understanding of innovative and accessible mental health interventions for adolescent in schools. This mixed-method research can also provide new information to support the implementation of such services.

Implications: The findings of this study are expected to highlight both the clinical benefits and economic viability of integrating psychiatric outreach nurses into mental health services in schools potentially informing policy and practice regarding adolescents' mental health support and services.

Source of Funding: The Foundation for Municipal Development, grant number 20230272.

Automatic Response Technology for Mental Health Concerns Using AI

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Abstract

Background: Generative AI (GenAI) is being used by over 100 health systems to assist clinicians respond to patient messages in the electronic health record. Would access to GenAI-drafted replies correlate with decreased physician time on reading and replying to patient messages? How is the quality of draft replies concerning mental health in patients' messages?

Aims of the Study: To examine the impact of a novel GenAI feature that drafts replies for patient messages directly in the EHR on physician time spent on answering messages and the quality of the AI-generated draft, the actual reply sent to patients concerning mental health issues.

Method: Modified waitlist randomized experiment in an academic health system. Primary care physicians who agreed to participate were randomized to an Immediate GenAI activation group (N=25) and a Delayed activation group (N=27). A contemporary control group included 70 physicians. GenAI was activated for two time periods (T1 and T2) for the Immediate group and T2 only for the Delayed group. The intervention was access to GenAI-drafted replies for patient messages. Mental health issues were identified by searching key words in patient messages. Main Outcomes: (1) physician *time* spent on answering patient messages, and (2) quality of draft replies concerning mental health issues. A mixed-effects model examined GenAI intervention's effects on time. Narrative analyses examined draft replies quality concerning mental health.

Results: *Time spent on answering patient messages* - Among the 10,679 replies to patient messages examined, the median (IQR) of read time among those in the Immediate group was 26 (11, 69), 31 (15, 70), and 31 (14, 70) seconds at T0, T1 and T2, respectively. The Delayed group's median (IQR) time was 25 (10 to 67), 29 (11, 77), and 32 (15, 72) seconds in T0, T1, and T2, respectively. The estimated effect on read time was statistically significant 21.8% increase due to GenAI drafts (95%CI 5.2%, 41.0%, p=0.008). The effect on reply time was -5.9% (95%CI -16.6%, 6.2%, p=0.326). *Quality of draft replies* - Patient messages concerning mental health issues included requests for psychotropic medications, expressions of anxiety or depression, and suicidal ideations. While draft replies expressed concerns for patients' difficulties, the AI-drafted replies were either not used by physicians in their response or had to be substantially edited.

Discussion This early pilot of GenAI increased read time, did not significantly reduce reply time. The draft replies concerning mental health issues required significant editing or were not used by physicians. Limitation of the study included a single health system in the US and a relatively small sample of messages concerning mental health issues.

Implications for Health Care Provision/Use Suboptimal quality of draft replies by generative AI in response to patient message concerning mental health difficulties calls for rigorous empirical tests to further examine GenAI's performance, particularly with respect to mental health.

Implications for Further Research Future studies should compare multiple GenAIs, including those with medical training. Wide spread use of generative AI should be accompanied with careful quality assurance to ensure appropriate use of this technology.

Source of Funding: None declared.

PROMIS Self-Report Quality of Life Scores Distinguish Subgroups of Youth with Intellectual and Developmental Disabilities

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Abstract

Background: The US National Institutes of Health Patient Reported Outcomes Measurement Information System (PROMIS) includes measures validated across numerous pediatric condition groups, but they have not been validated in teens and young adults with intellectual and developmental disabilities (IDD).
Aims of the Study: To demonstrate convergent and discriminant validity of PROMIS measures for quality of life reported by youth with IDD.
Methods: Participants are parents and their teen and young adult children with IDD aged 11-27 years living in the US 2023-2024 (N=316 and 82). Data were collected through parent and youth surveys. Quality of life was measured via youth and parent proxy PROMIS 'life satisfaction' and 'meaning and purpose' instruments. Primary outcomes are meeting clinical thresholds for internalizing and externalizing problem behaviors on the Child Behavior Checklist (CBCL; internalizing only, any externalizing behaviors, neither). Covariates include parent self-efficacy navigating the healthcare system, clinical characteristics of youth and household sociodemographics. Strength of the relationships between youth and parent reports was assessed with Pearson correlations. Two-tailed Chi-square tests and independent samples T-tests were used to assess differences by CBCL clinical thresholds.
Results: Youth and parent proxy reports of 'life satisfaction' and 'meaning and purpose' were significantly correlated (r=.52, p<.0001;r=.41,p=.0002). Youth reported mean 'life satisfaction' scores of 45.1 overall, varying across problem behavior status (p=.0089) with a mean of 43.7 for youth with clinical internalizing behaviors, 42.0 for youth with clinical externalizing behaviors, and 49.4 for youth with neither. Parent reports were similar with a mean score for 'life satisfaction' of 41.1 overall, which varied across problem behavior status (p<.0001) with a mean of 38.1 for youth with clinical internalizing behaviors, 38.4 for youth with clinical externalizing behaviors, and 45.2 for youth with neither. Reports for 'meaning and purpose' had a similar pattern. Furthermore, higher quality of life reports align with parent report of higher self-efficacy and lower depression and stress.
Discussion and Limitations: Youth reports of quality of life showed good convergent validity with parent proxy reports and meaningful discriminant validity across internalizing and externalizing behaviors. A larger sample of youth surveys would be ideal to confirm findings.
Implications for Health Care Provision and Use: Findings underscore the importance of youth involvement in assessing treatment impacts when they are interested and able to do so, even among youth with IDD.
Implications for Health Policies: Clinicians and parents may benefit from guidance to include youth as active participants in treatment decision-making.
Implications for Further Research: Future research should assess strategies to include youth and parents in treatment decision-making, determine treatment outcome priorities for youth and parents, and evaluate their association with long-term youth health and quality of life.

Source of Funding: Patient-Centered Outcomes Research Institute AD-2021C1-22459

Effects of the Pandemic Child Tax Credit Expansions and Stimulus Checks on Parental and Children's Mental Health Status in the United States

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Abstract

Background: During the COVID-19 pandemic, there were multiple government cash transfers in the United States in the form of disbursements of stimulus checks and expansions of the child tax credits. Some studies suggest improvement in mental health status of parents with the child tax credit expansions, but there is less evidence for effects on children.
Aims of the Study: This study evaluates the effects of the cash transfers during the COVID-19 pandemic from stimulus checks and child tax credit expansions on parents' and children's mental health outcomes.
Methods: We employ data from the National Health Interview Survey (NHIS) for interviews from April 2020 to November 2022. This period covers the months when these cash transfers occurred as well as the 12 months before each survey over which we calculate the total received cash payments (considering marital status and number of children). The sample includes families with income below 400% FPL who are expected to have been eligible for the maximum child tax credit given their income. The analytical sample includes nearly 10,900 parents and 7,100 children (aged 5-17 years). The regression model examines the effects of the total cash payment over the past 12 months from the survey on the frequency of feeling 1- depression or 2: worried/nervous/anxious. The model controls for several demographic variables including age, sex, race/ethnicity, marital status, education, number of children, employment status, and income.
Results: Preliminary results indicate small and statistically not significant estimates of the pandemic cash transfer effects for both parents and children on the frequency of feeling depressed or worried/nervous/anxious. Estimates are small for various outcome frequencies including daily, daily/weekly, or daily/weekly/monthly.
Discussion: These preliminary results suggest no effects from cash transfers during the pandemic on mental health outcomes of parents and children. It is possible that effects are heterogenous across income and demographic subgroups which can be a future research direction. There may also be differences in the timing of effects prior to the outcome reporting which can also be evaluated in future work. These preliminary results suggest that the pandemic cash transfers from stimulus checks and expanded child tax credit did not have discernable effects on mental health of parents and children.

Source of Funding: None declared.

Lost Productivity Associated with the Excess Physical Disease Burden of Severe Mental Health Disorders in 32 European Countries

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Abstract

Background: Individuals with mental health disorders (MHDs) are frequently unemployed, and show higher rates of absenteeism and presentism when employed. People with MHDs have also increased physical health burden with further negative influence on labour force participation. The OECD considers indirect costs, including productivity losses, as the largest contributor towards the economic burden of MHDs. Little is known, however, on the extent of productivity losses due to excess physical comorbidities.
Aims of the Study: To estimate total and excess lost productivity associated with excess physical health burden of serious MHDs in Europe.
Methods: We estimated productivity losses associated with excess physical health burden among individuals aged 20-64 years with alcohol use disorders (AUD), bipolar disorder (BD), depressive disorders (DD), and schizophrenia (SZ) across 32 European countries for year 2019. Included countries were all member states of the European Union-27, plus Iceland, Liechtenstein, Norway, Switzerland, and the United Kingdom. Lost productivity was estimated based on cases of absenteeism, presentism, and based on lost productivity due to premature mortality in the previous year (i.e., 2018). Input parameters were obtained from the European Statistical Agency, two recent large evidence syntheses, and some additional primary studies. Productivity losses were estimated and reported in purchasing power standard Euros (PPS€) for 2019.
Results: Total annual productivity losses linked to physical ill-health across the included 32 European countries were estimated at 57.7 billion PPS€ for AUD, 23.3 billion PPS€ for BD, 89.2 billion PPS€ for DD, and 4.3 billion PPS€ for SZ. The proportion of lost productivity associated with excess levels of physical comorbidities was the highest for BD at 48%, followed by DD at 41%, AUD at 40%, and SZ at 13%. At individual AUD, BD, DD and SZ diagnoses, these represent annual average excess costs of 1,098 PPS€, 1,513 PPS€, 1,154 PPS€, and 189 PPS€, respectively.
Discussion: This is the first comprehensive assessment of lost productivity associated with physical comorbidities for people with MHDs across Europe and beyond. Losses estimated due to excess physical comorbidity were equal to 0.4% of the included countries gross domestic product and constituted a third of the productivity losses of MHDs as calculated by the OECD. The lower individual level excess cost identified for SZ reflects lower employment rates in this patient population, and potentially underdiagnosis of physical comorbidity linked to underutilisation of health care services. Developed methods can be extended to other disease or geographical areas.
Implications for Health Care Provision and Use: Integrated mental and physical healthcare and prevention approaches may result in substantial added productivity gains.
Implications for Health Policies: Not only health and social, but also labour market policies should address the excess physical comorbidity burden of MHDs.
Implications for Further Research: Further research on better understanding the most important driving factors behind excess physical comorbidity and on related effective labour force (re-)integration interventions is needed in future.

Source of Funding: European College of Neuropsychopharmacology.

Why Wait? (Cost-)effectiveness and Process Evaluation Online, Transdiagnostic Positive Psychology Intervention for Patients Awaiting Psychological Treatment and their Loved Ones: Study Protocol for a Dutch RSCD and RCT

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Abstract

Background: Wait-lists for psychological treatment are growing due to imbalances between supply and demand in Dutch mental healthcare. Time spent on a wait-list is associated with symptomatic aggravation, suboptimal recovery and increased drop-out during treatment, causing societal expenses. An eHealth, transdiagnostic positive psychology intervention (eHealth PPI) may increase resilience among patients awaiting psychological treatment, potentially promoting recovery in a (cost-)effective manner. In contemporary healthcare research, the patient's loved ones are often underrepresented. In light of caregiver burden, loved ones will be included in our intervention, potentially enhancing its clinical reach.
Aims of the Study: The current paper proposes a study protocol aimed at examining the (cost-)effectiveness and process evaluation of an eHealth PPI for patients with various mental health complaints awaiting psychological treatment and their loved ones.
Methods: Our study protocol represents a methodological framework for two studies (study 1 and study 2) aimed at examining the proposed eHealth PPI, using three analytical pillars: (1) clinical effectiveness, (2) economic evaluation and (3) process evaluation. In study 1, the working mechanisms and acceptability of the eHealth PPI will be examined, using a replicated single case design (RSCD) with 9 measurements in 9 weeks. In study 2, a randomized control trial (RCT) will examine the (cost-)effectiveness of the eHealth PPI, using measurements at baseline, post-intervention, after 3, 6, 9 months and 1 year following PPI completion and 1 year following treatment completion. To assess the additional effects of including loved ones, the RCT will employ three arms: (1) eHealth PPI during waitlist + patient treatment, (2) eHealth PPI during waitlist for patients and loved ones + patient treatment, (3) wait-list before intake as usual + patient treatment.
Results: Using validated questionnaires, primary outcomes will include positive mental health, mental complaints, quality of life, optimism and societal costs. Secondary outcomes include acceptability and adherence.
Discussion and Limitations: To our knowledge, this is the first paper proposing a threefold evaluation of an eHealth PPI, using two studies. Suboptimal intervention adherence due to low literacy must be addressed. Likewise, patient dropout due to extensive measurements must be prevented.

Implications for Health Care Provision and Use: Introducing the proposed eHealth PPI to various patients awaiting psychological treatment and their loved ones may help optimize clinical patient outcomes of subsequent mental health treatments, while also potentially reducing societal costs.

Implications for Health Policies: Considering the broader trends in healthcare digitization, our expected results may inform policy decisions regarding financial resource allocation for implementing eHealth PPIs on a larger scale in mental healthcare.

Implications for Further Research: Addressing the proposed research gaps may enhance our academic understanding of digital PPIs. Future studies may expand the body of evidence on (cost-) effective PPI applications for multiple patient populations.

Source of Funding: A grant has been awarded to the current project by the Dutch Organization for Health Research and Development (ZonMw). The related grant number is: 06360312210054.

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