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A Rapid Review of 'Low-Threshold' Psychiatric Medication Prescribing: Considerations for Street Medicine and Beyond

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Abstract

There are currently no widely accepted clinical guidelines, and scant directly applicable pragmatic research, to guide the prescription of psychiatric medications in 'low-threshold' outpatient settings. Such settings include, though are not limited to: street medicine, urgent care, crisis care, bridge/transition clinics, walk-in clinics, and shelter clinics. Providers frequently prescribe medications in these settings without firm psychiatric diagnoses or medical records to guide clinical decision-making. People who receive medications in these settings often seek help voluntarily and intermittently for mental health conditions. They are likely to be less engaged in longitudinal outpatient care due to both structural and individual factors. This paper presents a rapid review of the literature on psychiatric medication prescribing in low-threshold settings and offers clinical considerations for such prescribing. There is an urgent need to invest in pragmatic research as well as guideline development to definitively delineate best practice prescribing in low-threshold settings.

Introduction

Throughout the 1990's and 2000's, psychopharmacologic development rapidly accelerated (1). Leading psychopharmacology manuals incorporated this medication armamentarium and offered detailed, evidence-based recommendations regarding medication dosages, routes, and side effects (2-3). As a field, psychiatry developed professional consensus statements on psychoactive medication prescription (4-6). Despite these broader field

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advances, the practice of street psychiatry specifically, and prescribing in low-threshold outpatient settings more generally, has remained a largely hidden curriculum, its pearls gained and passed on through on-the-ground clinical work (7).

'Low-threshold' medication prescribing practices developed to treat community dwelling people with serious mental illness (SMI), some of whom were homeless and unconnected to long-term outpatient care (8-18). Theoretically, such practices are equity enhancers. They provide voluntary psychiatric care, in the form of prescription medications, to disproportionately under-resourced and structurally vulnerable persons regardless of ability to pay (19). Practically, low-threshold prescribing practices work in conjunction with behavioral and other interventions, such as mobile and community based outreach as well as care navigation and linkages, to increase access for hard-to-reach psychiatric patient populations.

Individuals receiving care in low-threshold prescribing settings often do not have definitive psychiatric diagnoses or known psychiatric histories. These individuals are often not actively engaged in longitudinal outpatient care due to factors such as personal hesitancy, distrust, prior negative interactions with the mental health system, insurance or cost barriers, systemic limitations in care access including structural racism, and mental illness and substance use symptomatology. Low-threshold program models include street medicine, urgent care, mobile crisis, crisis stabilization, crisis residential, bridge/transition clinics, walk-in clinics, and shelter clinics. In these dynamic settings, prescribers might not have access to basic clinical information including medical record documentation, laboratory tests, vital signs, and collateral information. Critical auxiliary support, including social work and nursing, might be limited or absent (20). While important sites for acute psychiatric stabilization, emergency departments can provide involuntary care and obtain medical work-ups. Therefore, while similar prescribing principles may apply in some emergency department settings, for the purposes of this discussion, they are not considered low-threshold.

With state and local health systems focusing their efforts on acute and sub-acute psychiatric crisis care (21), psychiatrists and other psychiatric practitioners (i.e., nurse practitioners, physician assistants, etc.) working in such services are increasingly providing medications to historically underserved and understudied individuals. In doing so, providers confront an array of prescribing dilemmas without evidence-based guidelines (22-23). In an effort to illuminate what is known and existing knowledge gaps, this paper highlights core prescribing challenges in low-threshold settings and offers reasonable psychiatric medication prescribing considerations within these settings.

Methods

We conducted a rapid literature review on low-threshold medication prescribing. We limited the review to 4 major search engines (Google scholar; PubMed (biomedical research); PsycInfo (psychological research); Web of Science (science and technology research)). Each term in group A (street psychiatry psychiatric medication prescribing; street medicine psychiatric medication prescribing; non-traditional outpatient psychiatry psychiatric

medication prescribing; low-threshold outpatient psychiatric medication prescribing; homeless psychiatric medication prescribing; bridge services psychiatric medication prescribing; urgent care psychiatric medication prescribing; crisis care psychiatric medication prescribing) was combined with each term in group B (consensus statement; algorithm; tips; advice; guidelines; recommendations) to produce 48 unique search terms (e.g. “street psychiatry psychiatric medication prescribing consensus statement”). Each of these terms was entered into the 4 search engines. General searches were conducted without restriction as to time period or publication type. The first 20 abstracts, or as many abstracts as resulted (range 0-20), from each search were examined. In total, 2,215 abstracts were reviewed. Of these, 2 were directly relevant to the topic (22-23). Neither of these 2 sources attempted a review of the relevant literature nor commented in detailed fashion on specifics of outpatient psychiatric medication prescribing in low-threshold settings.

We augment this review with up-to-date clinical prescribing literature. Using this literature, and our collective clinical experience, we offer specific considerations for prescribing medications in low-threshold settings. To develop these prescribing considerations, we use DSM-5 Section II Diagnostic Criteria and Codes groupings (“schizophrenia spectrum and other psychotic disorders,” “bipolar and related disorders,” “depressive disorders,” “anxiety disorders,” “trauma- and stressor-related disorders,” “substance-related and addictive disorders”) as starting points to identify five symptom clusters (psychosis, mood, anxiety, trauma, substance use) commonly encountered in low-threshold care settings. As further detailed in the results section below, we use symptom clusters in lieu of formal DSM-5 diagnoses to illustrate the oft-encountered difficulty of establishing definitive diagnoses in individuals treated in these settings (24).

We then link symptom clusters to psychopharmacologic considerations. These considerations are derived from a review of comprehensive psychopharmacologic texts (2-3) as well as the most recent professional society and government guidelines (e.g. 25-27). As scant research has been conducted with individuals in low-threshold settings, much of the psychopharmacology considerations are by necessity derived from research on clinical medication efficacy in conventional outpatient and inpatient practice. We explicitly call our statements “considerations,” rather than “recommendations” to highlight the fact that little to no pragmatic prescribing research exists for the use of most medications in low-threshold settings.

Informed consent was not required as no human research subjects were involved in the generation of the literature review or prescribing considerations. IRB approval was not required given the secondary nature of the research included in this analysis.

Results

Practical Prescribing Considerations By Symptom Cluster

For providers, perhaps the most challenging aspect of prescribing in low-threshold settings is making a DSM-based psychiatric diagnosis to justify a prescribed medication. Individuals treated in low-threshold settings often do not have access to their prior psychiatric records. They may not have social supports who are able to provide meaningful collateral. They

may not tolerate the lengthy, probing assessments required to establish a clear DSM-5 diagnosis (7). They may not recall or may not feel comfortable disclosing prior manic episodes or past traumas. Duration of symptoms may be difficult to elicit. Substance use may complicate the diagnostic picture. For some individuals, the clinician may be able to obtain past clinical information from public databases for Medicaid recipients, the electronic medical record used in the clinical setting (e.g. “Care Everywhere” feature in Epic), prior discharge summaries, collateral from a case manager or social support, or pharmacy records. In practice, however, there is no widely applicable survey or standard for solving such diagnostic dilemmas. The prescriber instead needs to rely on their acumen in the moment and utilize sound clinical judgement to reasonably diagnose and safely treat.

In individuals for whom diagnostic uncertainty is prominent, a symptom-based diagnostic and treatment approach (i.e. psychosis, mood, anxiety, trauma, and substance use) may thus be the most reasonable way to weigh the risks and benefits of medication use in low-threshold settings (see Table 1). Medications can be collaboratively chosen to maximize symptom relief while minimizing risks for harm. This is particularly the case when the medication recipient may not be available for a follow-up visit and when obtaining blood work may be impractical. In effect, when initially prescribing to such individuals, it might be best to assume that no in-person or laboratory monitoring may be possible.

General Considerations—Across all symptom clusters, there are a few factors to consider when choosing medications. First, given the significant care barriers experienced by individuals treated in low-threshold settings, these individuals are at high risk for missing doses and running out of prescriptions. Thus, prescribing medications with withdrawal or discontinuation syndromes, in particular medications with short half-lives, might lead to distress and reluctance to undergo further medication trials (22). Simple medication regimens (e.g. one medication with a moderate to long half-life and dosed once per day) might aid in adherence. Second, gastrointestinal side effects can be particularly troubling for persons without access to restrooms. Slower titration or avoidance of medications with potent gastrointestinal side effects should be considered (22). Withdrawal symptoms, distressing gastrointestinal side effects, or any other medication adverse effect could impact an individual’s willingness to follow-up for further treatment. Third, medications needing refrigeration or secure storage should not be prescribed to persons without access to these amenities (28). Finally, factors such as limited financial means and lack of access to personal transportation can be barriers to acquiring medications from pharmacies. Ideally, low-threshold practitioners might develop partnerships with pharmacies that deliver medications to the clinic or to non-residential settings. Treatment team members – including peers, outreach workers, community health workers, or navigators - could help by accompanying clients to the pharmacy or even picking up medications from the pharmacy and delivering them to clients. If nothing else, providers should attempt to use nearby pharmacies that clients could reasonably access by foot or public transporation.

Psychotic symptoms.: An initial symptom cluster that might present in low-threshold settings is psychosis, including hallucinations, delusions, and disorganized thinking.

Oral Antipsychotics: Second generation antipsychotics (SGAs) are a reasonable medication class to use in treating psychosis in low-threshold settings. SGAs do not require routine or extensive laboratory monitoring when prescribed for short courses, though longer-term use of these medications is associated with weight gain and risk of developing metabolic syndrome and Type 2 Diabetes Mellitus (29). SGAs are preferred over first generation antipsychotics (FGAs) given lower risk of inducing debilitating extrapyramidal symptoms that can impair movement (2). As SGAs do not different significantly in efficacy, patient choice as well as past response, side effect profile, and cost should be paramount drivers for selecting a medication (30). One side effect that warrants special consideration for individuals who sleep in unsafe spaces (shelters, outdoors, violent settings, etc.) is sedation. Individuals who are sedated may be unable to defend themselves from unpredictable interpersonal violence (7,22,28).

Long-acting Injectable Antipsychotics: For individuals who have a known prior treatment history, have been seen several times at a given clinical site, and are amenable to injection medications, long-acting injectable antipsychotics (LAI) may be appropriate for treatment of psychosis. Expert consensus recommends a brief oral trial (between 4-14 days) of the antipsychotic prior to administering a LAI (31). In a large, prospective trial using a national database, LAIs reduced rehospitalization rates by 20-30% relative to oral antipsychotics (32). Numerous other studies have shown benefits of SGA LAIs relative to oral agents in relapse prevention and rehospitalization rate reduction (33-35). Several studies have demonstrated that LAIs can be particularly helpful for medication adherence for persons who are not housed (36-38).

Mood symptoms.: A second cluster to consider is mood-related symptoms, including mania, hypomania, depression, and mixed mood symptoms.

Mania and Hypomania

Antipsychotics: Given the risk of injury or death during manic episodes, acute mania meeting DSM-5 criteria should almost always be referred to emergency psychiatric services rather than treated in a low-threshold setting. For individuals with a compelling history of mania or hypomania who are not in the midst of an acute episode but are presenting to a low-threshold setting seeking medication support, SGAs have an advantage over lithium and most anticonvulsants in that they are not dosed by blood level and thus do not require immediate or long term laboratory follow-up.

Mood stabilizers: SGAs should be preferred for mood stabilization in low-threshold settings. However, if these medications prove inadequate, valproic acid could be carefully considered as an alternative in certain cases. There is a relatively low risk of severe health outcomes with valproic acid toxicity or overdose. That said, should valproic acid be prescribed, valproic acid levels and liver function tests should be monitored to ensure that the individual is not experiencing toxicity (39). Any person with the physiologic possibility of pregnancy should receive a birth control test prior to starting valproic acid and some form of birth control should be offered if valproic acid is prescribed. Lithium should likely be avoided in low-threshold settings. Lithium requires laboratory monitoring and has a narrow therapeutic

index. Toxicity can be lethal. Factors such as dehydration can quickly lead to high lithium blood levels, which can damage critical organ systems such as the kidneys (40).

Depression

Antidepressants: For an individual who presents with depressed mood, it is essential to first screen for prior manic, hypomanic, or mixed mood symptoms that might suggest an underlying bipolar diathesis. If there is low concern for a bipolar diathesis, then an antidepressant is a logical first-line treatment for depressive symptoms. A serotonin reuptake inhibitor (SRI) or serotonin norepinephrine reuptake inhibitor (SNRI) would be an appropriate first choice (41). SRIs and SNRIs have the advantage of relatively moderate side effect profiles and low risk of death in overdose. They do not require strict laboratory monitoring. These characteristics make them ideal medication classes to prescribe in low-threshold settings (41-43).

Bupropion may be a safe and effective antidepressant option for many individuals treated in low-threshold settings. Prior to prescribing bupropion, it is important to screen carefully for seizure history as well as alcohol and benzodiazepine use, as these can increase the risk of seizures in the setting of withdrawal (44).

Mirtazapine and trazodone can be effective adjuncts for treatment of depressive symptoms, particularly for insomnia. However, it is again worth considering dangers associated with the sedating effects of these medications, in particular for individuals sleeping in unsafe settings and at risk for unpredictable violence (7,22,28).

SRIs are preferred to tricyclic antidepressants (TCAs) because of greater efficacy, lower discontinuation rates, and lower risk of death in overdose (45-46). Monoamine oxidase inhibitors (MAOIs) are best avoided in low-threshold settings given risk of life-threatening hypertensive crisis if rigid dietary restrictions are not followed (47). There are also inherent risks, such as serotonin syndrome, in initiating MAOIs in proximity to other recent and possibly unmonitored antidepressant trials (48). Finally, while the selegiline patch is a good antidepressant option for persons who have not responded to other medication classes or who are averse to oral medications, its high cost makes it likely impractical to use in low-threshold settings (49).

Mixed Mood Symptoms

Second Generation Antipsychotics: If an individual is unable to provide a clear treatment history and past records are not available, a conservative approach to treating depression when bipolar disorder has not been ruled out might be to prescribe a SGA for its mood stabilizing properties. Quetiapine, for example, has been shown to be an effective monotherapy, both for treating major depressive disorder and bipolar depression (50-51). It is worth noting, however, that quetiapine, like antidepressants, has a risk of precipitating phase change to a mixed state, hypomania, or mania (51-52). This risk decreases with higher doses of quetiapine and at 600mg/day is equivalent to the frequency of phase change on lithium (51). Again, special consideration is warranted when prescribing quetiapine to individuals sleeping in unsafe settings due to this medication’s sedating effects.

Anxiety symptoms.: A third symptom cluster that may present in low-threshold settings is anxiety.

Antidepressants: According to professional treatment guidelines, the first line treatment for generalized anxiety disorder is a SRI or SNRI (25). Even if a formal anxiety disorder diagnosis cannot be made, given the relative safety of SRI and SNRI medications, individuals who present with primary anxiety symptoms in the absence of acute substance use or evidence of a bipolar diathesis could benefit from these medications.

Benzodiazepines: Given their rapid action and FDA approval for a variety of anxiety presentations, benzodiazepines could be considered in the treatment of unspecified anxiety. However, as we will discuss in the open questions below, the risks of prescribing benzodiazepines in low-threshold settings might outweigh potential benefits.

Antihistamines: A final class of medications that might be considered for treatment of anxiety is antihistamines, such as hydroxyzine. These are non-dependence forming agents that can be effective for acute anxiety (53). Again, providers should use caution when prescribing these sedating medications to individuals who are sleeping in potentially unsafe places.

Trauma-related symptoms.: A fourth - and common - symptom cluster seen in low-threshold settings is trauma-related symptoms.

Antidepressants: Recent evidence raises questions as to whether psychotherapy - the previous treatment standard - is more effective than medication in the treatment of PTSD (54). Given the challenges inherent to referring persons in low-threshold settings to trauma-focused therapy, medication prescription may be appropriate during phases of engagement and shared decision making regarding possible therapy initiation. According to professional treatment guidelines, first-line medication classes for PTSD are SRIs or venlafaxine (a SNRI) (26). As discussed above, SRIs and SNRIs have low risk profiles and do not require routine laboratory monitoring. This makes them suitable for use in low-threshold settings. There is some evidence that prazosin can effectively treat nightmares associated with PTSD. However, in a recent trial in combat veterans, prazosin did not alleviate distressing dreams or improve sleep quality (55). Current evidence recommends avoiding benzodiazepines in the setting of acute trauma given lack of efficacy (56).

Substance use disorders.: A final category of symptoms that commonly presents in low-threshold settings involves symptoms related to substance use.

Opioid Use Disorder: There are three main medications used in the treatment of opioid use disorder (OUD): buprenorphine, methadone, and naltrexone (57).

Buprenorphine is an effective, relatively safe, and easy to initiate outpatient treatment for OUD. Persons with OUD who take buprenorphine are more likely than those who do not take this medication to remain in OUD treatment (58). There is evidence to support the use of buprenorphine in low-threshold settings (59-60). As a vital arm of the opioid

overdose crisis, public health services are developing and implementing programs to treat individuals with OUD with buprenorphine in low-threshold settings. One example is the Street Overdose Response Team created by San Francisco's Department of Public Health. The Street Overdose Response Team works in conjunction with the Department of Public Health's Street Medicine team to address the opioid crisis in San Francisco by delivering buprenorphine to "high risk" housing sites and other locations (61). Of note, during the COVID-19 pandemic, telemedicine-enabled models have made buprenorphine even more accessible (62).

Under federal law, methadone for the treatment of OUD can only be dispensed by a Substance Abuse and Mental Health Services Administration (SAMHSA)-certified treatment program (27).

Oral naltrexone is challenging to use for OUD as its effectiveness is dictated by adherence (57). Without regular clinic monitoring visits and additional supports such as psychosocial substance use treatment, naltrexone is often ineffective in its oral form. Extended-release naltrexone in an injectable that may be the most effective way to use naltrexone in low-threshold settings. However, if individuals are physiologically dependent on opioids at the time of injection, they will enter excruciating precipitated withdrawal. Given the potential difficulty in ensuring that a given individual in a low-threshold setting is not opioid-dependent, dosing this medication could be precarious (57).

For all persons at risk for opioid overdose, naloxone - an opioid antagonist - should be prescribed for use in the event of an opioid overdose (63). Evidence suggests that intranasal naloxone is the most effective delivery method for use by untrained community members (64-65).

Alcohol Use Disorder: There are three medications with extensive evidence bases for treating alcohol use disorder: naltrexone, disulfiram, and acamprosate (66).

Naltrexone is a reasonable first line medication for routine treatment of alcohol use disorder given that it is generally safe and well-tolerated. It can reduce heavy drinking even if the individual continues to drink while taking the medication (66). If the individual tolerates naltrexone and wishes to further curb alcohol use, the provider might offer assistance in accessing tailored substance use treatment.

Both disulfiram and acamprosate work to maintain abstinence (66). In a singular low-threshold setting interview, it might be challenging to assess for abstinence preparedness. Even if an individual is clearly dedicated to pursuing abstinence, it may be preferable to refer them to a detoxification or rehabilitation program rather than prescribe these medications, particularly if it is unclear if the individual has suffered from life-threatening alcohol withdrawal in the past.

Benzodiazepine Use Disorder: There is no well-established, evidence-based treatment for benzodiazepine use disorder. To avoid life-threatening withdrawal, some literature recommends cross-titrating to a long-acting benzodiazepine (67). This would require

prescribing a controlled substance, which might generally be avoided in the low-threshold setting, as discussed below.

Stimulant Use Disorder: To date, no medications have produced consistent clinical trial evidence in the treatment of stimulant use disorders (68). It would be reasonable to address co-occurring substance use disorders and/or aid persons with stimulant use disorders in accessing contingency management services. Of note, there is evidence for the use of antipsychotic medications to treat stimulant-induced psychosis (69-70).

Discussion

There remain many open questions for how to prescribe psychiatric medications in low-threshold settings. In this discussion, we aim to identify some foreseeable dilemmas around prescription duration, controlled substances, other high-risk medications, novel strategies to inform prescribing practices, and value-concordant care and research.

Prescription Duration

It is important to consider whether a given prescription amount could increase risk for a morbid suicide attempt in overdose. Various strategies such as bubble-packing the medication, prescribing 7 days of the medication with 4 refills, and/or, if legal and feasible, holding the prescription at the low-threshold site and dispensing a week's worth of medication at a time, could reduce this self-harm risk.

When thinking about how many pills or refills of a medication to dispense, prescribers need to balance a range of factors including: promoting longitudinal treatment engagement, managing acute or sub-acute symptoms, and/or continuing medications an individual is currently taking. Each goal might dictate a unique timeline for prescribing initial and subsequent medications. Beyond these timing considerations, it is important to concretely consider where a given individual might receive their next medication prescription, including, but not limited to: in the current low-threshold setting, at another low-threshold setting, or at an established outpatient clinic to which they have been newly connected. From these time and place considerations then develop questions of treatment bridging and pill supply. Limiting medication fills to 30 days with no refills could encourage reengagement. Follow up visits could be essential for monitoring medication response and offering additional resources. During these visits, providers could also address potentially treatment-interfering side effects. That said, if a given patient is well known to the low-threshold service, refills might be reasonably and safely dispensed. Further, though by no means exhaustive, considerations that may influence duration of prescriptions include: availability of prescription drug monitoring program records to cross-reference, availability of collateral for verification of previous medication regimens, duration of use and tolerability of the current medication, medical risk of a given prescription to a specific recipient, risk of medication misuse or diversion, and medication cost.

While it may be tempting to assume that the prescriptions provided in low-threshold settings will serve as a bridge to more enduring, focused, and stable outpatient care, there are significant risks if the medication recipient does not present for follow-up and if medications

become a ‘bridge to nowhere.’ The greatest benefit that the low-threshold setting prescriber may provide in such instances is to be welcoming and empathic, establish a therapeutic and collaborative relationship, prescribe safe and tolerable medications for symptom relief, encourage repeat visits, and work to connect the individual to additional resources. The practitioner’s ultimate goal might remain connection to long-term outpatient care, even when larger social factors might nullify this possibility in practice.

Controlled Substances

A challenging dilemma is whether to prescribe controlled substances in low-threshold settings. Benzodiazepines are helpful in the acute treatment of anxiety. Stimulants can treat functionally-impairing attentional conditions. However, with the exception of buprenorphine, which has an evidence base for use in low-threshold settings (59-60, 62, 71), we feel that controlled medication prescribing requires an established treatment relationship that is grounded in mutual trust. This is to ensure that these medications, for which the risks of misuse are severe, are being taken safely. The low-threshold setting often does not allow for such safeguards to be implemented. Therefore, we would caution against routinely prescribing controlled substances beyond buprenorphine. That said, many individuals served in low-threshold settings could benefit immensely from appropriately and safely prescribed controlled substances. Perhaps, the most effective role prescribers could play in such situations is to help these individuals engage with longitudinal care resources in their communities where these medications could be safety prescribed. It is also worth noting that the COVID-19 pandemic has made access to some of these additional resources more challenging. This may justify more liberal prescribing of take-home supplies of controlled substances for management of substance use disorders, in particular, while the crisis persists (72).

Other high risk medications – Lithium, Tricyclic Antidepressants, Clozapine

If a psychiatric medication has a narrow therapeutic index, high risk of toxicity, and/or requires frequent laboratory monitoring or other regular and ongoing evaluation to safely prescribe, it may not be appropriate to prescribe in a low-threshold setting. Such medications include lithium, tricyclic antidepressants, and Clozapine. Safely prescribing these medications in low-threshold settings, even for short courses, will be inherently difficult. For individuals with uncertain follow-up, unknown medication adherence, and unknown medical histories, these medications will be challenging to prescribe at doses that one can be confident are not supratherapeutic. The exception may be for an individual who received one of these medications in a previous setting (e.g. a recent inpatient admission) and who needs a short course to bridge them to an outpatient visit with a known provider. Still, risks and benefits should be weighed carefully and collateral would likely be needed to ensure safe and appropriate medication prescription. For example, a low-threshold setting provider might prescribe sufficient Clozapine to prevent a patient from missing two consecutive days of the medication and thus requiring medication re-titration, a high risk scenario. In order to prescribe Clozapine, the low-threshold provider would need to confirm the medication dose and timing of the last dose, meet federal Clozapine REMS program requirements (including providing an absolute neutrophil count (ANC) according to the

patient's monitoring frequency), locate a pharmacy to fill the medication, and ensure that the patient is connected back to their long-term outpatient clinic.

Novel Strategies to Inform Prescribing Practices in Low-Threshold Settings

In order to grasp the entirety of a given person's presenting social situation, and with the hope that this understanding will lead to safer and more targeted psychiatric medication prescribing, a clinical tool that prescribers could consider using is the Structural Vulnerability Assessment Tool (73). Derived from social scientific literature on social determinants of health, this structured interview guide assesses an individual's access to the social, economic, and health resources that impact their experience with medical and mental health services. In a low-threshold prescribing setting, the provider may modify assessment questions to specifically assess access to social services, proximity to mental health emergency centers, and presence of a social support system that could assist with medication management.

History of prior medication trials can also be difficult to ascertain in low-threshold settings. Individuals may be distrustful of medications if they have had adverse effects from medications in the past. Tools such as the Psychiatric Medication History (74) might aid prescribers in gathering information about past medication experiences in a structured and time-sensitive fashion. If a given individual is not able to recall past medications, the provider might also contact one or more pharmacies at which the individual has previously filled prescriptions, or reference shared electronic medical records (e.g. "Care Everywhere" feature in Epic), in order to obtain these records.

Value-concordant care and research

Finally, and importantly, providing value-concordant care – or care aligned with recipients' treatment goals and preferences – is a major challenge for psychiatric medication prescribing in low-threshold settings. This issue is especially poignant when medication preferences differ between medication recipients and providers. In such situations, to achieve value-concordant care, prescriber attention to medication recipients' subjective experiences is crucial (75). Individuals may demonstrate hesitancy or unwillingness to take psychiatric medications and/or to participate in research conducted in these settings. The reasons for this are complex and range from personal experiences to broader cultural influences. Special consideration should be paid to the disempowering experiences that many individuals have had with the health care system. Indeed, such experiences have been documented in clinical research, where individuals treated in low-threshold settings have been prescribed inappropriate psychotropic medications at high rates (23). Such experiences can foster understandable distrust towards medical institutions and their practices (76). For all of these reasons, it is crucial that informed consent discussions with patients regarding the risks, benefits, and alternatives to each recommended medication be open and honest. The decision to prescribe medications at all must not be not be made lightly. Shared decision-making can help providers to explore care recipients' values and work towards a consensus for agreeable goals of care (77, 78). These goals could ultimately include more intensive and frequent psychiatric care, including regular engagement in behavioral or others

therapies. Notably, prioritization of medication recipients' preferences has been associated with longer and more stable treatment relationships with providers (79).

Limitations

There are several limitations to the above analysis. First, given the rapid, un-systematic nature of the literature review, it is possible that sources specific to low-threshold outpatient psychiatric prescribing were missed. Still, as only 2 immediately applicable sources were found following a review of more than 2,000 abstracts, there is an evident dearth of literature on this topic. Second, given that little evidence-based work has been published on the prescribing of most medications in low-threshold settings, the data on these prescribing practices has, by default, largely been extrapolated from research conducted in more clinical, controlled settings. We use the term 'considerations' rather than 'recommendations' throughout the manuscript so as not to overstate our conclusions given the lack of published and applicable research in this area. Finally, while these medication-specific considerations are literature-based, a comprehensive review of all clinical psychopharmacologic literature for each medication was beyond the scope of this paper. For practice standards, we referenced well-established and comprehensive psychopharmacology texts and up-to-date professional society and government prescribing guidelines. We assume that the prescribing reader of this paper is knowledgeable about the indications, uses, and benefits, as well as common and serious adverse effects, of the medications that they prescribe. We encourage prescribers to consult comprehensive prescribing resources for complete details on any medication.

Conclusions

With the growth of crisis services across the United States, voluntary outpatient psychiatric medication administration in 'low-threshold' settings - or settings in which a medication recipient's definitive psychiatric diagnosis is not known and little collateral information or psychiatric history is available at the time of prescribing - is becoming increasingly commonplace. This is especially true for persons with SMI diagnoses who receive psychiatric prescriptions from street-, shelter-, and walk-in-based providers. In this paper, we conducted a rapid review of prescribing practices and offered detailed, practical considerations for providers treating psychosis, mood, anxiety, trauma, and substance use clinical presentations in such settings. To our knowledge, this is the first attempt at a review of such practices.

We emphasize again that pragmatic research is desperately needed to translate evidence-based, clinical data on psychiatric medication efficacy to real-world effectiveness. We call on influential psychiatric professional organizations, including the American Psychiatric Association (APA) and American Association For Community Psychiatry (AACP) to develop and publish guidelines that inform clinical prescribing, shared decision-making, and malpractice/liability considerations in low-threshold settings. While both research and guideline development will be difficult and multivariate work, the potential payoffs in improved health and safety from evidence-based standards are enormous. Such investments could also further the health equity mission on which many low-threshold settings are

based – to provide psychopharmacological care to persons without healthcare access due to systemic and personal circumstances.

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Highlights:

1. ‘Low-threshold’ outpatient prescribing settings, including street outreach and shelter clinics, are those in which a medication recipient’s psychiatric diagnosis is unknown and collateral information is unavailable at the time of prescribing. 2. There are no prescribing guidelines, and little to no research, to inform the use of most medications in low-threshold settings. 3. A rapid review of the literature was completed and considerations for prescribing in low-threshold settings are offered. 4. There is a need to invest in research and guideline development to delineate best practice prescribing in low-threshold settings.

Table 1.

Summary of psychopharmacology considerations by symptom cluster

Symptom clusters	First line medication class	Alternative medications to consider
Psychosis	SGA[a]	FGA[b]
Mood	SRI[c] / SNRI[d] vs SGA[a]	Mood stabilizer
Anxiety	SRI[c] / SNRI[d]	Hydroxyzine
Trauma	SRI[c] / SNRI[d]	Prazosin
Opioid dependence	Buprenorphine	Injectable naltrexone
Alcohol Dependence	Naltrexone	Disulfiram

[a]Second generation antipsychotic

[b]First generation antipsychotic

[c]Serotonin reuptake inhibitor

[d]Serotonin norepinephrine reuptake inhibitor