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Trends, challenges, and priorities for shared decision making in mental health: The first umbrella review

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Abstract

Background: Shared decision making (SDM) is a health communication model promoting patient-centered care that has not been routinely utilized in mental health. Inconsistent definitions, models, measurement tools, and lack of sufficient evidence for the effectiveness of SDM interventions are potential contributors to the limited use of SDM in mental health.

Aims: (1) Provide the first systematic analysis of global development trends and challenges of SDM research; (2) clarify the meaning, role, and measurement of SDM in mental health; (3) create a theoretical framework for key effective SDM components to guide future development and implementation of SDM interventions.

Methods: A comprehensive search strategy was conducted in CINAHL, PubMed, Scopus, MEDLINE, EMBASE, Cochrane Library, Web of Science, Scopus, and PsycInfo. Included reviews focused on SDM interventions for prevention and/or treatment of mental illness in adults. A narrative synthesis was performed to capture the range of interventions, populations, measurement tools, comparisons, and outcomes.

Results: 10 systematic reviews of SDM in mental health were included with 100 nested studies spanning from 2006 to 2020. All reviews focused on dyadic and psychopharmacological decision-making. Primary outcomes of SDM in mental health interventions include treatment satisfaction, medication adherence, symptom severity, quality of life, and hospital readmissions. Participant-related factors unique to SDM in mental health, such as stigma and mental capacity, were not reported.

Conclusions: The current landscape of SDM in mental health is overwhelmingly disconnected from the needs and experiences of potential end-users; clients, clinicians, and family members. Most SDM interventions and tools were adapted from physical health and are mainly geared to psychopharmacological decision-making. The SDM in Mental Health Framework (SDM-MH), developed here, expands the scope of decisions to non-psychopharmacological discussions, diversifies the pool of SDM participants and settings, and offers potential primary target outcomes of SDM in mental health to reduce heterogeneity across studies.

Keywords

Shared decision making, mental health, psychiatry, review, mental illness, interventions

Introduction

"No decision about me, without me" reflects the importance of patient choices, values, and preferences in guiding healthcare decisions. Shared decision making (SDM) is a health communication approach that focuses on improving patient–clinician interactions around medical decisions in chronic conditions, with the goal of improving experience of care, clinical and functional outcomes (Zisman-Ilani, Roth et al., 2021). Clinicians and patients alike emphasize the importance of achieving a constructive therapeutic alliance and see this as essential (Kaminskiy et al., 2021). Moreover, decision-making may need to be negotiated between, and communicated to, multiple health and social care practitioners, as well as patients and their social networks (SNs) (Hamann & Heres, 2019; Zisman-Ilani, Roth et al., 2021). Strong SNs are crucial for the social integration and recovery of people with mental illness, who frequently experience difficulties in developing and

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maintaining social relationships and are more socially isolated, resulting in increased loneliness, compared to the general population (Chmielowska et al., 2021b).

In mental health, SDM has shown numerous benefits, such as increased knowledge of treatment options and conditions, involvement in decision-making, and satisfaction with psychiatric interactions (Deegan & Drake, 2006; Salyers & Zisman-Ilani, 2020). Yet, rates of SDM use and implementation in mental health are still very low compared to physical health (Zisman-Ilani, Barnett et al., 2017; Zisman-Ilani, Roth et al., 2021) with common challenges such as perceived stigma and self-stigma about patient decision-making capacity, and clinicians' fear of liability and legal exposure (Hamann et al., 2017; Zisman-Ilani, Lysaker et al., 2021). However, the main barrier to SDM implementation in mental health is rarely discussed, namely the lack of a coherent, mental health-driven SDM model originally developed with and for people with mental illness, their care providers and families (Haugom et al., 2020; Ramon et al., 2021). SDM in mental health is characterized by inconsistent definitions and measurement tools, and there is a limited understanding of the key components of effective SDM interventions (Hamann & Heres, 2014). This novel umbrella review aims for the first time to clarify what is considered an effective SDM approach in mental health and to identify the core targets and elements required for successful utilization and implementation of SDM.

Methods

Design

Umbrella reviews, systematic overviews of systematic reviews and meta-analyses, gather evidence from multiple research syntheses to provide an overall examination of a body of information available for a given topic (Papatheodorou, 2019). This design was chosen because: (a) as the number of single studies focusing on SDM interventions, especially in mental health, increases, so does the number of published synthesis reviews; (b) an umbrella review provides means to report on the current direction and future priorities of SDM interventions in mental health (Aromataris et al., 2015). This review is based on the working definition of SDM as a health communication approach focusing on patient-clinician-family/carers interactions around treatment decisions, with the goals of improving clinical and functional outcomes via personalized care (Zisman-Ilani, Roth et al., 2021). It is reported using the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) 2020 statement (Page et al., 2021) (Supplemental Appendix 1), the protocol was a-priori registered (PROSPERO: CRD42020190700) and published (Chmielowska et al., 2021a).

Search strategy

A comprehensive search was performed using nine electronic databases: CINAHL, PubMed, Scopus, MEDLINE, EMBASE, Cochrane Library, Web of Science, Scopus, and PsycInfo. Some of the key terms included shared decision making, decision support system, decision aid, informed choice, and informed decision (Supplemental Appendix 2).

Inclusion criteria

All types of evidence were addressed matching the "PICO" (Participants, Intervention, Comparator, Outcome) criteria to capture the evidence from quantitative and qualitative reviews. Study inclusion and exclusion criteria are presented in Supplemental Appendix 3. An umbrella review's key characteristic is that it only considers for inclusion the highest level of evidence, namely other systematic reviews, and meta-analyses (Aromataris et al., 2015). Most importantly, it offers a synthesis of two levels of evidence: systematic reviews and their primary research studies. Systematic and scoping review articles were included if they were published between 2010 and 2021 (Aromataris et al., 2015) and consisted of studies in which interventions were carried out by a wide range of healthcare professionals (e.g. psychiatrists, general practitioners, psychologists, nurses, and lay support staff) working in mental health settings. Interventions could target patients, healthcare professionals or both, and caregivers. The eligible reviews included primary research studies (i.e. studies which contain the original data and analysis conducted by their authors) that used quantitative (e.g. surveys), qualitative (e.g. interviews, focus groups) and mixed-methods methodologies and helped understand the variation in outcomes and the mechanism by which SDM interventions had an impact.

Type of interventions and participants

Interventions could take place in any setting (e.g. inpatient, outpatient, primary care, community, and secure environment) and were not restricted by the mode, duration, or frequency of delivery. Included reviews may have assessed a single intervention/component or combination of interventions/components and compared them with other interventions with a similar purpose or with usual care. Participants of interest were adults aged 18 years and older diagnosed with a mental health disorder who faced a decision about their mental health treatment. A mental health disorder was defined as diagnosable psychological problems that could disrupt thinking, feeling, mood and behavior and cause significant impairments in daily functioning. Examples are mood disorders, anxiety disorders, personality disorders, eating disorders,

alcohol use disorders (AUDs) and substance use disorders (SUDs), and psychotic disorders.

Outcome of interest

SDM outcomes fell into one of these categories: affective-cognitive, behavioral, and health. Affective-cognitive outcomes include knowledge, attitudinal and affective/emotional effects. Behavioral outcomes include adherence to recommended treatments and adoption of health behaviors. Health outcomes include measures of quality of life (QOL), self-rated health, and biological measures of health (Kreps et al., 1994).

Study screening and selection

MC performed the initial screen of titles and abstracts, with a random 10% sample screened by a secondary reviewer (YZI). Two reviewers then performed full text screening of any potentially relevant studies. Disagreements were resolved by discussion between the reviewers, with a senior reviewer (SP) acting as arbiter where necessary.

Assessment of methodological quality of included reviews

A measurement tool for the 'assessment of multiple systematic reviews' (AMSTAR) two tool (Shea et al., 2017) was used to assess the methodological quality of the included systematic reviews (Supplemental Appendix 4). The tool provided guidance to rate the overall confidence in the results of a review (high, moderate, low, or critically low, depending on the number of critical flaws, and/or non-critical weaknesses). The quality appraisal included a table that provided a breakdown of how each systematic review was rated on each question of the tool, the rationale behind the assessments, and an overall rating for each systematic review. The results of the quality/risk of bias (RoB) assessments were then used to contextualize the umbrella review's evidence base (Supplemental Appendix 5). Two reviewers assessed the quality of each individual text. Discrepancies were resolved by consensus.

Assessment of the quality of the evidence in reviews

The Grading of Recommendations Assessment, Development and Evaluation (GRADE) ratings were extracted from each included review. Similar to previous umbrella reviews/overviews, the authors made judgments to downgrade or upgrade the quality of evidence based on the RoB using the criteria specified by the GRADE Working Group (Balshem et al., 2011). Discrepancies in the ratings of the quality of evidence were resolved by consensus between the authors and, if necessary, arbitration by a senior reviewer.

Data extraction

Two reviewers independently extracted data on the included reviews using a previously designed data extraction form. The authors summarized the review findings but did not re-synthesize the results of primary studies. Extraction information included: review characteristics: author, publication year, country, type of review; objectives; PICO; setting and context, number and study design of primary studies included in each review; SDM taxonomy; an assessment of the methodological quality of the included review; summary of results/findings.

Data summary and analysis

Umbrella reviews often identify and synthesize systematic reviews on the same topic, which is likely to lead to overlap (i.e. duplication) in primary studies across the reviews (Lunny et al., 2021). To address this issue, the authors assessed and calculated the degree of overlap in primary studies via the corrected covered area (CCA) index method (Hennessy & Johnson, 2020). A CCA within the range 0%–5% indicates a slight overlap, 6%–10% indicates a moderate overlap, 11%–15% indicates a high overlap and >15% indicates a very high amount of overlap (Pieper et al., 2014). Data were grouped where possible according to the population, the type of intervention, and the outcome measure. Barriers and facilitators for implementation were identified across different articles and collated. Important limitations within the evidence base were presented and discussed. Any possible influence of publication/small study biases on review findings was also considered. Finally, a list of recommendations based on the data synthesis from all studies was compiled. Once the previous steps of the umbrella review were completed, the authors analyzed the included reviews to determine whether there were studies sufficiently similar in design, setting (e.g. in-patient, community mental health team, etc), age, intervention, and outcome measurement to allow their data to be combined for meta-analysis. This proved unfeasible due to heterogeneity of included reviews. The results of the umbrella review were reported using a narrative synthesis. First, each review was summarized. Then details of the research context, the review period, the objectives, and the primary studies identified within the review were presented.

Results

Searches yielded 7,383 records. After the duplicate removal and screening of titles and abstracts, 25 full-text reviews were assessed for eligibility through full-text screening. After this assessment, 10 systematic reviews (Broughton et al., 2021; Duncan et al., 2010; Fiorillo et al., 2020; Fisher et al., 2021; Légaré et al., 2018; Samalin et al., 2018; Stacey et al., 2017; Thomas et al., 2021; Vitger

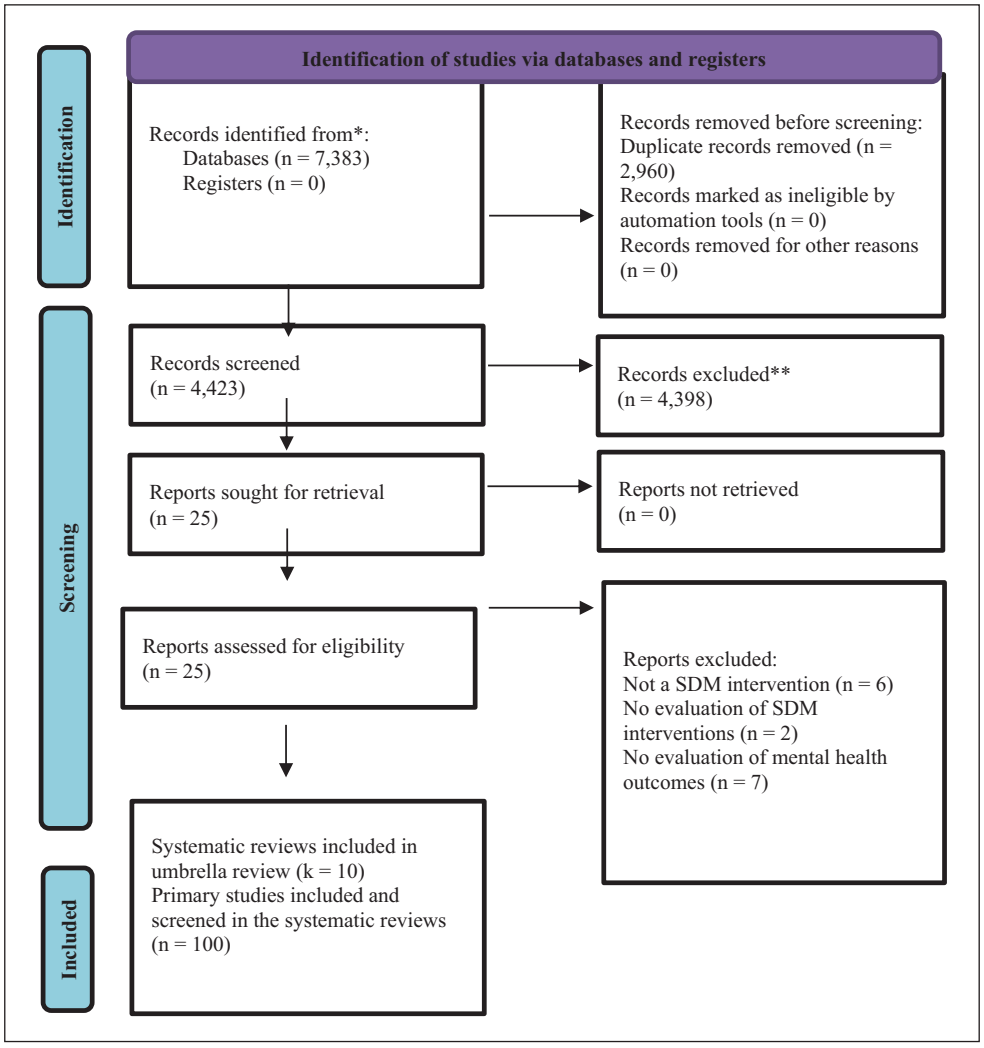

Figure 1. Flowchart of the literature search and evaluation process for 10 published systematic reviews.

et al., 2021; Zisman-Ilani, Barnett et al., 2017) met the inclusion criteria (Figure 1). All 10 reviews evaluated SDM interventions and/or tools for dyadic patient-clinician psychopharmacological decision-making and included various mental health conditions, SDM intervention types and outcomes. A total of 168 studies were included in the 10 reviews. Of these, 68 studies (24 ineligible and 44 duplicates) were excluded from this umbrella review, resulting in 105 non-overlapping unique articles, of which 100 were the primary studies (n = 5/100 studies led to overlapping publications). The number of studies nested within individual reviews varied from 2 to 53. The included studies were conducted in 16 high-income countries: Australia, Belgium, Canada, Finland, Germany, Israel, Japan, the Netherlands, Norway, Saudi Arabia, South Korea, Spain, Sweden, Switzerland, UK, and USA. The first identified study was published in 1999 (Sutherby et al., 1999) and the most recent was published in 2020 (Fisher et al., 2020; Gibson et al., 2020; Treichler et al., 2020). In the 10 reviews, a total of 47,846 participants (47,071 patients, 676 clinicians, 5 family carers, 90 other carers, or 4 'other') were included (Supplemental Appendix 6). Median total sample size was 167.5 (range 10–13,734). Details of the excluded reviews and the reasons (e.g. incorrect population characteristics, type of interventions, and outcomes) are provided in the Supplemental Appendix 7. Table 1 summarizes the characteristics of all reviews, including quality rating, study design and methodology, population and setting, intervention and comparison group, main outcome measures, and significant results. Details of the included/excluded primary studies and the reasons (e.g. incorrect population characteristics, study design, and overlapping publication) are provided in the Supplemental Appendix 8.

Degree of overlap between the included reviews

The CCA indicated overlap of 4% between the primary studies across reviews (Table 2). Fifth of the primary

Table 1. Characteristics of included reviews.

Review	Studies identified (design)	Country	Population	Setting	Intervention group	Comparison group	Outcome	Significant studies	AMSTAR 2 quality
Duncan et al. (2010)	2 (cluster RCTs)	Germany ($n = 2$)	Inpatients with a diagnosis of schizophrenia or schizoaffective disorder, and primary care patients newly diagnosed with depression	Hamann et al. (2006)an, Hamann et al. (2006) – an acute inpatient setting:12 acute psychiatric wards of two state hospitals; Loh et al. (2007) - a primary care setting	2 decision aid (DA) interventions; Hamann et al. (2006) – patients used a DA with support from nursing staff and then took the information to a planning meeting with their psychiatrist; Loh et al. (2007) - patients used a decision board during the consultation with their physician, and then took it away with them	Hamann et al. (2006) – patients did not receive a DA and had no time set aside to discuss their ongoing treatment with their psychiatrist; Loh et al. (2007) – patients received no decision board and their physician did not receive training in SDM	Primary outcomes: patient satisfaction, clinical outcomes, hospital readmission rates; Secondary outcomes: doctor facilitation of patient involvement in SDM, consultation times, patient compliance with treatment plans	Loh et al. (2007) – a statistically significant increase in levels of satisfaction in the intervention group ($p = .014$); there was significantly higher patient participation in the intervention group using the PICS-DF (group x time interaction $p = .028$) Hamann et al. (2006) – the difference in intervention group psychiatrist satisfaction before discharge was statistically significant ($p = .02$).	High
Stacey et al. (2017)	3 (2 cluster and 1 individually randomised) RCTs	Germany ($n = 2$), and USA ($n = 1$)	Inpatients with a diagnosis of schizophrenia or schizoaffective disorder and primary care patients newly diagnosed with depression; military veterans diagnosed with a post-traumatic stress disorder (PTSD) who had served in Iraq or Afghanistan	Hamann et al. (2006) – an acute inpatient setting: 12 acute psychiatric wards of two state hospitals. Loh et al. (2007) – a primary care setting. Mott et al. (2014) – the Veterans Health Administration (VHA) PTSD clinic	Three DA interventions. Hamann et al. (2006) – patients used a DA with support from nursing staff and then took the information to a planning meeting with their psychiatrist. Loh et al. (2007) – patients used a decision board during the consultation with their physician and then took it away with them. Mott et al. (2014) – patients received 9 SDM sessions with a manual and a 12-page DA	Hamann et al. (2006) – patients did not receive a DA and had no time set aside to discuss their ongoing treatment with their psychiatrist; Loh et al. (2007) – patients received no decision board and their physician did not receive training in SDM; Mott et al. (2014) – patients completed ≥ 9 treatment planning sessions during their intake appointment, per usual clinic procedures	Hamann et al. (2006) – knowledge, participation in decision-making, uptake of psychoeducation, rehospitalization, adherence, satisfaction with care, severity of illness, attitudes about drug use, decision-making preference; Loh et al. (2007) – participation in decision-making, adherence, satisfaction with clinical care, depression severity, consultation length	Hamann et al. (2006) – significant increase in the uptake in psychoeducation ($p = .003$) in people with schizophrenia exposed to the DA compared to usual care; Mott et al. (2014) – a higher proportion of participants in the DA group with PTSD completed psychotherapy sessions (4 of 9) compared to usual care (1 of 11). Data regarding PTSD treatment effectiveness were not available	Low
Zisman-Ilani et al. (2017)	21 (11 RCTs with patient-level randomisation, 4 cluster RCTs, 5 pre-post research designs and 1 post design with historical control)	Belgium ($n = 1$), Germany ($n = 5$), Netherlands ($n = 2$), Spain ($n = 1$), Saudi Arabia ($n = 1$), Sweden ($n = 2$), and Switzerland ($n = 1$), UK ($n = 3$), and USA ($n = 6$)	Patients with different psychiatric diagnoses, followed by patients with depression, schizophrenia, attention deficit and hyperactivity disorder, bipolar disorder (BD), or substance abuse	Aljumah and Hassali (2015), Hamann et al. (2011) - a psychiatric hospital; Bartels et al. (2013) - a state funded community mental health clinic; Cortes et al. (2009) - an outpatient community mental health center; Dixon et al. (2014)- three outpatient Veterans Affairs (VA) medical centers; Gray et al. (2010) - community health center and inpatient psychiatric hospital; Hamann et al. (2006, 2007) – 12 acute psychiatric wards of two state hospitals; Hamann et al. (2014) - a psychiatric clinic; Joosten et al. (2009, 2011) - addiction treatment centers; Loh et al. (2007) - a primary care setting; Malm et al. (2003) - community mh centers; Moncrieff et al. (2016) - community mental health clinics for people with recent onset of psychosis age 18-35; Mott et al. (2014) - VA medical center; Priebe et al. (2007) - community psychiatric services; Van der Krieke et al. (2012, 2013) - home or community mental health services; Woltmann et al. (2011) - 3 community mental health clinics; Watts et al. (2015) - mental health services in a VA medical center	Participants with a mental illness facing a mental health care decision, their caregivers, and providers. Although information exchange was a central component of the identified studies, important additional elements were eliciting patient preferences and values, providing patient communication skills training, eliciting shared care planning, facilitating patient motivation, and eliciting patient participation in goal setting	Usual care, no comparison group, or interventions of the same type for SDM	SDM-related outcomes, e.g. patient engagement, involvement and knowledge ($n = 12$). Treatment related outcomes, e.g., adherence to treatment ($n = 6$) or improved health outcomes ($n = 2$)	3/4 DA-only studies 1 significant outcome: Aljumah & Hassali, 2015 ; Moncrieff et al., 2016 - improved health behaviours (i.e. adherence & service utilisation); Watts et al. 2015 - improved mental health symptoms (PTSD) and SDM-related outcomes (i.e., involvement, knowledge, self-efficacy). 2 DA+ studies 1 positive significant effect on SDM-related outcomes (Hamann et al., 2006, 2007; Loh et al. 2007) & 1 study improved engagement in preferred treatment (Mott et al., 2014). The 12 studies that assessed SDM interventions not using DA or DA+ reported significant improvements in 1 of the following outcomes: SDM-related outcomes, health behaviours, satisfaction with care, symptoms, QOL, recovery, trust, and social functioning.	Critically Low
Légaré et al. (2018)	12 (RCTs)	Australia ($n = 1$), Belgium ($n = 1$), Germany ($n = 5$), Norway ($n = 1$), and USA ($n = 3$)	Patients, healthcare professionals, or both patients and healthcare professionals	Primary care settings in 44 studies, specialised care settings in 36 studies and a both primary and specialised care setting in one study. Cooper et al. (2013) - primary care; Hamann et al. (2007, 2017) - specialised and non-ambulatory care; Hamann et al. (2011, 2014) - specialised and ambulatory care; Loh et al. (2007) & LeBlanc et al. (2015) - primary care and ambulatory care; Pickett et al. (2012) - ambulatory care; Rise et al. (2012) - specialised and ambulatory care; Shepherd et al. (2011) - primary care, ambulatory care; van der Krieke et al. (2013)- specialised and ambulatory care	Interventions aiming to increase the use of SDM by healthcare professionals. Forty-four studies evaluated interventions targeting patients; Fifteen studies evaluated interventions targeting healthcare professionals; Twenty-eight studies targeted both patients and healthcare professionals	Usual care or interventions of the same type for SDM	Primary outcome: the extent to which healthcare professionals involve their patients more in decision-making about their care; Secondary outcomes: decision regret, physical or mental health related QOL, length of the consultation, and cost	It is uncertain whether any interventions for increasing the use of SDM by healthcare professionals are effective, because the certainty of the evidence is low or very low	Low

(Continued)

Table 1. (Continued)

Review	Studies identified (design)	Country	Population	Setting	Intervention group	Comparison group	Outcome	Significant studies	AMSTAR 2 quality
Samalin et al. (2018)	14 (RCTs)	Germany ($n = 1$), Saudi Arabia ($n = 1$), Netherlands ($n = 1$), and USA ($n = 10$)	Patients with severe mental illness (SMI) who received mental health services	LeBlanc et al. (2015), Stewart et al. (2014), Ell et al. (2011), Dwight-Johnson et al. (2010), Katon et al. (2010), Loh et al. (2007) & Unutzer et al. (2002) - primary care clinics; Aljumah and Hassali (2015) - pharmacy routine practice; Van der Voort et al. (2015) - mental health outpatient clinics; Grote et al. (2015) - public health centers; Melville et al. (2014) - obstetrics-gynecology clinics; Ell et al. (2008) - oncology clinics; Huffman et al. (2011) - inpatient cardiac units	SDM interventions using DAs and collaborative care in patients with mood disorders. The studies were divided into: (1) Interventions in patients with mood disorder and (2) Interventions in patients with depressive disorder in specific populations	Usual care	Depressive symptoms; adherence to antidepressants; patient satisfaction, knowledge, and engagement in the decision-making process; functioning; QOL; depression remission and depression severity; rates of appropriate depression treatment, and control of medical disease	Of the 3/14 RCTs evaluated SDM interventions which used DAs in depressed patients. All of them showed improved patient satisfaction & engagement in the decision-making process. Only 1 study in patients with BD showed improvement of depressive symptoms, functioning, & QOL. Other included studies were collaborative care interventions using a SDM approach in patients with depression. Which showed significant improvement in depression outcomes or medication adherence	Critically Low
Fiorillo et al. (2020)	7 (pilot study with random allocation; quasi-experimental, non- equivalent pre/post-test design; cluster-randomised control trial; naturalistic study, before and after, uncontrolled design; randomised parallel-group, two-arm, open-label, single-centre study; randomised-controlled trial, multicentre study; multicentre study; randomised controlled trial)	Germany ($n = 1$), South Korea ($n = 1$), USA ($n = 2$), UK ($n = 2$), Japan ($n = 1$)	Patients with schizophrenia or schizoaffective disorder	Hamann et al. (2011, 2017), An et al. (2017), Ishii et al. (2017) - an acute psychiatric ward; McCabe et al. (2016)– psychiatric out-patient clinics or community mental health services; Ramon et al. (2017) – community services for adults with long-term mental health problems; Finnerty et al. (2018) – Medicaid outpatient clinics; Kane et al. (2019)– community "real world" mental health clinics	SDM interventions to improve adherence to pharmacological treatment; Hamann et al. (2011) & An et al. (2017) – SDM training (group sessions); McCabe et al. (2016) – TEMPO training focused on mental health professionals; Ramon et al. (2017) – separate group training of service users, psychiatrists and care-coordinators; Finnerty et al. (2018) – a web-based SDM application; Kane et al. (2019) – long acting injectable (LAI) treatment with long-acting aripiprazole monohydrate	Hamann et al. (2011, 2017) - 5 sessions of cognitive training group; An et al. (2017) & McCabe et al. (2016) – usual care; Ramon et al. (2017) – N/A; Ishii et al. (2017) – usual psychiatric inpatient care; Finnerty et al. (2018) – a mental health clinic service; Kane et al. (2019) – clinicians choice condition	Hamann et al. (2011) – participation preferences & desire to have more responsibility in treatment decisions; An et al. (2017) – levels of self-esteem, problem-solving ability, QOL; McCabe et al. (2016) – quality of a therapeutic relationship. Ramon et al. (2017)– a change in decisional conflict & perceptions of practitioner's interactional style in promoting SDM, service user's and care-co's confidence to explore medication experience; Ishii et al. (2017) – level of treatment satisfaction, attitude toward medication, treatment continuation, and levels of global functioning; Hamann et al. (2017) – levels of participation preferences and wish to take on more responsibility for medical decision, treatment adherence; Finnerty et al. (2018) – a level of engagement in outpatient mental health services and of adherence to antipsychotic medication; Kane et al. (2019) - acceptance of at least one LAI antipsychotic	No information available	Critically Low
Broughton et al. (2021)	3 (2 RCTs and 1 open non-randomised study)	Canada ($n = 1$), UK ($n = 1$), USA ($n = 1$)	Women considering medication for mental illness during pregnancy	Vigod et al. (2019) – specialist or non-specialist settings; Khalifeh et al. (2019) – GP practices, mental health services, maternity and obstetric services, or self-referral via social media; Guille et al. (2019) - an outpatient obstetrics clinic (with integrated psychiatric services)	Patient Decision Aids (PDAs); Vigod et al. (2019) & Khalifeh et al. (2019) – online PDAs; In Guille et al. (2019) – shared PDA administered via healthcare provider at obstetric clinic	No information available	Vigod et al. (2019) – Primary outcomes: feasibility and acceptability; Secondary outcomes: knowledge, decisional conflict, depression, anxiety; Khalifeh et al. (2019) – N/A; Guille et al. (2019) – proportion of women arriving at a treatment decision, acceptability	Vigod et al. (2019) - 83% completion rate; 82% found the PDA useful for decision making. Sub-group analysis in women from non-specialist setting showed a significant decrease in decisional conflict in the PDA group compared to controls. Khalifeh et al. (2019) – 80% completion rate; 100% found PDA useful for decision making. Guille et al. (2019) – after completing the PDA, 95% of women initially uncertain were able to make a clear choice. 91% of participants agreed they were provided with sufficient information to make an informed decision	Critically Low

(Continued)

Table 1. (Continued)

Review	Studies identified (design)	Country	Population	Setting	Intervention group	Comparison group	Outcome	Significant studies	AMSTAR 2 quality
Fisher et al. (2021)	10 (2 cross-sectional qualitative focus groups, 6 RCTs, 1 cross-sectional survey, 1 pre-/post pilot, 1 mixed methods pre-/post pilot)	USA ($n = 5$), Germany ($n = 1$), Netherlands ($n = 4$)	People with problematic alcohol/other drug use and co-occurring mental health conditions	Abraham et al. (2017) & Bradley et al. (2018) – VA primary care clinics; Deegan et al. (2008) – outpatient psychiatric clinic; Friedrichs et al. (2018) – 4 inpatient psychiatric wards; Joosten et al. (2009, 2011) – 3 inpatient addiction treatment centres; Noel et al. (2016) – 2 community-based residential and outpatient services for men; Woltman et al. (2011) – 3 community-based outpatient case management clinics	SDM interventions to encourage sharing information; Abraham et al. (2017) – telephone-based, nurse-delivered SDM protocol with drafted Option Grids presenting treatment options for women veterans with AUD; Bradley et al. (2018) – patient-centred, alcohol-related, nurse-delivered primary-care management intervention combining motivational interviewing and SDM and using individualised drinking goals. Deegan et al. (2008) – peer-run decision support centre (DSC) comprising use of an internet-based computer program; computer-generated client report and follow-up in consultation discussion of report, optional use of DA and SDM about next steps in treatment; Joosten et al. (2009) – clinician- delivered SDM intervention comprising both motivational interviewing and SDM components. Noel et al. (2016) – clinical inventory capturing program specific goals based on domains relevant to dual recovery in patients with co-morbid mental health and SUDs; Woltmann et al. (2011) – DSC to enable SDM about care planning between clinicians and patients	Abraham et al. (2017), Deegan et al. (2008), & Friedrichs et al. (2018) – N/A; Bradley et al. (2018) – usual care which included behavioural health screening, integrated mental health services, access to speciality mental health and addiction clinics. Joosten et al. (2009) – usual care which comprised unstructured procedures to reach treatment agreement. Noel et al. (2016) – N/A; Woltmann et al. (2011) - usual care which comprised traditional case management and community support	Abraham et al. (2017) – decision-making quality; Bradley et al. (2018) – patient treatment & patient symptoms (heavy drinking days, good drinking outcomes, alcohol-related problems); Deegan et al. (2008) – decision making quality; Friedrichs et al. (2018) – decision making quality; Joosten et al. (2009) – patient symptoms, & decision making quality. Noel et al. (2016) – patient symptoms, decision making quality; Woltman et al. (2011) – satisfaction with the care planning process, patient knowledge/recall of care plan	Noel et al. (2016) – both substance use related- and mental health related-recovery showed significant improvements from admission to 6-month follow-up. Joosten et al. (2009) - inpatients randomised to receive a clinician-delivered intervention combining motivational interviewing and SDM experienced significantly greater improvements in psychiatric & drug use severity, compared to those randomised to usual care from baseline to 3-month follow-up. Bradley et al. (2018) – patients receiving the SDM intervention reported a significantly lower percentage of days abstinent at both 3- and 12-month follow-ups compared to usual care involving motivational interviewing	Critically Low
Thomas et al. (2021)	26 studies (29 records) were RCTs, 17 were quasi-experimental studies, & 5 were naturalistic studies. 18 studies (20 records) were qualitative or had a qualitative component	US ($n = 25$), UK ($n = 10$), Germany ($n = 6$), the Netherlands ($n = 4$), Australia ($n = 2$), Japan ($n = 2$), Saudi Arabia ($n = 1$), Finland ($n = 1$), Israel ($n = 1$), & across multiple countries ($n = 1$)	People with SMI	Most interventions were implemented in outpatient settings, 6 were delivered in inpatient settings, and 5 within primary care	Decision support tools (DSTs) only, multicomponent interventions involving DSTs, multicomponent interventions not involving DSTs, and shared care planning and preference elicitation interventions	No information available	SDM outcomes (i.e., decisional conflict, perceived effectiveness of the decision-making process, satisfaction with the decision, and knowledge about treatment options, treatment engagement), mental health outcomes (i.e., symptoms), and other outcomes (e.g. length of clinical encounter, cost-effectiveness)	No significant effects identified	Critically Low
Vitger et al. (2021)	16 (all RCTs)	USA ($n = 5$), the Netherlands ($n = 3$), Spain ($n = 2$), UK ($n = 5$), Sweden ($n = 1$), Switzerland ($n = 1$), Canada ($n = 1$), Australia ($n = 1$), Japan ($n = 1$)	People with a wide range of mental health conditions	Electronic or digital platform	A web-based information and/or DA, a computer-mediated procedure, or smartphone/tablet application	Mostly usual care; Steinwachs et al. (2011) – educational video; Vigod et al. (2019) – online information sheet; MacInnes et al. (2016) – same frequency of meetings but without the structured communication; Kravitz et al. (2013) – a sleep hygiene video; Priebe et al. (2013) – the same app but used at the end of the consultation and independently; Fisher et al. (2020) – access to publicly available information	Primary outcome: patient activation or indices of the same (e.g., empowerment and self-efficacy), adherence to treatment, hospital admissions, severity of symptoms, and level of functioning; Secondary outcomes: satisfaction, decisional conflict, working alliance, usage and adherence of medicine; and adverse events defined as harms or side effects	Yamaguchi et al. (2017) – a moderate significant effect of digital SDM interventions to promote patient activation compared with a control group ($N = 77$, SMD = 0.56, CI: 0.10, 1.01, $p = .02$). Metz et al. (2018); Priebe et al. (2013) – a significant effect of digital SDM interventions to improve general symptoms ($N = 769$, −0.17, CI: −0.31, −0.03, $p = .02$) (16, 23, 30)	Low

Table 2. Interpretation of CCA.

Pairs of reviews	CCA Overlap	Overlap
27	0%–5%	Slight (Pieper et al., 2014)
7	6%–10%	Moderate (Pieper et al., 2014)
8	11%–15%	High (Pieper et al., 2014)
3	>15%	Very high (Pieper et al., 2014)

studies (n=20/105) appeared in at least two reviews, and the degree of overlap between individual reviews varied from 0% to 60% (Figure 2).

Methodological quality of the included reviews

The methodological quality of the included reviews was poor overall (critically low=60%, low=30%,and high=10%); only 30% (k=3/10) provided an a priori protocol, 80% (k=8/10) conducted a 'comprehensive' literature search, 30% (k=3/10) provided a list of excluded studies, and 30% (k=3/10) performed meta-analyses. AMSTAR 2 scores for each review are presented in Supplemental Appendix 5.

Characteristics of the included reviews

All reviews referred to the broader SDM literature and cited at least one of the following SDM models: Charles et al. model of medical decision-making (Duncan et al., 2010; Fisher et al., 2021; Légaré et al., 2018; Stacey et al., 2017; Thomas et al., 2021; Vitger et al., 2021; Zisman-Ilani, Barnett et al., 2017), the Integrative model of SDM (Stacey et al., 2017), the Three Talk Model (Broughton et al., 2021; Fiorillo et al., 2020; Légaré et al., 2018; Samalin et al., 2018; Vitger et al., 2021; Zisman-Ilani, Barnett et al., 2017), the SDM 3 Circle model (Légaré et al., 2018; Vitger et al., 2021). However, not all reviews (k=9/10) included a definition of SDM (Duncan et al., 2010; Fiorillo et al., 2020; Fisher et al., 2021; Légaré et al., 2018; Samalin et al., 2018; Stacey et al., 2017; Thomas et al., 2021; Vitger et al., 2021; Zisman-Ilani, Barnett et al., 2017). Each review listed at least half (7/14) of the SDM components extracted from the cited models: at least two participants are involved, both parties share information, both parties take steps to build consensus about the preferred treatment to implement, present options, discuss pros/cons, clarify understanding, discuss patient values/preferences, discuss doctor knowledge, make or explicitly defer a decision, establish a collaboration in a decision-relevant situation, check/enhance knowledge, enhance patient participation, and provide decision support. The most frequently listed SDM component was provide decision support (10/10) (Broughton et al., 2021; Duncan et al., 2010; Fiorillo et al., 2020; Fisher et al., 2021; Légaré et al., 2018; Samalin et al., 2018; Stacey et al., 2017; Thomas et al., 2021; Vitger et al., 2021; Zisman-Ilani, Barnett et al., 2017), and the least frequently listed one was check/clarify understanding/summarize (1/10) (Broughton et al., 2021). However, SDM components such as build trust, establish a therapeutic alliance, support personal recovery, activate, and empower, which are essential for clinical interaction in mental health, were not addressed by the models. All reviews presented a medical perspective on SDM in mental health and focused on inclusion of decision aids (DAs) to promote adherence to psychopharmacological treatment. Three reviews were broader in their scope and offered psycho-educational perspectives on SDM in mental health (Légaré et al., 2018; Thomas et al., 2021; Zisman-Ilani, Barnett et al., 2017). All reviews included several types of measurement tools (e.g. the Autonomy Preference Index, the Observing Patient Involvement in Decision Making, Patient's perceived involvement in Care Scale, Decision Self-Efficacy, and Decisional Conflict Scale) and evaluated a wide range of outcomes, such as treatment satisfaction and knowledge, medication adherence, symptom severity, QOL, hospital readmissions, and recovery rates. Participant-related factors unique to SDM in mental health, such as stigma and mental capacity, were not available. None of the measurement tools were developed and validated for people with mental illness and there was no consensus on outcomes as primary targets of SDM research in mental health.

Characteristics of SDM interventions in primary studies

The primary studies were conducted across four different types of treatment settings (Figure 3): mental health hospital settings (N=15), general hospital settings (N=1), community mental health settings (N=56), and community health settings (N=28). SDM Interventions fell into the following categories: decision support tools (DSTs) only, multicomponent interventions involving DSTs, multicomponent interventions not involving DSTs, and shared care planning and preference elicitation interventions. SDM interventions were applied to a wide range of mental health conditions (Figure 3) and treatment-related decisions (Figure 3). Main diagnoses were schizophrenia-spectrum disorders (N=31), SMI-related disorders (i.e. a mix of patients diagnosed with one of the following: schizophrenia-spectrum disorders, depressive disorders, anxiety disorders, BDs, SUDs, personality disorders, and PTSD (N=29), and depressive disorders (N=27). Far less addressed conditions were eating disorders (N=1), and borderline personality disorders (N=1). Main SDM components included: define goals and actions (N=11), enhance patient participation/activate and empower patients (N=37), discuss patient values/preferences (N=32), establish a therapeutic alliance (N=11), and make the decision (N=9). A summary of all treatment settings, mental health diagnoses, and SDM components is presented in Supplemental Appendix 9.

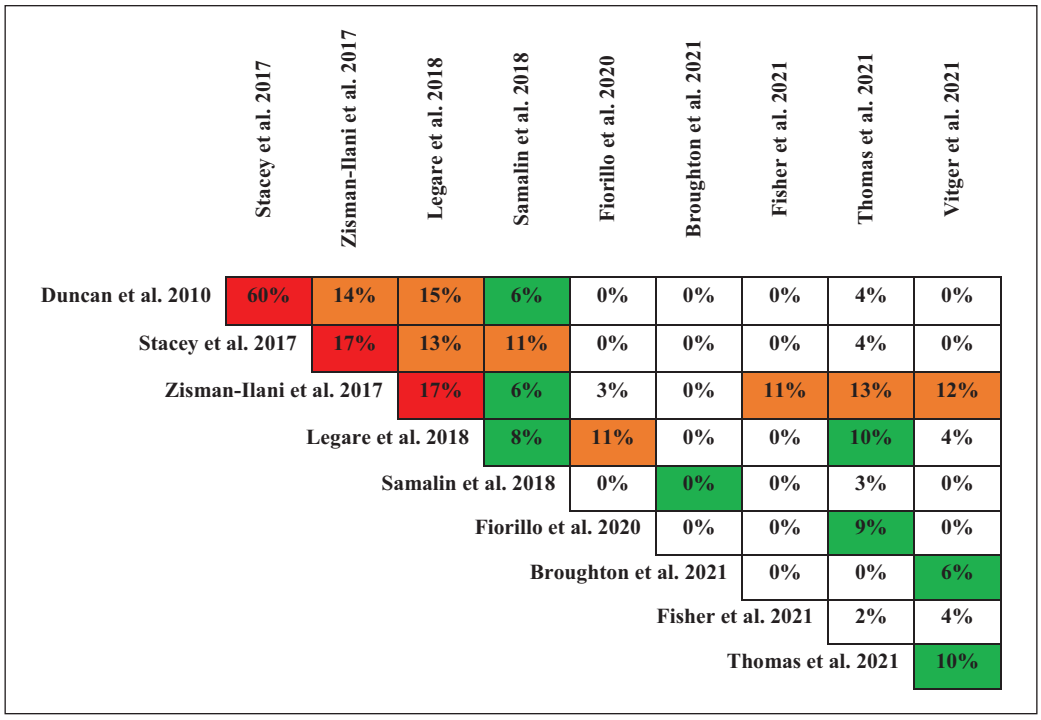

Figure 2. Degree of overlap between the reviews.

Global trends of SDM practices

Over the last two decades, the landscape of SDM research in mental health has established itself as a growing area of intellectual inquiry, with almost half of the primary studies (43%) published from 2015 to 2020 (Figure 4). Despite a rapid increase in peer-reviewed publications on SDM in mental health, much research has relied on SDM models applied in physical health and focused narrowly on psychopharmacological decision-making among patient-clinician dyads in community-based settings. None of the existing instruments to measure SDM in mental health have been developed and validated with and for people with mental illness, and there has been a lack of consensus on outcomes as primary targets of SDM mental health. The results of this umbrella review highlight the need to expand SDM mental health research to a broader range of decisions, participants, and settings, with a particular focus on family members, peer support workers, and non-psychiatric healthcare professionals (Hamann & Heres, 2019; Zisman-Ilani & Byrne, 2022). Directions for future research include the development and validation of SDM measures that acknowledge participant-related factors unique to SDM in mental health, such as stigma and mental capacity.

Discussion

This umbrella review provides the first systematic analysis of global development trends, challenges, and priorities of SDM research in mental health. It offers a comprehensive overview of SDM interventions and tools for mental health based on 10 systematic reviews and 100 nested studies, with a total of 47,846 participants.

The scope and relevance of SDM interventions in mental health

All included reviews presented a medical perspective on SDM in mental health and focused on the inclusion of DAs to promote adherence to psychopharmacological treatment. Although DAs reflect significant advances in the effort to involve patients in decision-making, they tend to focus on one element of SDM – information exchange – and do not target other important components of the SDM process, such as deliberation and joint decision-making, or building rapport and trust (Wieringa et al., 2019). Therefore, focusing on the practice of exchanging information overlooks the possible broader contribution of SDM to such outcomes (Perestelo-Perez et al., 2017). The recovery model proposes the integration of people with mental illness into the community, and greater responsibility and involvement in decisions about their own lives. In this respect, one of the most important priorities for future research is to capture the complexity of SDM in mental health when decisions occur over multiple time periods, involve chronic and ongoing challenges, and often with significant shame or stigma (Perestelo-Perez et al., 2017). Future SDM interventions and tools should include, in addition to psychopharmacological decisions, social prescribing decisions and therapy decisions, such as psychosocial issues like work, lifestyle,

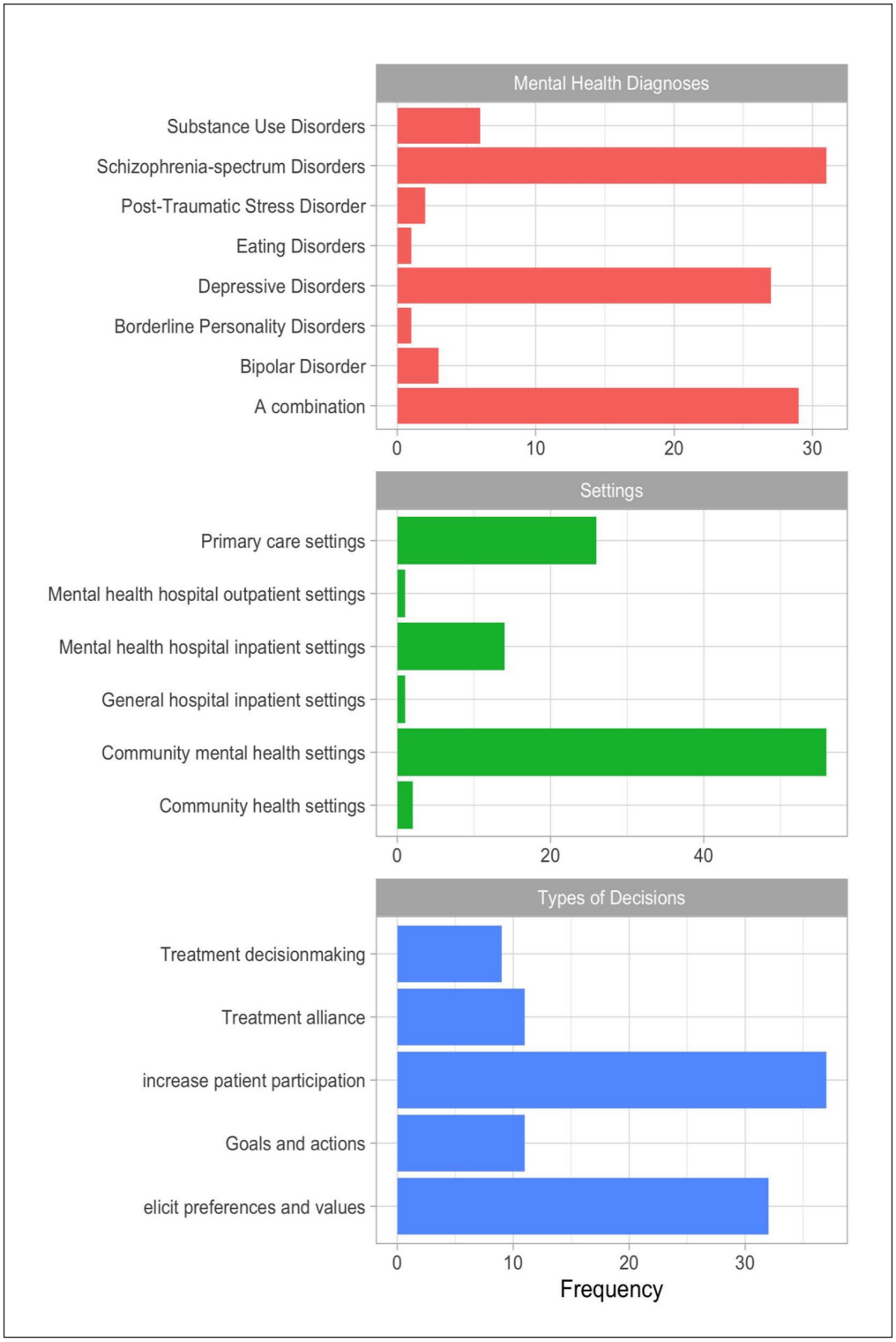

Figure 3. Treatment settings, diagnoses, and decision types across the included studies.

housing, legal issues or social and leisure activities (Zisman-Ilani & Byrne, 2022; Zisman-Ilani et al., 2019; Zisman-Ilani, Lysaker et al., 2021). In studies using DAs, inherent training materials should be developed in co-production with clinicians, patients, and other potential members of SDM such as family members and carers.

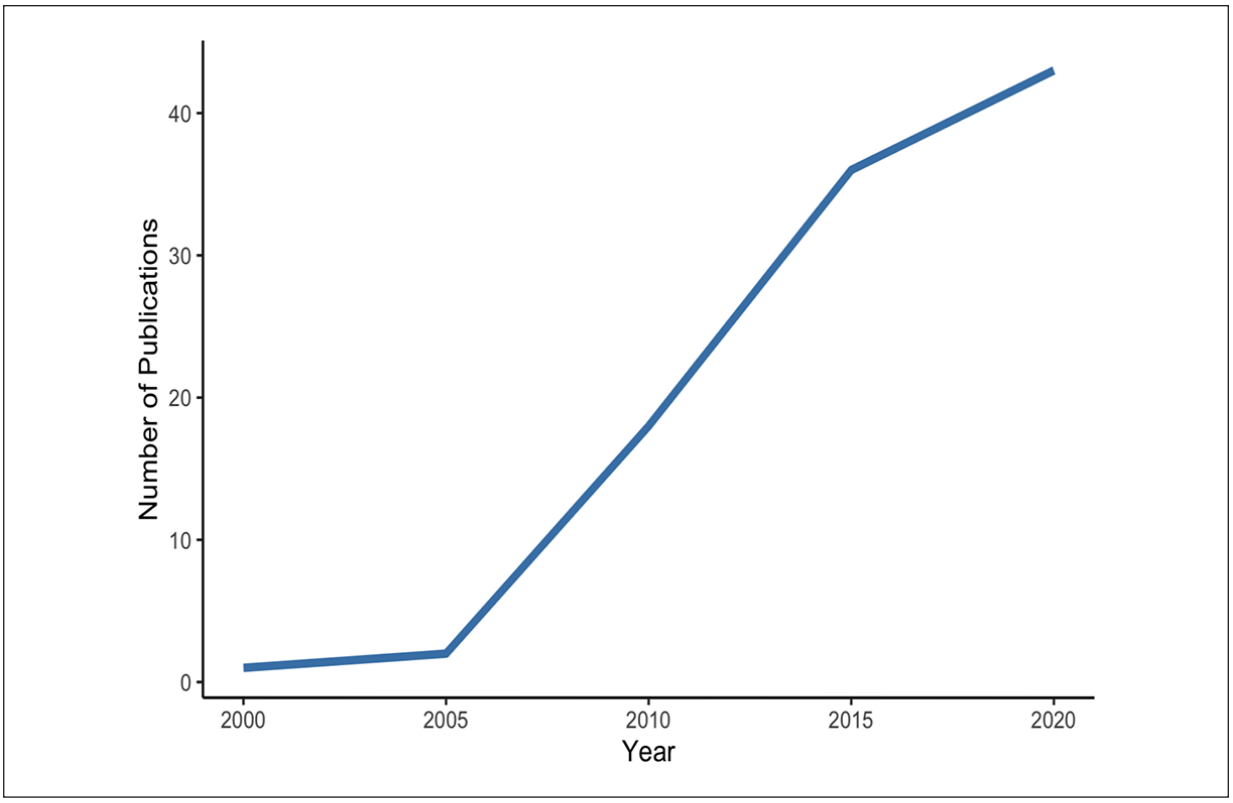

Figure 4. A two-decade output of SDM mental health studies in the included reviews.

Polyadic SDM in mental health

All included reviews evaluated SDM interventions and tools for psychiatric medication decisions in a dyadic context, with two participants, a patient, and a clinician. However, several studies have shown that the presence of a third person in the consultation significantly improves patient engagement and understanding, as well as the symmetrical power relationship between patients and clinicians (Basu et al., 2010; Keeling et al., 2015; Wolff et al., 2015). As such, polyadic consultations with more than two participants, offer not only the potential for cooperation, but also for long-term and recovery-oriented care. Most mental health guidelines encourage the involvement of patient SNs (i.e. family members, carers or peer support workers; PSWs) in treatment planning and decision-making (Dirik et al., 2017). Carers and family members can improve patient engagement with treatment, respond to early warning signs of relapse (Herz et al., 2000) and lead to better outcomes from both therapy and medication (Glick et al., 2011), leading to shorter hospital stays and better QOL (Schofield et al., 2001). Notably, because of their personal experience, PSWs often have credibility, especially with parents, and can build trust (Gyamfi et al., 2010) and promote family engagement in the recovery process (Wisdom et al., 2011). PSWs also challenge stigma and promote help-seeking behavior among patients with mental illness (Thornicroft et al., 2016; Yanos et al., 2015). Future research studies should focus on the involvement of PSWs and family members in SDM.

The conceptual landscape of SDM in mental health

All reviews included several types of measurement tools and evaluated a wide range of outcomes (Perestelo-Perez et al., 2017). However, none of the reviews included an assessment of mental capacity to make treatment-related decisions, which has become a key component of daily clinical practice (Harding & Taşcıoğlu, 2018; MacKay, 2006). This led to bias in the presentation of what is considered representative evidence of effective SDM research and practice in mental health, especially in SMI, where frequent fluctuation and variation in decision-making capacity and its implications for evolving research on SDM in mental health (Zisman-Ilani, Chmielowska et al., 2021). Currently, clinical outcomes such as psychiatric hospitalizations or psychiatric symptoms remain a focus of SDM research and contribute to a mixed evidence base for the effectiveness of SDM interventions in mental health, in which recovery-oriented outcomes such as empowerment, self-efficacy, and hopefulness are the main outcomes, especially in the mental health services field, which SDM is part of (Salyers & Zisman-Ilani, 2020; Zisman-Ilani, Chmielowska et al., 2021). The lack of

validated SDM measures uniquely developed to assess SDM in mental health is a critical factor that contributes to the limited use of recovery-oriented SDM outcomes. SDM research is biased toward White and Western populations as most SDM interventions have not been developed with or for Black, Asian and minority ethnic groups, nor with people with mental illness or other disabilities (Treichler & Zisman-Ilani, 2022; Zisman-Ilani et al., in press; Zisman-Ilani, Chmielowska et al., 2021). As a result, early efforts to investigate SDM in mental health relied on existing tools and measures, with required tailoring and adaptation to mental health (Perestelo-Perez et al., 2017). There are many examples of adaptations of existing SDM measures to mental health, including the SDM-Q-9-Psy as revised version of the SDM-Q-9 (Zisman-Ilani, Roe et al., 2017), but no bottom-up person-centered care measure has been developed with and for people with mental illness. Since most existing measures for SDM in mental health have been adapted or borrowed from SDM studies in chronic physical illness (Perestelo-Perez et al., 2017), the measured SDM output is often less relevant and meaningful for assessing an SDM process in mental health (Zisman-Ilani, Lysaker et al., 2021). A useful strategy is to consider which outcomes are valued by the people who use services and to develop an evaluation approach based on these goals. Person-driven measurement approaches and more participatory research methods can improve both the quality and impact of mental health services. A way to bridge the gap between clinical outcomes and recovery-oriented outcomes is therefore to start with patients' priorities (Barrenger et al., 2019). The measurement of personal outcomes identified by patients should include a recovery orientation and require participatory research methods. This is in line with the focus on agency as a component of recovery (Tang, 2019) by engaging people in recovery in defining their valued life goals. These personal outcomes include key aspects of QOL, such as social connections and feeling safe, change outcomes such as managing symptoms and improving morale, and process outcomes such as being listened to and treated with respect. The person-centered approach helps to overcome some identified tensions by combining different outcomes that include clinical concerns in a way that does not eclipse valued recovery outcomes, and process outcomes that can help to capture benefits associated with the working alliance (Rogers, 2017).

Sociocultural influences on SDM in mental health

All reviews included studies conducted in high-income countries, and none of the SDM interventions in mental health addressed socio-cultural backgrounds and experiences, treatment needs and expectations of patients. Illness narratives are often closely linked to social adversity or trauma, and hold a specific meaning within the local cultural context (Jacob & Patel, 2014). They can include theories of mystical, animistic, and magical causalities (e.g. fate, soul loss, sprit regression, sorcery, and witchcraft), which are predominantly addressed by traditional and faith-based healing treatment (Kirmayer & Bhugra, 2009). There is widespread concern that existing SDM interventions in mental health do not fully promote the key principles and values of person-centered care and personal recovery from mental illness (Matthews et al., 2022; Zisman-Ilani, Chmielowska et al., 2021). Consequently, there is a gap between what services prioritize in terms of SDM outcomes and what matters to patients and their families, especially for marginalized and health-disparity groups, who often experience inequalities in access to mental health services due to perceived discrimination and systemic and cultural barriers (Bansal et al., 2014; Chen & Yang, 2014). Expanding the definition of SDM in mental health to additional outcomes, decisions, and populations will broaden the scope, thereby enabling a better representation of cultural and ethnic diversity in SDM research in mental health (Zisman-Ilani, Barnett et al., 2017).

Limitations

This umbrella review was subject to several limitations. First, the heterogeneity of measures, settings, and sample characteristics prevented the use of meta-analysis on the full data set (McKenzie & Brennan, 2019). To address this, we provided a descriptive account of the SDM literature in mental health and did not synthesize data for analysis. Consequently, judgments about effectiveness were based on the detection of statistically significant differences in outcomes and did not account for effect size. Other limitations include the exclusion of studies published not in English or those conducted with children under 18 years of age.

Recommendations for practice

Although early definitions of SDM suggest some form of family, friend, or carer involvement in patients' mental healthcare (Charles et al., 1997), most interventions do not explicitly address SNs in SDM. Polyadic SDM provides opportunities for both the person with mental illness and members of their SN to express values or preferences in connection with specific decisions (Hamann & Heres, 2019). To support the involvement of SNs in SDM, it will be valuable to conduct focus groups with different stakeholders, including patients and their families, and discuss the fundamentals of why SN involvement is conducted, how it is experienced by patients and members of their SN, and how this relates to the perspective of clinicians. We encourage discussion of the differences and similarities between the different SDM models and theories, considering different ideas about the nature of mental health and the purpose

of involving SNs in these contexts. Exploring and acknowledging such concerns through open but non-judgmental communication could facilitate the establishment of a therapeutic alliance between clinicians, patients, and their SNs.

Recommendations for research

Although there are many instruments to measure SDM in mental health, none of them have been developed and validated with and for people with mental illness, and there was no consensus on outcomes as primary targets of SDM research in mental health. This led to a mixed evidence base for the effectiveness of SDM interventions in mental health, where key aspects of recovery-oriented care, such as empowerment, self-determination, and hope, are the main priorities. In addition, the existing instruments focus only on dyadic patient-clinician consultations, and do not include the values and preferences of SNs in treatment decision-making. Recognition and contribution of polyadic SDM to the treatment of mental illness requires consideration of family members, carers, and PSWs in the evaluation of SDM interventions and treatments. Future research studies are therefore needed to develop and co-produce SDM measurement tools, interventions, and DAs for mental health that focus on personal outcomes that include a recovery orientation and require participatory research methods.

Conclusion

This umbrella review advocates for going beyond the traditional dyad of patient-clinician consultations and recognizes that engagement in mental health is increasingly polyadic. We provide the first framework for SDM in mental health that emphasizes the need for multiple decision-makers, including family members, PSWs, and non-psychiatric health professionals. Our framework puts SDM at the center of person-cantered care and personal recovery from mental illness, where person-driven measurement approaches and participatory research methods are the top priority. It sets a new direction for SDM research in mental health, with the focus on developing and validating SDM measures with and for people with mental illness.

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Conflict of interest

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Supplemental material

Supplemental material for this article is available online.

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