Systematic Review and Inventory of Evidence-based Programs and Practices for Justice Involved Adults with Serious Mental Illness, Across the Sequential Intercept Model

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I. Introduction

The United States[1] has a unique criminal justice system that is defined by mass incarceration, disproportionate justice contacts among people of color, and the overrepresentation of people with serious mental illness (SMI).[2] SMI is defined as, "a diagnosable mental, behavioral, or emotional disorder that an adult has experienced in the past year that causes him or her serious functional impairment that substantially interferes with or limits at least one major life activity," and some examples are schizophrenia, bipolar disorder and major depression (SAMHSA, 2020).[3] Adults with SMI are more likely than those without to be in jail or involved in the criminal justice system (Steadman et al., 2009). [4] In the U.S., about two million adults with SMI are admitted to jail each year (Steadman et al., 2009). Data from the Department of Justice estimates that 26% of people in jail and 14% of people in prison reported past 30-day serious psychological distress, compared to 5% of the adult general population (Bronson & Berzofsky, 2017).[5]

In response to the overrepresentation of people with SMI in the criminal justice system, states and localities have developed various programs, policies and practices designed to decrease the involvement. Such responses have been developed across the continuum of justice involvement, from community crisis services to probation and parole, and are often specific to different justice settings (e.g., jail, prison, court, probation officer, community) and different justice agents (e.g., probation officers, judges, correctional officers, police officers).

Purpose of the Project

The purpose of this systematic review[6] was to inventory programs, policies, and practices that serve justice-involved adults with SMI or adults with a co-occurring mental disorder and substance use disorder (COD), and evaluate the quality and strength of the evidence to identify "what works," "what's promising," and "what's not clear". In order to capture the most recent evidence, and identify new or emerging programs, this review focused on studies conducted in the last 10 years, from 2009 to 2019. In recognition of the different entry points and settings that make up the justice system, the systematic review sought to assess studies across the full continuum of justice involvement, as outlined in the sequential intercept model (SIM)[7] (discussed further below) (Munetz & Griffin, 2006).[8] It is believed that this was the first

[1] https://www.britannica.com/place/United-States
[2] https://www.nimh.nih.gov/health/statistics/mental-illness.shtml#:~:text=Serious%20mental%20illness%20(SMI)%20is,or%20more%20major%20life%20activities.
[3] https://www.samhsa.gov/dbhis-collections/smi
[4] https://ps.psychiatryonline.org/doi/full/10.1176/ps.2009.60.6.761
[5] https://www.bjs.gov/content/pub/pdf/imhprpji1112.pdf
[6] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3024725/
[7] https://store.samhsa.gov/sites/default/files/d7/priv/pep19-sim-brochure.pdf
[8] https://ps.psychiatryonline.org/doi/pdf/10.1176/ps.2006.57.4.544

systematic review to encompass studies of programs and practices for people with SMI or COD across the justice system - from community crisis and law enforcement contact, to post-incarceration community supervision - in one place. Studies were identified through peer-reviewed academic journal articles, a grey literature search, mining references, expert outreach, and a state agency search.

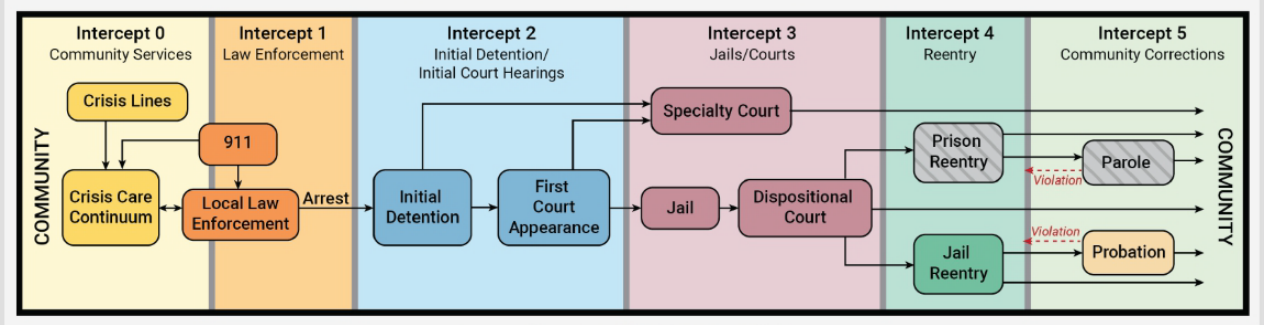
Sequential Intercept Model (SIM)

Developed nearly 15 years ago, the SIM is a tool and conceptual framework that can help communities reduce the overrepresentation of people with behavioral health issues in the criminal justice system (Munetz & Griffin, 2006). The SIM framework recognizes that stakeholders across multiple service sectors (e.g., mental health system, criminal justice system, public health, public safety, social services) have a role to play in reducing the number of people with mental illness in jails and prison (Munetz & Griffin, 2006; Willison et al., 2018).[9] The SIM consists of six intercepts, which represent entry points into the justice system (e.g., arrest) or a point where involvement can intensify (e.g., receiving a conviction and sentence). Intercepts also represent points where people can be linked to appropriate services, diverted or rerouted from an element of the justice system, or prevented from entering the justice system altogether (Munetz & Griffin, 2006; Widgery, 2018). The six intercept points are: a) Intercept 0 - Community Services, b) Intercept 1 - Law Enforcement, c) Intercept 2 - Initial Detention/Court Hearings, d) Intercept 3 - Jails/Courts, e) Intercept 4 - Reentry, [10] and f) Intercept 5 - Community Corrections[11] (Figure 1).

Communities can use the SIM as a strategic planning tool to: a) develop a comprehensive view of how people with SMI and SUD flow through the criminal justice system along six distinct intercept points; [12] b) identify service gaps, resources, and opportunities for intervention at each intercept for people with SMI and SUD; [13] and c) develop priorities for action designed to improve system- and service-level responses for adults with SMI and SUD (PRA, 2018; Abreu, 2017). [14] Interventions should be front-loaded to "intercept" or divert people as early as possible in the system, to prevent any contact from occurring, or to prevent those who are already in the justice system from deepening involvement (Willison et al., 2018).[15]

[9] https://www.urban.org/sites/default/files/publication/99169/using_the_sim_to_guide_local_reform_0.pdf
[10] https://ps.psychiatryonline.org/doi/pdf/10.1176/ps.2006.57.4.544
[11] https://ps.psychiatryonline.org/doi/pdf/10.1176/ps.2006.57.4.544
[12] https://www.prainc.com/wp-content/uploads/2018/06/PRA-SIM-Letter-Paper-2018.pdf
[13] https://www.prainc.com/wp-content/uploads/2018/06/PRA-SIM-Letter-Paper-2018.pdf
[14] https://www.prainc.com/wp-content/uploads/2018/06/PRA-SIM-Letter-Paper-2018.pdf
[15] https://www.urban.org/sites/default/files/publication/99169/using_the_sim_to_guide_local_reform_0.pdf

Figure 1: The Sequential Intercept Model



Source: Abreu et al., 2017[16]

Systematic Review

Systematic reviews use structured and robust methods to find, assess, and summarize large bodies of information and research.[17] By identifying and summarizing the existing state of evidence within a given area, systematic reviews are useful to identify gaps in a body of evidence where further research may be needed (Thompson et al., 2012).[18] Systematic reviews aim to improve a specified outcome(s) by developing evidence-based information about which interventions are most effective, for which people under specific circumstances, and to disseminate that information to patients, clinicians, and decisionmakers[19] (AHRQ, 2014; Helfand, 2005). [20] Such reviews are a form of comparative and evidence-based science, which began with clinical trials in health sciences and were associated with a quality assessment hierarchal process that ranked randomized control trials (RCTs) higher than other types of evidence (e.g., an observational study) [21] (Devereaux & Yusuf, 2003). [22]

The use of systematic reviews has since expanded to other fields, such as criminal justice. In criminal justice, notable examples are the National Institute of Justice's (NIJ) CrimeSolutions.ojp.gov website and the Office of Juvenile Justice and Delinquency Prevention's (OJJDP's) Model Programs Guide (MPG) website, [23] both of which are clearinghouses for programs and practices that have undergone rigorous evaluations and meta-analyses. The two sites assess the strength of the evidence about whether a program has achieved criminal justice and juvenile justice outcomes in order to inform practitioners and policy makers about what works and what does not. [24] Neither CrimeSolutions.gov nor the MPG are mental health-specific,

[16] https://pubmed.ncbi.nlm.nih.gov/29034504/
[17] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3024725/
[18] https://www.ncbi.nlm.nih.gov/books/NBK83621/
[19] https://www.ahrq.gov/research/findings/evidence-based-reports/technical/methodology/index.html
[20] https://www.healthaffairs.org/doi/10.1377/hlthaff.24.1.123
[21] https://onlinelibrary.wiley.com/doi/full/10.1046/j.1365-2796.2003.01201.x
[22] https://onlinelibrary.wiley.com/doi/full/10.1046/j.1365-2796.2003.01201.x
[23] https://www.ojjdp.gov/mpg
[24] https://www.ojjdp.gov/mpg, https://crimesolutions.ojp.gov/

and this systematic review is unique in that the inventory is about the intersection of criminal justice and behavioral health.

To best inform systems-level change and improve individual outcomes, systematic reviews should be based on real-world issues that are important to stakeholders[25] (AHRQ, 2014). As such, systematic reviews are guided by specific research questions that address the outcome of interest[26] (Buckley et al., 2013). The guiding research questions for this systematic review were:

1. What are the promising programs, practices, or policies for serving justice-involved individuals with SMI in the community, including those with co-occurring substance use disorders?
2. What programs/practices and legislative/regulatory approaches are promising for each intercept of the SIM?
3. Which programs/practices are promising at the state level? The local jurisdiction level?
4. For whom are these programs/practices promising? (e.g., subgroups based on age, race, gender, education, Medicaid expansion states or not, others as applicable)
5. What are the limitations and caveats of the identified promising programs/practices?
6. What is the strength of evidence, in the literature, demonstrating these programs/practices as promising?

II. Methodology

In this systematic review, the SAMHSA definitions for program and practice were used. SAMHSA defines a *program*, "as a set of predetermined, structured, and coordinated activities that target specific participants to achieve a desired outcome whereas a *practice* is a type of approach, technique, or strategy (e.g., capacity building).[27] A program can incorporate different practices, and guidance for implementing a specific practice can be developed and distributed as a program" (SAMHSA, 2018).

The research process was divided into three phases. Phase I entailed a comprehensive and systematic search of academic journals and grey literature to identify studies to review for inclusion. In Phase II, the team reviewed article titles, abstracts and text for inventory inclusion. In Phase III, the team evaluated program to assess the quality and strength of the body of evidence for a given program or practice.

Phase I - Search Strategy

Database Search

[25] https://effectivehealthcare.ahrq.gov/products/methods-guidance-principles/methods/
[26] https://www.ncbi.nlm.nih.gov/books/NBK519364/
[27] https://www.samhsa.gov/sites/default/files/ebp_prevention_guidance_document_241.pdf

Three databases were identified for the review: a) PubMed, [28] b) Criminal Justice Abstracts (Ebsco) [29], and c) National Criminal Justice Reference Service (NCJRS). [30] PubMed was used because it is an easily accessible resource that "contains over 30 million citations and abstracts of biomedical and health science literature," to include literature on adults with SMI or COD (Pubmed, 2020). Criminal Justice Abstracts was chosen because it houses hundreds of journals on justice-related subjects, such as criminal law, forensic sciences, incarceration, and law enforcement (Ebsco, 2020). The NCJRS Virtual Library [31] was used because it is an online resource with over 80,000 entries and all Office of Justice Programs' known research (OJP) including reports from the Bureau of Justice Assistance (BJA) and the National Institute of Justice (NIJ) (NCJRS, 2020). BJA and NIJ often fund research and provide grants to states and localities to serve justice-involved adults with SMI or COD or to improve cross-system collaboration. In combination, these three databases contained a multitude of studies and published research from a variety of journals and other sources.

To best organize the search and catalog its findings, the database search strategy was performed seven times – once for the terms associated with each of the six SIM points and once for the general justice terms. This work was performed by four graduate Research Assistants (RA), with oversight by the Project Director. Table 1 below shows the list of terms that were used for the database search. Where possible, RAs employed the use of pre-existing database filters that aligned with some of the review's inclusion criteria - publication date range (2009-2019) and language (English). This was to reduce the number of ineligible studies found in the search process. Inclusion and exclusion criteria are discussed in more detail below.

Table 1. Mental Health and Justice Search Terms Used in the Systematic Review, by Justice Category

Mental Health Search Terms	
Mental illness, mental health, mental problems, serious mental illness, SMI, behavioral health, psychosis, depression, anxiety, schizophrenia, mental disorders, mood disorders, evidence-based, emerging practice, promising practice *And…*	
Justice Category	**Justice Search Terms**
General justice terms	Criminal justice, justice system, crime, offender, defendant, incarcerated

[28] https://pubmed.ncbi.nlm.nih.gov/
[29] https://www.ebsco.com/products/research-databases/criminal-justice-abstracts
[30] https://www.ncjrs.gov/
[31] https://www.ncjrs.gov/whatsncjrs.html%5C

Mental Health Search Terms	
Intercept 0 – Community Services	Community crisis services, crisis intervention, emergency department diversion, crisis care, mobile crisis outreach, hotline, crisis line
Intercept 1 – Law enforcement	Law enforcement, arrest, police response, police, dispatcher training, 911, first responders
Intercept 2 – Initial detention/court hearings	Detention, courts, court hearings, pretrial supervision, pretrial diversion, detain, mental health evaluation, forensic evaluation, judicial education, prosecution, bail
Intercept 3 – Jails/courts	Treatment courts, specialized courts, jail, prison, incarceration, corrections, correctional health, jail-based care, dockets, mental health court
Justice Category	**Justice Search Terms**
Intercept 4 – Reentry	Reentry, transition, return to community, warm hand off, continuum of care, transition planning, release from jail, release from prison, release
Intercept 5 – community supervision	Parole, probation, community supervision, revocation

The generated citations lists were saved in Zotero - a research management database software - [32] and then downloaded to Excel for further screening. [33] Six separate files, corresponding with each SIM point's set of search terms, were maintained. Studies identified through the "general justice terms" search were grouped into the appropriate SIM point folder.

Reference Mining and Expert Outreach

Existing, or already published, meta-analyses and systematic reviews are typically excluded from new systematic reviews. However, the existing reviews can be excellent sources for citations to include. As such, individual studies that were part of relevant meta-analyses and systematic reviews were also reviewed. The majority of individual studies in existing reviews were published before 2009, conducted outside of the US, or duplicated an already identified study; these were excluded without further screening. Mined studies were added to the appropriate SIM literature file for additional inclusion screening.

Expert outreach was conducted by contacting NRI's Board of Directors[34] and Advisory Council[35] members, comprised of leaders at state mental health agencies, criminal justice

[32] https://www.zotero.org/
[33] https://www.microsoft.com/en-us/microsoft-365/excel#pivot-forPersonal
[34] https://www.nri-inc.org/about-nri/board-of-directors/
[35] https://www.nri-inc.org/focus-areas/criminal-justice/advisory-council/

scholars, and mental health experts who work across the justice continuum.[36] The subject matter experts were asked to provide any relevant projects or reports (published or unpublished) that might meet the study's criteria. The recommended or submitted studies were added to the corresponding SIM literature file.

Grey Literature Search – Organizations and Agencies

To find additional reports and research, a grey literature search strategy was conducted. Grey literature is defined as, "manifold document types produced on all levels of government, academics, business and industry in print and electronic formats that are protected by intellectual property rights, of sufficient quality to be collected and preserved by libraries and institutional repositories, but not controlled by commercial publishers; i.e. where publishing is not the primary activity of the producing body," (Schopfel, 2010).[37] This review's process entailed identifying and searching the websites of 23 professional organizations, research firms, think tanks, and academic or government centers that actively conduct, fund, or disseminate mental health and justice research (see Appendix A for the complete list) for research, reports, data or program evaluations. Incorporating grey literature into a systematic review helps reduce publication bias (Balshem et al, 2013).[38]

There were two strategies for the grey literature search: a) find the research, reports, data, or statistics page[39] on the website, or b) use the search function to search for reports using key words. Depending on the structure of the website and volume of results, one or both methods were employed. Found literature were added to the proper SIM literature file for additional screening. For consistency, the same senior researcher completed all of the grey literature organization searches.

Grey Literature Search - State Agencies

In order to augment the search, a targeted state search that entailed reviewing agency websites for relevant reports was conducted. For each of the 50 states, the same senior researcher searched the state's Department of Mental/Behavioral Health[40] (DMBH) and Department of Corrections (DOC) agencies' websites for relevant reports and research, for a total of 100 state agencies.

This search step used the same two-step approach to identify grey literature on websites, as discussed above in the organization search section. After identification, the full text of potentially eligible studies was further reviewed to confirm eligibility based on the review's inclusion criteria. Snowball techniques were used to follow leads on local and county-level

[36] Due to the Board of Directors and Advisory Council's networks, experience, and knowledge, some experts submitted their own research or were affiliated with authors of a submitted report.
[37] https://archivesic.ccsd.cnrs.fr/sic_00581570/document
[38] www.effectivehealthcare.ahrq.gov/reports/final.cfm
[39] The exact name of the research tab or page varied by organization and website design.
[40] Agency names varied by state.

programs and practices that might be eligible for inclusion. This means that if a state report discussed a local level program that met the focus of the systematic review, but did not include any outcome data, it was googled to find more information.

Identified grey literature from both the organization and state searches were tracked, organized, and merged with the SIM point database citation lists. Detailed records of both grey literature searches and screenings were maintained.

Phase II – Review for Inclusion into the Inventory

The next phase involved reviewing the title, abstract, and/or text of the found citations based on the systematic review's established inclusion criteria (Table 2). The first step of this process was to conduct a title and abstract screening. The Project Director trained the research team on how to properly screen the titles, how to apply the inclusion and exclusion criteria, and how to track the results.

For screening, one researcher was assigned to a SIM literature folder, which contained an Excel file with the full bibliographic information for each found citation. In some cases, the number of reports was too large for one person to review and the list was split with another researcher. Researchers screened the Excel lists and excluded those studies with titles that did not apply to the study (see Appendix B for examples of titles that were excluded at this step). If a title indicated possible relevancy, the abstract and/or full text were screened against the inclusion criteria. Where uncertainty occurred about a study's inclusion, team members flagged it and the Project Director would make the inclusion decision.

Table 2. Summary of Inclusion Criteria for the Systematic Review

Category	Inclusion Criteria
Date	• Published between 2009 and 2019.
Geography	• Study conducted in the United States; could be national, state or local level.
Population	• Adults (age 18 and older) with SMI, whether formally diagnosed or not, or who are experiencing a mental health crisis. • May include adults with a COD. • Must include people involved in the justice system or who are at risk of involvement (e.g., at risk for arrest)
Research design	• All research designs eligible for inclusion. • Must include an evaluation or assessment of one program or practice designed to address the needs of adults with SMI or COD who are in the justice system or at risk for involvement. • Must include a comparison group to assess change; could be a pre-and-post design for the same group (e.g., baseline and post-program measures) or a control group compared to a treatment group.

Category	Inclusion Criteria
Outcome variable	• Must include at least one measurable outcome related to person-level mental illness (e.g., reductions in negative mental health symptoms, changes in use of mental health treatment or services). OR • Must include at least one measurable outcome related to justice involvement (e.g., arrest, rearrest, reincarceration, number of days incarcerated, new charge).
Study type	• All study types were eligible for inclusion.
Peer-review	• Not required for inclusion, due to the grey literature search.

Included and Excluded Studies

Included studies must have been published between 2009-2019 to focus on the most recent evidence. Only studies that were conducted in the U.S. were included. The U.S. criminal justice system and healthcare system have defining features that differentiate them from other comparable countries, including mass incarceration that disproportionately affects people of color and a system of health insurance that is tied to employment and economic status.

Only studies on adults (age 18 and older) were included. Studies on youth or children age 17 and under were excluded, as were studies on the juvenile justice system, youth in custody, or minors held in adult correctional facilities. Children and adolescents with behavioral health issues have different needs and considerations from adults and they are typically served by separate mental health, social services, and juvenile justice systems.

Everyone in the study's sample must have had an SMI, COD, or a mental health crisis/emergency of some sort. It was expected that studies would define and operationalize "mental illness" in different ways and this was true. Programs for people with a COD were included, so long as everyone in the entire sample had both a mental illness *and* substance use disorder. Programs specifically designed for adults with opioid use disorder (OUD),[41] alcohol use disorder (AUD),[42] or SUD[43] *without* a co-occurring SMI were excluded. This information was determined by assessing the description of the sample, program criteria, or descriptive statistics.

Studies on the use of medication(s) as treatment for SMI or COD were excluded. For example, a study about long acting injectable antipsychotics to treat depression among women in prison

[41] https://www.cdc.gov/drugoverdose/training/oud/accessible/index.html
[42] https://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/alcohol-use-disorders
[43] https://www.mayoclinic.org/diseases-conditions/drug-addiction/symptoms-causes/syc-20365112#:~:text=Drug%20addiction%2C%20also%20called%20substance,nicotine%20also%20are%20considered%20drugs.

would be excluded. Studies on drug courts, veteran's treatment courts and DUI/DWI courts were also excluded as were studies specific to drunk drivers or other alcohol-related offenses. Although descriptive statistics in these studies would show that a sizeable percentage of the participants had a SMI, unless everyone in the sample had an SMI, the study was excluded.

Community or hospital-based programs at Intercept 0 had to explicitly link to justice diversion in some way (e.g., decreasing the wait time for a psychiatric evaluation among emergency department admissions who are experiencing a mental health crisis). This decision was made to keep the inventory's focus on the intersection of mental illness and justice involvement.

The included literature had to entail a robust enough study design for evaluation of internal and external validity and change in a desired outcome. Of importance to this review was the requirement that the study entail a comparison group of some sort. A comparison group could have been a pre-post design that utilized the same cohort or a comparison of "treatment" to a control or "treatment as usual" group. Some studies did not contain enough detail about the study design for evaluation, and these studies were excluded due to insufficient information to assess its validity. No inclusion criteria related to sample size or research design were established, because of the difficulties of doing research on adults with SMI involved in the justice system and because of expectations that the grey literature search would produce program evaluations or other less rigorous designs. Sample size and research design were considered when rating the quality of the study and the strength of the evidence but were not reasons for exclusion.

The study had to include at least one individual-level mental health or justice variable. This means the outcome variable had to be a change/improvement in a person's mental health, access/utilization of individual-level mental health treatment, or change/improvement in justice outcome or status. Examples of included outcome variables are changes in self-reported symptoms, referrals to mental health services, utilization of mental health services, arrest, rearrest, conviction, or number of days in jails. Excluded outcomes included, but are not limited to, program satisfaction, system-levels outcome (e.g., two new programs established), practitioner-focused variables (e.g., changes in the number of clients served), justice actor-focused variables (e.g., law enforcement officer's perceptions), or training-related variables (e.g., 20 officers trained). Studies could have other outcome variables that were not within the review's scope, so long as it had at least one outcome that met the inclusion criteria.

The limitations of the inclusion criteria are detailed in the Discussion, Section IV.

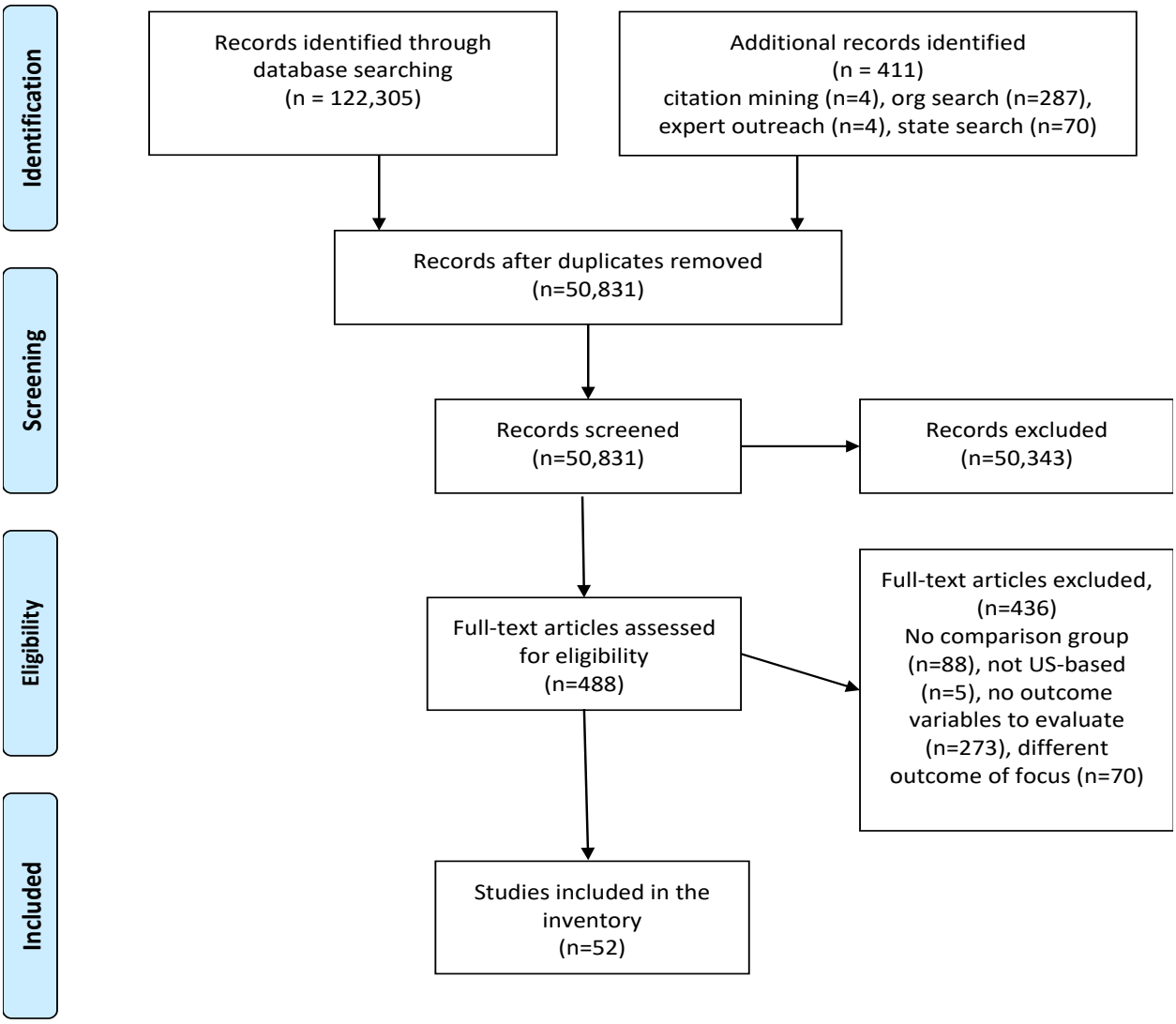
Literature Volume and Flow of Information

PRISMA stands for Preferred Reporting Items of Systematic reviews and Meta-Analyses (PRISMA, 2015a).[44] PRISMA flow diagrams "depict the flow of information through the identified phases of a systematic review. It maps out the number of records identified, included and excluded, and reasons for exclusions," (PRISMA, 2015b).[45] PRISMA can be used to critically assess systematic reviews, "although it is not a quality assessment instrument to gauge the quality of a systematic review," (UNC, 2020).[46]

It should be noted that in this review, articles excluded at the "full-text" stage were often excluded for more than one reason. For example, a study might lack any of the outcomes of interest and only a percentage of the sample had an SMI (e.g., not the right population). Multiple reasons for one study were not coded to avoid double-counting and reviewers chose the category they felt best matched the reason for exclusion.

[44] http://www.prisma-statement.org/PRISMAStatement/HistoryAndDevelopment
[45] http://www.prisma-statement.org/PRISMAStatement/HistoryAndDevelopment
[46] https://guides.lib.unc.edu/prisma

Figure 2: PRISMA Flow Diagram of Included and Excluded Studies[47]



Phase III - Rating and Evaluating the Strength of the Evidence

Rating the Quality of the Evidence

The first step in this phase was to review and rate the quality of each study's methodology and assess the bias. Systematic review procedures evaluate the strength of study credibility by assessing internal validity or "risk of bias," which is an exploration of whether the design and conduct of studies compromised the credibility of the link between exposure/intervention and

[47] http://prisma-statement.org/PRISMAStatement/FlowDiagram

outcome (West et al., 2002). [48] Numerous grading tools and approaches have been designed to summarize the strength of evidence in systematic review. There is disagreement on the best approach or preferred tool for evaluating bias, because the elements associated with risk of bias are under debate (AHRQ, 2014).

As a starting point of any grating tool, the evaluation system must consider the types of study designs that will be under review. Observational studies are particularly difficult to rate on quality and this posed a challenge for this review. This study modified a quality rating tool[49], based on guidance from the Agency for Healthcare Research and Quality (AHRQ) [50] Evidence-based Practice Center (EPC), [51] who suggest including domains for assessment of the research design, sample size, selection bias, performance bias, attrition bias, detection bias, sponsorship bias, outcome reporting and an overall evaluation (see Appendix C for the rating tool)(AHRQ, 2014). The EPC process is designed for use across different study types and can be modified[52] (Berkman et al, 2013).[53] The Project Director tested the tool and trained the research team on its use. Following systematic review guidelines, two researchers reviewed each article using the rating tool and assigned it an overall evaluation of "low," "medium" "high" or "insufficient" (AHRQ, 2014). Based on reviewers' evaluation and input, and a review of her own, the Project Director assigned each study a quality rating of "low," "medium" "high" or "insufficient."

In advance of the quality assessment step, the Project Director reviewed each included study and identified the outcome variables for the reviewers. Outcomes were logged on a tracking sheet. This process was done to decrease outcome identification error among the separate reviewers. When evaluating outcomes in a longitudinal study, the outcome data with the longest follow-up time was used, consistent with assumptions about recidivism and standards in recidivism research. Only one study had outcomes from multiple sites – mental health courts in the Bronx and Brooklyn - that were assessed separately (Rossman, 2012).[54] Two of the Medicaid studies used data from multiple localities but aggregated the data for analysis.

Evaluating the Strength of the Evidence

In this step, the strength of the evidence was considered for programs or practices in which there was more than one study (e.g., mental health courts). If there was only one study, the strength of the evidence rested on the quality rating of that single study, because there was no "body of evidence" to assess. The Project Director assessed the strength of the evidence for programs or

[48] https://www.ncbi.nlm.nih.gov/books/NBK33869/
[49] https://www.ahrq.gov/research/findings/evidence-based-reports/technical/tools-software/index.html, https://effectivehealthcare.ahrq.gov/products/methods-guidance-bias-individual-studies/methods
[50] https://www.ahrq.gov/
[51] https://www.ahrq.gov/research/findings/evidence-based-reports/overview/index.html
[52] https://pubmed.ncbi.nlm.nih.gov/24404627/
[53] https://pubmed.ncbi.nlm.nih.gov/24404627/
[54] https://doi.org/10.1037/e526732013-001

practices for which there were multiple studies with an AHRQ EPC rating tool (see Appendix D for the strength rating tool) (AHRQ, 2014). This strength rating tool utilized data from the quality rating step and considered aspects such as the precision, directionality, and consistency of outcomes across studies (Berkman et al, 2013).[55] Once this step was completed, the quality ratings of low, medium and high were translated into strength of evidence categories of "what works," "what's promising," and "what's not clear" for the inventory:

- ***"What works"*** - corresponds to studies that were rated high, or medium quality with very strong results; findings showed significant changes in the outcome variable in the desired direction; where applicable, findings were consistent across multiple studies, locations, or groups. Programs that received a "what works" rating were more likely to have evidence from multiple studies.

- ***"What's promising"*** – corresponds to studies rated medium or low quality with compelling results; findings showed promise in achieving the outcomes of interest, but require additional testing; findings showed effectiveness, but a larger sample size or more rigorous design test was needed.

- ***"What's not clear"*** – corresponds to studies rated low quality or insufficient; might include programs or practices for which the studies had conflicting findings (e.g., one study shows a program works whereas another study shows that it does not) or showed no effect.

In both the quality rating and strength of the evidence assessments, subjectivity might have played a part in determining the ratings and assessments, as researchers performed this work.

III. Findings and Inventory

This systematic review produced an inventory of 52 studies representing 34 different types of programs across the SIM model, from Intercept 0 through Intercept 5. The inventory below (Table 4) displays the programs and practices that were conducted in 2009-2019 and identified through this systematic review. The programs are grouped by intercept point and there are five columns: a) the program/practice name and a brief description, b) the number of studies, c) justice outcomes, d) mental health outcomes, and e) study's population and setting. Program descriptions were taken directly from the articles and they retain the original language used in the study (e.g., offenders). The number of studies indicates the number of included studies for a particular program. For example, the inventory includes 13 studies about the same mental health courts model, as such, this is designated by a "13" in the column. The setting broadly communicates where the program or practice is implemented, such as in the community or in prison. If the location of a study was known, it is included in the table. See Appendix E for a

[55] https://pubmed.ncbi.nlm.nih.gov/24404627/

complete listing of each study in the inventory, its research design, sample size, and the specific justice and mental health outcomes.

The justice outcomes were all related to arrest or recidivism (e.g., rearrest, new conviction, return to prison/jail, number of days incarcerated) and the mental health outcomes were related to individual-level outcomes, predominantly a reduction in mental health symptoms as measured with a standardized instrument or an increase in mental health services. Outcomes where the evidence shows "it works" are in yellow, outcomes for which the evidence shows "it is promising" are in green, and outcomes for which the evidence is not clear are in light blue. Note that not every study had both a justice and mental health outcome and this was not a requirement for inclusion in the review. Studies for which there was an absence of one outcome, or the outcome wasn't the right fit for the study, are designated as "not measured" under the proper outcome category. These are shaded in grey in the inventory.

Table 3: Inventory of Programs and Practices for Adults with SMI, by Intercept Point, 2009-2019

Program/Practice Name and Description (Study's First Author's Last Name and Publication Year)	No. of Studies	Justice Outcomes	Mental Health Outcomes	Population (and Setting)
Intercept 0, Community Services				
Forensic Assertive Community Treatment (FACT) – FACT is an adaptation of the assertive community treatment model. Participants in the FACT program receive team-based mental health and substance abuse services, as well as support for housing, employment assistance, benefits applications, and advocacy. (Cusak, 2012)	1	**Promising**	**Works**	Adults with SMI and criminal justice risk (CJ-risk) (Community – California)
Rochester FACT Model – This modified version of a FACT program consists of four components, including high-fidelity ACT provided by a team of criminal justice staff, identification and targeting of criminogenic risk factors, use of legal authority to promote engagement in necessary interventions (legal leverage), and mental health–criminal justice collaboration to promote effective problem solving. (Lamberti, 2017)	1	**Not clear**	**Promising**	Adults with SMI or COD and CJ-risk (Community - New York)
Citizenship Project – Individuals are matched with a peer mentor and participate in a citizenship class component to enhance participants' problem-solving and other life skills for daily living, their ability to establish social networks, and their knowledge of available community resources. (Clayton, 2013)	1	**Not measured**	**Not clear**	Adults with SMI and CJ-risk (Community - unspecified)

Program/Practice Name and Description (Study's First Author's Last Name and Publication Year)	No. of Studies	Justice Outcomes	Mental Health Outcomes	Population (and Setting)
Opening Doors to Recovery (ODR) – This is a team-based community mental health model that promotes hope, is person-centered, offers peer support, seeks to improve relationships in the family and with others, and capitalizes on participants' strengths. (Compton, 2016)	1	**Not clear**	**Not clear**	Adults with history of psychiatric hospitalizations (Community – Georgia)
Assisted Outpatient Treatment (AOT) – AOT is treatment for individuals with SMI who are unlikely to live safely in the community without supervision and who are also unlikely to voluntarily participate in treatment. Some individuals for whom an AOT order is pursued can sign a voluntary service agreement in lieu of a formal court order. (Gilbert, 2010; Link, 2011)	2	**Promising**	**Not measured**	AOT patients with CJ-history (Community – New York City, NY)
Intercept 1, Law Enforcement				
Co-Responder (police and mental health) Model - This co-responder model pairs up police officers with Boston Emergency Services Team (BEST) clinicians. The goal of the program is to provide community-based psychiatric crisis services to stabilize nonviolent persons experiencing psychiatric emergencies and divert them from jail. (Bonkiewicz, 2018)	1	**Not measured**	**Promising**	Nonviolent adults in crisis (Community - Boston, MA)
Respond, Empower, Advocate, and Listen (REAL) Program – REAL is a community-based, peer support program that assists people with SMI following a police encounter. A collaborative effort between police officers and mental health workers, REAL helps connect people with mental illness to mental health resources and develop long-term mental health plans. (Morabito, 2018)	1	**Not clear**	**Not clear**	Adults who recently had a mental health-related police encounter (Community - Lincoln, NE)
Intercept 2, Initial Detention/Initial Court Hearings				
Relationship-based Care Group – The relationship-based care post-booking program uses a philosophical approach to assume that the empathy, respect, and connectedness inherent in healthy relationships can be instrumental in engaging individuals in therapeutic activities and empowering them to take responsibility for their lives. (Rivas-Vazquez, 2009)	1	**Promising**	**Not measured**	Homeless adults with SMI with history of arrest (Community – Miami-Dade, FL)

Program/Practice Name and Description (Study's First Author's Last Name and Publication Year)	No. of Studies	Justice Outcomes	Mental Health Outcomes	Population (and Setting)
Prosecutor-led Diversion – A jail diversion program coordinated by a county prosecutor's office in which individuals were diverted towards mental health services including case management, community-based services, and housing supports. (Gill, 2017)	1	**Promising**	**Promising**	Adults with SMI and CJ risk (Community – Union County, NJ)
Statewide Jail Diversion Program – In this program, clinicians from community mental health agencies are based in the courts and work with police, prosecuting attorneys, and judges to identify people with SMI or a co-occurring substance use disorders who are appropriate candidates for diversion into community treatment. (Robertson, 2014)	1	**Not clear**	**Not clear**	Adults with SMI and CJ risk (Community – Connecticut)
Advanced Supervision and Intervention Team Support (ASIST) – This is a specialized program designed for defendants with mental illness deemed "inappropriate" for the traditional diversion program. ASIST offers criminal justice supervision in conjunction with mental health treatment and support services. (Frisman, 2017)	1	**Not clear**	**promising**	Adults with SMI and a recent charge (Community – Connecticut)
Women's Initiative for Success with Early Intervention (WISE) – WISE creates a pathway for women deemed incompetent to be diverted out of jail and into mental health treatment faster than the traditional evaluation for competency to stand trial pathway. (Coffman, 2017)	1	**Not clear**	**Not measured**	Women with SMI and a misdemeanor charge (Community – Fulton County, GA)
Community Reintegration Program (CRP), post-booking diversion – This CRP is a county-wide, post-booking outpatient treatment program for people arrested for a misdemeanor offense within the county. (Alarid, 2018)	1	**Promising**	**Not measured**	Adults with SMI and a misdemeanor charge (Community - unspecified location)
Intercept 3, Jails/ Courts				
Mental Health Courts (MCH) - Mental health courts (MHC) utilize treatment and services available in a given community to decrease confinement and of mentally ill offenders'; MHCs are a type of problem-solving court and are an alternative to	13	**Works**	**Works**	Adults with mental illness (Community or courts-level,

Program/Practice Name and Description (Study's First Author's Last Name and Publication Year)	No. of Studies	Justice Outcomes	Mental Health Outcomes	Population (and Setting)
traditional criminal court processing. (Anestis, 2014; Han, 2016; Henzel, 2018; Hiday, 2010 Hiday, 2013; Hiday, 2016; Lowder, 2015; LPA, 2013; Luskin, 2013; Ray, 2014; Rossman, 2012; Steadman, 2011; Yuan, 2018				various locations)
Court-based responses – Comparative evaluation of court-based responses to offenders with mental illnesses (Epperson, 2016)	1	**Promising**	**Promising**	Adults with SMI (Cook County, Il)
MISSION-CJ – "Maintaining Independence and Sobriety through Systems Integration, Outreach, and Networking–Criminal Justice," (MISSION-CJ) is an intervention that targets co-occurring disorders and criminal justice risk factors within a mental health court. (Pinals, 2019; Smelson, 2015)	2	**Promising**	**Promising**	Veterans and non-veterans with COD (Community – Massachusetts)
Seeking Safety, Group Format (SS) – SS is a program developed to promote recovery in people with co-occurring mental illness and substance use disorders. SS can be conducted in small group or individual formats. (Wolff, 2012; Zlotnick, 2009)	2	**Promising**	**Works**	Adults with co-occurring PTSD and SUD (State prison, various locations)
Animal-Assisted Therapy (AAT) - This approach uses an animal as a tool while operating from the therapist's principle foundational method. In addition to AAT, therapy animals help individuals through animal assisted activities (AAA). AAAs provide social, educational, and recreational benefits for people during interactions. (Jasperson, 2012)	1	**Not measured**	**Not clear**	Women with mental illness (State prison – Utah)
Iyengar Yoga - Iyengar yoga is a type of yoga that encourages the use of props (e.g., yoga blocks) to enable practitioners to perform poses effectively. Iyengar classes may include sitting and standing poses, stretches, twists, and breathing exercises, ending with relaxation. (Harner, 2010)	1	**Not measured**	**Not clear**	Women with mental illness (State prison – unspecified location)
Interpersonal Psychotherapy (IPT) – IPT is a treatment program that addresses interpersonal stressors and evaluates an interpersonal crisis as the proximal trigger for the current depressive episode and addresses it by helping individuals improve communication, mourn losses, or adapt to	1	**Not measured**	**Not clear**	Women with COD major depressive disorder (MDD) and SUD

Program/Practice Name and Description (Study's First Author's Last Name and Publication Year)	No. of Studies	Justice Outcomes	Mental Health Outcomes	Population (and Setting)
changes by building or better utilizing a social support network. (Johnson, 2012)				(State prison - Rhode Island)
Modified Therapeutic Community for CODs (MTC) – This is a residency program with formal program activities multiple times a week for six months. This MTC was designed for CODs and to address criminal thinking and behavior; to recognize and respond to the interrelationship of substance abuse, mental illness, and criminality (triple recovery); and to use strategies for symptom management. (Sacks, 2012)	1	**Promising**	**Not measured**	Men with COD (State prison - Colorado)
Dual Diagnosis Offender Program (DDOP) – DDOP is a residential program inside a correctional facility. The goal of DDOP is to divert clients from incarceration and crime and enhance coordination of criminal justice and mental health services for the target population. The program provides integrated substance abuse and mental health group and individual treatment. (Iowa, 2011)	1	**Not clear**	**Not measured**	Men with COD (State prison - Iowa)
Intercept 4, Reentry				
Dangerous Mentally Ill Offender (DMIO) – This program identifies mentally ill prisoners who pose a threat to public safety and provides them opportunities to receive mental health treatment and other services up to five years after their release from prison. (Mayfield, 2009)	1	**Promising**	**Not measured**	Adults in prison with SMI deemed "violent" or "dangerous" (Prison and community – Washington)
Returning Home Ohio– This is an innovative reentry program intended to link prisoners with disabilities (to include SMI) who have a history or risk of housing instability to supportive housing as they are released to the community. (Fontaine, 2012)	1	**Promising**	**Not measured**	Homeless adults with SMI in prison (Prison and community – Ohio)
Release Planning for Serious Persistent Mentally Ill (SPMI) – SPMI-release planning is a pre-release transitions service that attempts to connect offenders with needed services in the community following release. The services address offenders' vocational, housing, SUD, psychiatric, disability, medical, medication, and transportation needs. (Duwe, 2015)	1	**Not clear**	**Not measured**	Adults with SPMI in prison (Prison and community – Minnesota)

Program/Practice Name and Description (Study's First Author's Last Name and Publication Year)	No. of Studies	Justice Outcomes	Mental Health Outcomes	Population (and Setting)
Medicaid discharge planning or enrollment programs - Programs that assist qualifying offenders with Medicaid enrollment at time of facility discharge and community reentry. (Grabert, 2017; Morrissey, 2016; Wenzlow, 2011; CCJBH, 2018)	3	**Not clear**	**Works**	Adults with SMI exiting from jail or prison (Facility and community, various states)
Telepsychiatry – The provision of mental health therapy/treatment in a telemedicine format to adults with SMI who were recently released from a correctional facility. (Farabee, 2016)	1	**Not measured**	**Not clear**	Recently released adults with SMI (Community – California)
Regionalization of Reentry Services – This process of regionalization shifted supervision and control of the reentry program's functions to the six regional forensic directors. Thus, forensic transition team members now work alongside other area personnel who had responsibility for their areas' non-forensic mental health services, including case management, residential programming, and employment services. (Hartwell, 2009)	1	**Promising**	**Not clear**	Adults with SMI released from jail or prison (Community – Massachusetts)
Sober Network Interpersonal Therapy (IPT), Cell-Phone Intervention – In this transitional program, women receive group-based Sober Network IPT while incarcerated and receive a "sober phone" preprogrammed with only sober resources, including the in-prison group provider's number, upon release. (Johnson, 2015)	1	**Not measured**	**Not clear**	Women with co-occurring MDD and SUD (Prison and community – unspecified location)
Connecticut Offender Reentry Program (CORP) - The CORP program was developed for serious and violent offenders and includes three components: a corrections-based Life Skills Reentry Curriculum, collaborative reentry planning sessions to identify and prioritize life concerns, and implementation of the reentry plan through targeted community services and criminal justice supervision. (Kesten, 2012)	1	**Promising**	**Not measured**	Men in prison with a COD (Prison and community – Connecticut)
Peer Employment Education & Recovery Support (PEERS) – This program's goal is to enhance opportunities to obtain employment, facilitate community reintegration, and reduce jail recidivism for women. The focus of the	1	**Not clear**	**Not measured**	Women with COD

Program/Practice Name and Description (Study's First Author's Last Name and Publication Year)	No. of Studies	Justice Outcomes	Mental Health Outcomes	Population (and Setting)
program is on the development of healthy work habits and relationships. (Daly, 2014)				(Community – Los Angeles, CA)
Welcome Home Ministries – This is a peer driven reentry model that provides a combination of recovery programs, and an array of services designed to assist women through the change and transformation process of returning home. (Goldstein, 2009)	1	**Promising**	**Promising**	Women in jail with SMI (Jail and community – San Diego, CA)
Central Pharmacy Pilot Project – For qualifying reentering offenders, this program provides up to 90-days of medications at no cost; a 30-day supply at time of release, and a 60-day supply that be transferred to a participating community pharmacy at no cost. Medications are not limited to psychiatric prescriptions. (Prell, 2014)	1	**Not clear**	**Not measured**	Adults with serious or chronic mental illness (Prison and community pharmacies – Iowa)
Intercept 5, Community Corrections				
Specialty Probation Model – This probation model is typically characterized by small caseloads (less than 100 individuals), sustained officer training in mental health, officer coordination of and direct involvement in probationers' treatment, and reliance on collaborative problem-solving approaches. (Castillo, 2011; Skeem, 2017)	2	**Promising**	**Not measured**	Adults with SMI on probation (Community and probation offices – various locations)

IV. Discussion

This systematic review identified 52 studies that met our inclusion criteria, representing 34 different types of programs across the continuum of justice-involvement, from community crisis through community supervision.

The inventory includes five unique programs in Intercept 0 (Community Services): two different types of Forensic Assertive Community Treatment (FACT) models, a citizenship class designed to enhance participants' daily lives and improve problem solving, a team-based community mental health model, and assisted outpatient treatment (AOT). The variety of programs at Intercept 0 shows that coordinated efforts among community providers, emergency departments, and psychiatric hospitals are occurring. The FACT and AOT studies contained evidence to rate

the programs as “what works” or “what’s promising” for improving their respective outcomes. It is interesting to note that three of the six studies included in this intercept were RCTs, more than any other intercept.

As noted in the limitations below, many studies were excluded at this intercept for not directly linking the program’s goals, population, or outcomes to criminal justice diversion. This was an inclusion criterion for studies at Intercept 0 in order to keep the focus on adults with SMI who are at risk for arrest, contact with law enforcement officers, or other form of justice involvement. Intercept 0 represents an intervention point for people experiencing a mental health crisis who might encounter a law enforcement officer or who need crisis stabilization services to keep them from justice involvement (Willison et al., 2018). For example, a study on a follow-up phone call program to reduce emergency department visits for adults in a mental health crisis was excluded because the study did not connect its purpose with criminal justice outcomes or populations in any way (Heyland and Johnson, 2017).

Intercept 1 (Law Enforcement) includes two programs: a co-responder model that pairs up police officers with a mental health practitioner to better serve adults experiencing a mental health crisis, and the REAL program, which is a peer support program for adults with SMI who recently had an encounter with law enforcement. The programs share the same goal of providing mental health services or resources, but they intervene at different points in the mental health crisis experience: a) when contact or potential contact with law enforcement officer contact is occurring, and b) after it has already occurred. The co-responder model has promising evidence that is improves mental health outcomes. There is unclear evidence on the effect of the REAL program on both mental health and justice outcomes, most or improved evaluation data would help support the evidence.

There are six programs in the inventory for Intercept 2 (Initial Detention/Court Hearings): a relationship-based care group for homeless adults, a prosecutor-led jail diversion program, a statewide jail diversion program, a specialized jail diversion program for adults determined unsuitable for traditional diversion programs, a jail diversion program for women who need a competency evaluation to stand trial (e.g., WISE), and a community reintegration program. Together the findings illustrate the need to consider special populations when developing jail diversion programs, such as homeless adults and women with complex mental health and legal needs. Under this systematic review process, all six of these programs were rated as “promising” or “not clear,” suggesting that more research is needed to evaluate if they consistently “work” to produce the outcomes of interest to this systematic review.

The inventory contains eight different programs at Intercept 3 (Jails/Courts). These programs were represented in 23 studies, 13 of which were devoted to mental health courts, two were on the MISSION-CJ program, and two were on Seeking Safety. Of the seven non-mental health

court programs, five were specifically for adults with a co-occurring SMI and SUD: MISSION-CJ, Seeking Safety, Interpersonal Psychotherapy, MTC for CODs, and the Dual Diagnosis Offender Program. The evidence from this systematic review shows that mental health courts "work" to reduce recidivism and improve mental health outcomes among adults with SMI. It should be noted that many of the mental health court evaluations explored differences between "completers" and "non-completers". When these analyses occurred, significant differences were found between the two groups, suggesting the importance of court program completion in order to achieve the outcomes of focus. Seeking Safety also showed evidence that it "works" to reduce negative mental health symptoms associated with post-traumatic stress disorder among men and women in prison.

Perhaps the most non-traditional programs were identified in this intercept, a yoga program and an animal-assisted therapy program, both of which were for women with SMI in prison. The evidence for these programs was not clear, mostly due to the small samples for each study; there were five people in the yoga program and six in the animal-assisted therapy program. Both studies discussed the challenges with recruitment and retention in a prison environment. Despite these challenges, program satisfaction and enthusiasm (not measured in this inventory) were high among the participants and virtually all participants reported better mental health outcomes, post-program participation.

There are 11 different programs in the inventory at Intercept 4 (Reentry), representing the most variety in program type as compared to other inventory intercept points. The identified programs at Intercept 4 show a diverse range of approaches towards reentry planning, from macro-level, systems-level collaboration programs (regionalization of reentry service) to individual-level programs, such as telepsychiatry. Many of the reentry programs provide comprehensive services that touch upon different areas of need, such as social services, employment supports, and community mental health treatment. The systematic review produced four studies that evaluated enrollment in Medicaid at time of reentry: Oklahoma (one study), Washington (two studies), and California (one study). Together, the strength of the evidence from these four studies suggests that Medicaid discharge or reentry planning programs work to increase mental health service utilization upon return to the community.

The innovative use of technology appears in this intercept with a telepsychiatry program and a program that provided a free cell phone pre-programmed with sober resources and supports to women transitioning from prison to the community. The evidence for these programs was not clear, but they are examples of how technology can be used in reentry planning and transition.

This systematic review included on program type, the specialty probation model, in Intercept 5 (Community Corrections) of the inventory. Overall, the review produced the smallest number of studies for this intercept during the search process, which indicates a lack of outcome research/outcome data on community supervision programs for adults with SMI or COD or an area for which more program development is needed. Based on the strength of the evidence from

these two studies on the specialty probation model, it was rated as promising for reducing justice outcomes.

Limitations of the Inventory

Systematic reviews each differ in their focus, search process, and inclusion criteria, particularly as related to the outcome of interest, and these decisions will produce different samples of studies that align with that review's purpose. The results of this inventory should be interpreted in the context of the systemic review's goal to examine programs, practices and policies for adults with SMI or COD across the entirety of the criminal justice system. The scope of this systematic review is both a strength and limitation of its findings.

There were several limitations of the search phase. The search process could have included or used different databases that were most focused on behavioral health studies, versus criminal justice studies. This might have identified more studies with individual-level mental health outcomes instead of studies focused on the justice actor (e.g., a police officer). The grey literature search examined each state's DOC and state mental health agency's websites for studies, but other state agencies might have had research that this process missed. These agencies were chosen however because each state has a DOC and state mental health agency. The grey literature search of organizations and associations was robust with its inclusion of 23 sites, but different organizations might have had eligible studies that were missed. It was also not possible to conduct a county-level search in the confines of this review and the failure to do so is also a limitation of the search phrase.

Limitations were also related to the inclusion and exclusion criteria. The purpose of this systematic review was to find the latest evidence and studies published before 2009 were not included. Some well-established programs (e.g., cognitive behavioral therapy) are not represented as stand-alone entries in the inventory, in large part because they are not as actively researched as newer programs or practices for which evidence is still needed. It should be noted though that cognitive behavioral therapy is a component of many programs in the inventory.

Other limitations were based on excluding non-U.S. programs and practices which meant neglecting research on different programs in the U.K. and Australia and limiting the sample to studies of adults.

The focus on individual-level mental health and justice outcomes was also a limitation. This criterion excluded studies that might otherwise have been eligible for inclusion in this inventory. Other outcomes of interest that are absent from this inventory include but are not limited to participant or patient satisfaction, cost savings and benefits, improvements in social determinants of health outcomes (e.g., family reunification or maintaining employment), and the impact of

trainings, or attitudes and perceptions on the decision making of criminal justice and behavioral health practitioners. These outcomes can be examined in future systematic reviews.

Another limitation was the inclusion criteria of a comparison group. This is a standard criterion for many systematic reviews, but it hampered this inventory because many identified studies did not include a comparison group or means to properly assess the outcomes of program participation. For example, a statement such as, "ten people were referred to mental health treatment after program implementation" is difficult to interpret without a comparison to give it context. How many people were referred before the program? The search process found many descriptive studies of programs, practices, or policies aimed at decreasing justice involvement among adults with SMI for which an outcome variable was not present. In many cases though, including evaluation data or conducting research of that type was was not the point of the study. As such, the criteria of a comparison group might be less a limitation of this review's methodology and more a reflection of the current state of research that resides in the intersection of criminal justice and behavioral health and the challenges of conducting it.

Related to this, the inventory did not include any policies in the inventory despite eligibility for inclusion. Although policies were discussed in many of the studies or, in some cases, were the impetus for the study itself (e.g., Medicaid discharge planning), there were no identified policy studies that met all of the inclusion criteria. An analysis of "best policies" that employs a different criteria lens than was utilized here is an area for additional research.

Another limitation of the inclusion criteria is that everyone in the program's sample had to have an SMI or COD. This decision was made to keep the population focused on adults who had a mental illness or were experiencing a mental health crisis. As a result, programs that were designed to serve justice-involved adults (e.g., supportive housing for mothers returning from prison), but for which having an SMI or COD was not a program criterion, were excluded here. This is a limitation because descriptions of the sample would show that a percentage of participants had an SMI, furthermore, it was often acknowledged that serving adults with SMI was a goal of the program. However, the goals or purposes of a project were not considered for inclusion.

Lastly, human error, bias, and subjectivity were limitations of this review. In order to reduce this as much as possible, researchers used the same search log template and quality assessment rating tools; the project director conducted trainings on the three phases; mock examples of article ratings were developed and discussed; the same team member conducted the grey literature searches; and the project director assigned the final inventory rankings based on team review.

Gap Analysis Findings

In addition to the limitations of the systematic review noted above, the inventory also contained overarching gaps. For example, none of the programs were specific to the LGBTQ population, as a whole, or as sub-groups (e.g., transgender adults compared to cisgender adults). Jail diversion

might be particularly important for LGBTQ adults because they are more likely to experience sexual victimization while incarcerated (Beck et al., 2013).

None of the studies provided data on the following demographics subgroups: American Indians and Alaska Natives, Native Hawaiians and Pacific Islanders, or Asians. Although these demographic groups constitute smaller percentages of the population than Black and White people, cultural and linguistic differences often affect the expression of SMI, stigma and access to treatment, and justice involvement. With recognition of the challenges associated with small sample sizes, where possible, race and ethnicity data should be disaggregated. Furthermore, programs that serve a large percentage of under-represented minority groups should be funded and supported for evaluation. To that end, few programs closely evaluated gender, race or ethnicity as much as desired. None addressed the management of elders and others with dementia or other age-related cognitive disorders, despite the fact that the number of prisoners age 55 or older sentenced to more than 1 year in state prison increased 400% between 1993 and 2013, from 26,300 to 131,500 (Carson & Sabol, 2016).

During the search process, the presence of programs that addressed adults with SMI and other types of co-occurring disorders, such as intellectual or developmental disabilities or HIV/AIDS was noted. While these programs were excluded from the inventory because the studies did not meet the inclusion criteria, these other co-occurring health conditions are worth considering in discussions on improving justice outcomes among people with mental illness. For example, in 2011-2012, more people in jail and prison reported a cognitive disability than any other disability, and nearly 50% of those in jail with a cognitive disability reported a co-indicator of poor mental health (Bronson et al., 2015).

No programs in the inventory assessed equity issues surrounding who is selected, enrolled, or (un)successful in a program. More specifically, the literature generally lacked acknowledgement of structural and interpersonal barriers related to racial discrimination and economic status that increase the likelihood for justice system contact among communities of color, poor neighborhoods, and racial and ethnic minorities.

None of the programs in the inventory were rural-specific, although program information was available from less populated states (e.g., Iowa). This inventory though is absent programs that are applicable to rural or sparsely populated areas and not all models are feasible for all locations. Nonetheless some forms of diversion can be developed. Indeed, the designers of local diversion measures should consider what Watson and colleagues (2008) have termed the "ecology" of the locale (e.g., the economy, geography, demographics and other features of the area to be served). Related, a key characteristic of diversion programs is that they divert a person *to something* in order to improve certain outcomes. However, the outcome of even the most effective diversion services is only as good as the availability and quality of the services to which a person can be diverted, and this applies to both urban and rural areas.

Gaps in the intercept itself include scarce research on forensic patients, which as court-related, would be subsumed by Intercept 2. The findings of a recent national study found that forensic patients occupy more than half of some states' mental health hospital's beds (Wik, Fisher and Hollen, 2020). This is an important gap. There were no jail-specific programs in Intercept 3, which likely reflects the difficulty of offering programming in a jail setting where only one-third of people are sentenced or awaiting sentence and the average length of stay is 25 days (Zeng, 2020). By comparison, almost everyone in prison has received a sentence of more than one year and the average length of stay is about 2.5 years (Carson, 2020; Kaeble, 2018). These factors make conducting a multi-week therapeutic or treatment program much more challenging in a jail setting.

Regarding gaps in methodology, there were many studies on programs of interest that did not include adequate outcome data for this review. However, the point of research is not always to assess or evaluate program outcomes and an article that describes the history of a program's development, challenges and successes, and lessons learned is also worthwhile information. It is acknowledged that the intersection of criminal justice and mental health research does not readily allow for the 'gold standard' of randomized controlled trials, but even acknowledging that, there is always room for improvement in research. The use of control groups, even a basic pre and post-test design that can enhance the evidence for what works and what does not. The use of propensity score methodology can reduce bias associated with observational studies, and this technique was utilized in many of the studies.

In addition, states and localities are strongly encouraged to fund and include a thoughtful plan for data collection and program evaluation. Without proper assessment data, it can be challenging to show a program's efficacy. Evaluations should incorporate to more quantitative data (e.g., survey questions or scales) where possible. Indeed, many studies were excluded because the evaluation data were in the form of client quotes, for example. The lack of evaluation data or absence of usable evaluation data were particularly common among state and local programs identified through the grey literature searches.

Conclusion

Overall, the results of this systematic review provide behavioral health and criminal justice stakeholders with an inventory of programs designed to serve adults with SMI who are involved with the justice system. It includes programs and practices across the SIM model and the continuum of the criminal justice system. By providing an evaluative inventory of such programs and the evidence for their effectiveness, this review can be used to improve outcomes for justice-involved persons with SMI.

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Appendix A – Grey Literature Association and Organization Search

1. American Jail Association https://www.americanjail.org/
2. American Correctional Association http://www.aca.org/
3. National Center for State Courts https://www.ncsc.org/
4. American Probation and Parole Association https://www.appa-net.org/
5. Vera Institute of Justice https://www.vera.org/research
6. Urban Institute Justice Policy Center https://www.urban.org/policy-centers/justice-policy-center
7. Policy Research Associates https://www.prainc.com/
8. American Psychiatric Association https://www.psychiatry.org/
9. Council of State Governments, Justice Center https://csgjusticecenter.org/
10. SAMHSA Gains Center for Behavioral Health and Justice Transformation https://www.samhsa.gov/gains-center
11. National Sherriff's Association https://www.sheriffs.org/
12. International Association of Chiefs of Police https://www.theiacp.org/
13. National Council for Behavioral Health https://www.thenationalcouncil.org/
14. National Association for Behavioral Healthcare https://www.nabh.org/
15. National Association of Rural Mental Health https://www.narmh.org/
16. National Association of County Behavioral Health and Developmental Disability Directors (NACBHDD) http://nacbhd.org/
17. Arnold Ventures https://www.arnoldventures.org/work/criminal-justice
18. National Institute of Corrections http://www.nicic.gov
19. National Association of Counties https://www.naco.org/topics/justice-public-safety
20. National County State Legislaturehttps://www.ncsl.org/
21. MacArthur Foundation https://www.macfound.org/
22. National District Attorneys Association https://ndaa.org/
23. Washington State Institute for Public policyhttp://www.wsipp.wa.gov/

Appendix B - Examples of Titles that were Screened for Exclusion

- 'I'm going to look for you and take your kids': Reproductive justice in the context of immigration enforcement
- "Rock I Cling To": Religious Engagement in the Lives of Life-Sentenced Women
- Overview of Correctional Programs in the U.S.A
- Prevalence and Problem of Military Veterans in the Maricopa County Arrestee Population
- Attention Deficit Hyperactivity Disorder in Men and Women Newly Committed to Prison: Clinical Characteristics, Psychiatric Comorbidity, and Quality of Life
- Addressing depression and accumulated trauma in urban primary care: challenges and opportunities
- Adjunctive treatment with quetiapine for major depressive disorder: are the benefits of treatment worth the risks?
- Barriers and facilitators to primary care for people with mental health and/or substance use issues: a qualitative study
- Does minority racial-ethnic status moderate outcomes of collaborative care for depression?
- Does the Primary Care Behavioral Health Model Reduce Emergency Department Visits?
- Long-term effects of mental disorders on marital outcomes in the National Comorbidity Survey ten-year follow-up
- Psychosocial risk factors for inconsistent condom use in young people with first episode psychosis
- Justice-Involved Young Adults Research Planning Meeting
- Envisioning an Alternative Future for the Corrections Sector Within the U.S. Criminal Justice System

Appendix C – Rating Tool to Evaluate the Quality of Each Included Inventory Study

Rating tool to assess indiviudal studies in systematic review

Rater's Name	

STUDY INFORMATION:

Title	
1st Author	
Pub date	
Study design	
Study setting	
Sample size	

DIRECTIONS: Review the selected research study and evaluate it based on the indicators below. Choose "N/A" if an element is not applicable to a particular research design. Choose "insufficient" if there is not enough information to make a determination.

	Section 1: Selection bias	**Assessment**	**Notes**
1.1	Does the study address an appropriate and clearly focused question?	yes, no, insufficient, N/A	
1.2	The assignment of subjects to treatment groups was randomised?	yes, no, insufficient, N/A	
1.3	Were the treatment and control groups similar at the start?	yes, no, moderate, insufficient, N/A	
1.4	Were cases and controls selected appropriately?	yes, no, insufficient, N/A	
1.5	Were all revelant outcomes measured in a standard, valid and reliable way?	yes, no, insufficient, N/A	
1.6	Where the study was carried out at more than one site, were results comparable for all sites?	yes, no, insufficient, N/A	
1.7	Did the strategy for recruiting participants into the study differ across study groups?	yes, no, insufficient, N/A	
	Section 2: Performance bias	**Assessment**	**Notes**
2.1	Did researchers rule out any impact from a concurrent intervention or an unintended exposure that might bias	yes, no, insufficient, N/A	
2.2	Did the study maintain fidelity to the intervention protocol?	yes, no, insufficient, N/A	
	Section 3: Attrition bias	**Assessment**	**Notes**
3.1	What was the attitrition rate?		
3.2	If attrition was a concern, were missing data handled? appropriately (e.g., imputation)	yes, no, insufficient, N/A	
	Section 4: Detection bias	**Assessment**	**Notes**
4.1	In prospective studies, was the length of follow-up the same between groups; or in case-control, was the time period between intervention/exposure and outcome the same for cases and controls?	yes, no, insufficient, N/A	
4.2	Were all interventions/expsoures assessed/defined in a standard, valid and reliable way and implemented consistently across all study participants?	yes, no, insufficient, N/A	
4.3	Were all revelant outcomes measured in a standard, valid and reliable way and implemented consistently across all study participants?	yes, no, insufficient, N/A	
	Section 5: Reporting bias	**Assessment**	**Notes**
5.1	Were all prespecified outcomes reported?	yes, no, insufficient, N/A	
	Section 6: Sponsorship bias	**Assessment**	**Notes**
6.1	Was the research sponsored or funded? If yes, list the source in the notes	yes, no, unknown, N/A	
6.2	Were there any conflicts of interest noted? If yes, list in the notes.	yes, no, N/A	

	Section 7: Outcome reporting	**Outcome name or type**	**Estimate**	**Notes**
7.1	What is the estimate for outcome 1?			
7.2	What is the estimate for outcome 2?			
7.3	What is the estimate for outcome 3?			
7.4	What is the estimate for outcome 4?			
7.5	What is the estimate for outcome 5?			
7.6	What is the estimate for outcome 6?			
7.7	Did the intervention achieve the desired outcomes of interest?	yes, moderate/somewhat, no, insufficient		

	Section 8: Overall evaluation	**Assessment**	**Notes**
8.1	As a whole, how would you rate the quality of the methodology (i.e., sufficient information to rate, minimal bias, valid RQs, etc)	low, medium, high, insufficient	

Appendix D – Rating Tool for the Strength of the Evidence

DIRECTIONS: Review the selected research studies for a given intervention, and evaluate them as a whole, based on the indicators below. Choose "N/A" if an element is not applicable to a particular research design. Choose "insufficient" if there is not enough information to make a				
Section 1: Risk of bias and internal validity		**Assessment**	**Notes**	
1.1	Do the studies address an appropriate and clearly focused question?	low bias, moderate bias, high bias, insufficient, N/A		
1.2	Was the assignment of subjects to treatment groups randomised?	low bias, moderate bias, high bias, insufficient, N/A		
1.3	Was an adequate concealment method used?	low bias, moderate bias, high bias, insufficient, N/A		
1.4	Were the treatment and control groups similar at the start?	low bias, moderate bias, high bias, insufficient, N/A		
1.5	Were cases and controls selected appropriately?	low bias, moderate bias, high bias, insufficient, N/A		
1.6	Were all revelant outcomes measured in a standard, valid and reliable way?	low bias, moderate bias, high bias, insufficient, N/A		
1.7	Were all the subjects analysed in the groups to which they were randonly allocated?	low bias, moderate bias, high bias, insufficient, N/A		
1.8	Where the study was carried out at more than one site, were results comparable for all sites?	low bias, moderate bias, high bias, insufficient, N/A		
1.9	Overall, how well did the studies minimize bias?	low bias, moderate bias, high bias, insufficient, N/A		
Section 2: Consistency		**Assessment**	**Notes**	
2.1	Did the effect sizes have the same sign or direction?	consistent, inconsistent, unknown, or N/A		
2.2	Was the range of effect sizes narrow?	consistent, inconsistent, unknown, or N/A		

DIRECTIONS, SECTION 3: Evidence is indirect if, it uses intermediate or surrogate outcomes instead of health outcomes. In this case, one body of evidence links the intervention to intermediate outcomes and another body of evidence links the intermediate to most important outcomes. It uses two or more bodies of evidence to compare interventions A and B— e.g., studies of A vs. placebo and B vs. placebo, or studies of A vs. C and B vs. C but not A vs. B. Indirectness always implies that more than one body of evidence is required to link interventions to the most important health outcomes. Directness may be contingent on the outcomes of interest.				
Section 3: Directness		**List outcome**	**Level of directness**	**Notes**
3.1	What is the level of directness for outcome 1?		direct, indirect	
3.2	What is the level of directness for outcome 2?		direct, indirect	
3.3	What is the level of directness for outcome 3?		direct, indirect	
3.4	What is the level of directness for outcome 4?		direct, indirect	
DIRECTIONS, SECTION 4: Precision is the degree of certainty surrounding an effect estimate with respect to a given outcome.Score dichotomously as one of two levels of precision: Precise, Imprecise. A precise estimate is an estimate that would allow a clinically useful conclusion. An imprecise estimate is one for which the confidence interval is wide enough to include clinically distinct conclusions. For each outcome, list the estimate, CI, p-value/signifincance in the Notes section.				
Section 4: Precision		**List outcome**	**Level of precision**	**Notes**
4.1	What is the precision of the estimate for outcome 1?		precise, imprecise	
4.2	What is the precision of the estimate for outcome 2?		precise, imprecise	
4.3	What is the precision of the estimate for outcome 3?		precise, imprecise	
4.4	What is the precision of the estimate for outcome 4?		precise, imprecise	

Appendix E - Inventory of Individual Studies, by Quality Rating Assessment Score, Methods, and Outcomes

A legend of abbreviations and symbols can be found at the bottom of the inventory.

Score	Program Name (First author, year of study)	Methods (total sample size)	Justice Outcomes	Mental Health (MH) Outcomes
Intercept 0, Community Services				
HIGH	Forensic Assertive Community Treatment (Cusak, 2010)	RCT (n=134)	↓ Jail bookings, 13-24 months ↓ Convictions, 13-24 months ↓ Jail days, 13-24 months	↑ Outpatient visits, 13-24 months, ↓ Hospital days, 13-24 months ↓ Crisis contacts, 13-24 months
HIGH	Rochester Forensic Assertive Community Treatment Model (Lamberti, 2017)	RCT (n=70)	↓ Total arrests ↓ Total convictions ↑ Number of incarcerations ↓ Days in jail ↓ Days in hospital	↑ Days in outpatient MH treatment
MED	Citizenship Intervention (Clayton, 2013)	RCT (n=114)	Not measured	↑ MH symptoms (BPRS), 12 months – thinking disorder ↓ MH symptoms (BPRS), 12 months - anxiety/depression ↑ MH symptoms (BPRS), 12 months - hostility/suspicion ↓ MH symptoms (BPRS), 12 months - activity ↑ MH symptoms (BPRS), 12 months – withdrawal
MED	Opening Doors to Recovery (Compton, 2016)	Cross-sectional (n=100)	↓ Arrests during enrollment ↓ Arrest rate during enrollment	↓ PANNSS symptoms, 12 months ↑ MCAS-P, 12 months ↑ MHRM, 12 months
MED	Assisted Outpatient Treatment (Link, 2011)	Case-control (n=183)	↓ Odds of arrest, >6 months ↓ Odds of violent arrest, >6 months	Not measured

Score	Program Name (First author, year of study)	Methods (total sample size)	Justice Outcomes	Mental Health (MH) Outcomes
LOW	Assisted Outpatient Treatment (Gilbert, 2010)	Cross-sectional (n=211)	↓ Odds of arrest	Not measured
Intercept 1, Law Enforcement				
LOW	Respond, Empower, Advocate, and Listen (REAL Program) (Bonkiewicz, 2018)	Cross-sectional (n=775)	**(-)** Odds of arrest, post referral to REAL, 36 months	↓ MH calls for service, 36 months ↓ Emergency protective custody, 36 months
LOW	Co-Responder police and mental health model (Morabito, 2018)	Observational (n=5,953)	Not measured	↑ Program referrals
Intercept 2, Initial Detention/Court Hearings				
HIGH	Advanced Supervision and Intervention Team Support (ASIST) (Frisman, 2017)	Quasi-experimental (n=111)	↓ Number of arrests in 6 months ↓ % rearrested ↓ % reincarcerated	↑ Negative medication attitude
MED	Relationship-based care group (Rivas-Vazquez, 2009)	Retrospective analysis (n=229)	↓ Number of arrests after diversion	Not measured
MED	Prosecutor-led Diversion (Gill, 2017)	Observational (n=131)	↓ Reincarceration, after 5 years ↓ Number of arrests, after 5 years	↑ Global level of functioning (GLOF)
MED	Community reintegration, post-booking diversion (Alarid, 2018)	Quasi-experimental (n=102)	↓ Number of arrests, 12 months after (MH sample) ↓ Number of arrests, 12 months after (CRP sample) ↓ Number of days in jail, (MH sample) ↓ Number of days in jail, 12 months (CRP sample)	Not measured
LOW	Statewide jail diversion program (Robertson, 2014)	Quasi-experimental (n=712)	↓ Time to arrest ↓ Probability of any jail time	↓ Probability of any hospitalization

Score	Program Name (First author, year of study)	Methods (total sample size)	Justice Outcomes	Mental Health (MH) Outcomes
			↑ Number of jail days	↑ Number of hospitalization days
LOW	Women's Initiative for Success with Early Intervention (WISE) (Coffman, 2017)	Observational (n=16)	↓ Number of days, booking date to referral/court date ↓ Number of days, referral/court date to eval date ↓ Number of days, booking date to resolution	Not measured
Intercept 3, Jails and Courts				
HIGH	Seeking Safety (Zlotnick, 2009)	RCT (n=49)	↓ Return to prison, 6 months	↓ CAPS PTSD total score, 6 months ↓ Brief symptom inventory – positive symptom score, 6 months
MED	Mental Health Courts (Anestis, 2014)	Observational (n=396)	↓ Occurrence of rearrests ↓ Severity of rearrests offense ↓ Number of arrests ↑ Time to rearrests	Not measured
MED	Court-based responses (Epperson, 2016)	Cross-sectional (n=864)	↑ Average arrests ↑ Prison sentences ↓ Odds of arrest	↑ Mental health outpatient treatment service days ↓ Mental health crisis service days ↓ Inpatient psychiatric hospitalization
MED	Mental Health Courts (Han, 2016)	Quasi-experimental (n=741)	↓Arrests	(-) Appointment compliance ↑ Medication compliance (-) Treatment motivation (-) Treatment use (MH services)
MED	Mental Health Courts (Henzel, 2018)	Quasi-experimental (n=420)	↓ New criminal charges ↓ Arrests for new crimes ↓ Days of incarceration	Not measured

Score	Program Name (First author, year of study)	Methods (total sample size)	Justice Outcomes	Mental Health (MH) Outcomes
MED	Mental Health Courts (Hiday, 2013)	Quasi-experimental (n=1,095)	↓ Percent arrested ↓ Any felony rearrests ↓ Any violent felony rearrests ↓ Number of arrests	Not measured
MED	Mental Health Courts (Hiday, 2016)	Secondary data analysis (n=1,095)	↓ Number of rearrests	Not measured
MED	Mental Health Court (Lowder, 2015)	Cross-sectional (n=97)	↓ Charges ↓ Convictions ↓ Jail days	Not measured
MED	Seattle Municipal Mental Health Court (LPA, 2013)	Process evaluation (n=126)	↓ Jail bookings ↓ Number of days in jail ↓ Number of contacts with police ↓ Recidivism rate	↓ MH crisis services
MED	Mental Health Court (Luskin, 2013)	Case-control (n=171)	Not measured	↑ Any MH treatment, outpatient ↓ Any MH treatment, inpatient ↑ Any MH treatment in jail ↓ Individual counseling ↑ Frequency of treatment, outpatient times ↓ Frequency of treatment, inpatient nights ↓ Frequency of treatment, jail nights
MED	MISSION-CJ "Maintaining Independence and Sobriety through Systems Integration, Outreach, and Networking–Criminal Justice," (Pinals, 2019)	Pre- and post-test study (n=97)	↓ Nights incarcerated	↓ Serious depression ↓ Serious anxiety ↓ Depression/anxiety subscale score ↓ Total BASIS-32

Score	Program Name (First author, year of study)	Methods (total sample size)	Justice Outcomes	Mental Health (MH) Outcomes
MED	Mental Health Court (Ray, 2014)	Matched sample (n=449)	↓ Rearrests ↓ Time to rearrests	Not measured
MED	Mental Health Court (Rossman, 2012)	Quasi-experimental (Bronx n =564; Brooklyn n= 303)	↓ Re-arrest, Bronx court ↓ Re-arrest, Brooklyn court ↓ Reconviction, Bronx court ↓ Reconviction, Brooklyn court	Not measured
MED	MISSION-CJ (Smelson, 2015)	Cross-sectional (n=76)	Not measured	↓ Depression/functioning ↓ Psychosis ↓ Overall MH, composite score ↑ Outpatient substance abuse services ↑ Outpatient MH services
MED	Mental Health Court (Steadman, 2011)	Case-control (n=1,047)	↓ Arrests, post-18 months ↓ Incarceration days, post 18-months ↓ Annualized arrest rate	Not measured
MED	Modified Therapeutic Community (MTC) (Sacks, 2012)	RCT (n=127)	↓ Reincarcerated, aftercare MTC group ↓ Number of days until reincarceration, aftercare MTC group ↓ Reincarcerated, prison MTC group ↑ Number of days until reincarceration, prison MTC group	Not measured
MED	Interpersonal Psychotherapy (IPT) (Johnson, 2012)	RCT (n=38)	Not measured	↓ HRSD score, in-prison outcome ↓ HRSD score, post-prison outcome
MED	Dual Diagnosis Program (Iowa, 2011)	Cohort study (n=380)	↓ New convictions, recidivism ↑ Returns to prison, recidivism	Not measured

Score	Program Name (First author, year of study)	Methods (total sample size)	Justice Outcomes	Mental Health (MH) Outcomes
MED	Seeking Safety (Wolff, 2012)	Open-trial design (n=74)	Not measured	↓ GSI score ↓ PCL score
LOW	Mental Health Courts (Hiday, 2010)	Program evaluation (n=88)	↓ Number of rearrests ↑ Odds of being rearrested	Not measured
LOW	Mental Health Court (Yuan, 2018)	Quasi-experimental (n=71)	↓ New arrests, 1 year, pre and post program ↓ Number of arrests, 1 year, pre and post program	Not measured
LOW	Animal-assisted treatment (Jasperson, 2012)	Observational case-control (n=5)	Not measured	↓ Self-reported depression and anxiety symptoms ↑ Observations of positive and prosocial behavior ↑ Motivation to attend treatment
LOW	Iyengar yoga (Harner, 2010)	Observational (n=6)	Not measured	↓ Depression symptoms (BDI-ll), 12 weeks ↓ Anxiety symptoms (BAI), 12 weeks
Intercept 4, Reentry				
HIGH	Oklahoma Medicaid Discharge Planning Program (Wenzlow, 2011)	Program evaluation (n=686)	Not measured	↑ % using Medicaid MH services, 90 days ↑ % enrolled in Medicaid on day of release ↑ % enrolled in Medicaid, 90 days
HIGH	Dangerous Mentally Ill Offender (DMIO) (Mayfield, 2009)	Quasi-experimental (n=344)	↓ Any felony recidivism ↓ Violent felony recidivism ↑ Benefit/cost ratio	Not measured
HIGH	Returning Home Ohio (Fontaine, 2012)	Quasi-experimental (n=244)	↓ Any re-arrest ↓ Any reincarceration and reincarceration ↓ Number of re-arrest events ↓ Time in community until first re-arrest	Not measured
HIGH	Reentry Planning for Serious Persistent	Quasi-experimental (n=796)	↓ Re-arrest ↓ Reincarceration ↑ Reconviction	Not measured

Score	Program Name (First author, year of study)	Methods (total sample size)	Justice Outcomes	Mental Health (MH) Outcomes
	Mentally Ill (Duwe, 2015)		↑ Revocation for technical offense	
HIGH	Expedited Medicaid in Washington (Morrissey, 2016)	Quasi-experimental (n=3,086)	↑ Any arrest ↑ Any days in jail ↑ Any days in state prison	↑ Any outpatient MH service
MED	Expedited Medicaid in Washington (Grabert, 2017)	Quasi-experimental (n=3,084)	↓ Any arrests, by 36 months ↓ Any DOC days, between 25-36 months	↓ Any use of outpatient MH treatment, between 25-36 months ↓ Any outpatient MH treatment, over 36 months (cumulative)
MED	Telepsychiatry (Farabee, 2016)	Randomized field experiment (n=71)	Not measured	↑ Self-reported medication adherence ↑ Psych functioning/brief symptom rating scale (BSRS-5)
MED	Expedited Medicaid (Cuddeback, 2016)	Retrospective cohort (n=1,248)	Not measured	↑ Any MH service use
MED	Regionalization of Reentry Services (Hartwell, 2009)	Program evaluation (n=957)	↓ Decrease return to county jails ↓ Decrease return to prison	↑ Increase engaged in treatment (jail sample) ↑ Increase engaged in treatment (prison) ↓ Hospitalized (jail) ↓ Hospitalized (prison)
MED	Cell-phone Intervention (Johnson, 2015)	Quasi-experimental (n=22)	Not measured	↓ Hamilton depression score, 9 months post-release ↓ Beck Depression inventory, 9 months post-release
MED	Connecticut Offender Reentry Program (CORP) (Kesten, 2012)	Quasi-experimental (n=88)	↓ Rearrests, 3-6 months	Not measured
LOW	Medi-Cal Expansion (CCJBH, 2018)	Observational (n=119,300)	Not measured	↑ EOP designation receiving one Medi-Cal service ↑ Behavioral health claims

Score	Program Name (First author, year of study)	Methods (total sample size)	Justice Outcomes	Mental Health (MH) Outcomes
LOW	Welcome Home Ministries, Peer-Driven Reentry Model (Goldstein, 2009)	Observational (n=44)	↓ Rearrests, 12 months	↑ Adherence to outpatient treatment, 12 months ↑ Medication compliant, 12 months ↑ Follow MH treatment plan, 12 months ↑ Symptom reduction, 12 months
LOW	Central Pharmacy Pilot Project (Prell, 2014)	Project evaluation (n=165)	Not measured	↓ New charges, SMI and OCMI groups ↓ New violent charge, SMI and OCMI groups ↓ Revocation, SMI and OCMI
INSUF	Peer Employment Education & Recovery Support (Daly, 2014)	Program evaluation (n=29)	↓ Rearrest or incarceration	Not measured
Intercept 5, Community Corrections				
HIGH	Specialty Probation Model (Skeem, 2017)	Observational study (n=359)	↓ Rearrest, 2 years post ↓ Number of days from baseline to arrest	Not measured
LOW	Specialized Probation and Recidivism (Castillo, 2011)	Observational (n=309)	↓ Any recidivism ↓ Violent recidivism	Not measured

Legend to Appendix E	
Abbreviation or Symbol	**Meaning**
BASIS	Behavior and Symptom Identification Scale
BDI	Beck Depression Inventory
BPRS	Brief Psychiatric Rating Scale
BSRS	Brief Symptom Rating Scale
CAPS	Clinician-Administered Posttraumatic Stress Disorder Scale
CRP	Community Reintegration Program
DOC	Department of Corrections
EOP	Enhanced Outpatient Program

GLOF	Global Level of Functioning
GSI	Global Severity Index
HRSD	Hamilton Depression Scale
MCAS-P	Multnomah Community Ability Scale – Patient Version
MH	Mental Health
MHRM	Mental Health Recovery Measure
OCMI	Other Chronic Mentally Ill
PANSS	Positive and Negative Syndrome Scale
PCL	PTSD Checklist
RCT	Randomized Controlled Trial
REAL Program	Respond, Empower, Advocate, and Listen Program
SMI	Serious Mental Illness
SS	Seeking Safety
↑	Increase
↓	Decrease
(-)	No Impact