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Health Information Technology Adoption and Utilization in Behavioral Health Settings

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by
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Office of the Assistant Secretary for Planning and Evaluation

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HEALTH INFORMATION TECHNOLOGY ADOPTION AND UTILIZATION IN BEHAVIORAL HEALTH SETTINGS: FINAL REPORT

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KEY POINTS

Available evidence suggests digital strategies support integrated care models between physical health and behavioral health (BH), yet there are challenges to overcome related to adoption and use of health information technology (HIT), information exchange, and interoperability by BH providers.

- Adoption of HIT and health information exchange (HIE) programs in BH care settings lag behind hospitals and physician practices due to technical, workforce, cost, and policy factors.
- Privacy concerns and a perceived lack of clear guidance on disclosure of patients' personal health information impact the use of HIE and interoperability features in electronic health records (EHRs). Substance use disorder providers encounter additional restrictions related to data sharing between providers in certain instances.
- Unstable funding and a lack of financial incentives make long-term HIT investments difficult.
- Barriers to HIT adoption in BH care settings include cost, lack of experience using EHRs, limited workforce and technical training, providers' workloads, and inadequate HIT functionality appropriate for BH providers.
- Research is needed to explore how EHR adoption and interoperability affect underserved and excluded populations and communities.

BACKGROUND

Integrated behavioral health (BH)[a] and primary care has demonstrated the ability to improve health outcomes through a collaborative approach that can enhance the quality of care.[1] However, primary care and BH providers face barriers related to a lack of financial incentives for integrated care and the current structure of service reimbursement, in addition to encountering challenges with patient information flow between BH and non-BH providers.[2,3] To address the high prevalence of mental health (MH) and substance use disorders (SUDs) in the United States (U.S.), the U.S. Department of Health and Human Services (HHS) introduced the *HHS Roadmap for Behavioral Health Integration*.[4] The Roadmap not only envision the inclusion of BH services in primary care, but also integration of physical health care into BH settings, and integration of BH care with other specialty areas such as OB/GYN care, as well as in social service and other settings. Integrated BH care, as envisioned by the Roadmap, includes not only inclusion of BH services in primary care, but also integration of physical health care into BH settings, and integration of BH care with other specialty areas such as OB/GYN care, as well as in social service and other settings.

The *HHS Roadmap for Behavioral Health Integration* identifies health information technology (HIT) as an important tool to support realizing HHS's vision for providing a "full spectrum of integrated, equitable, evidence-based, culturally appropriate, and person-centered behavioral health care."[5] As a broad concept, HIT is defined as "the use of computer hardware, software, or infrastructure to record, store, protect, and retrieve clinical, administrative, or financial information."[6] One critical component of HIT for any health care practice, system, or organization, are electronic health records (EHRs), which are "real-time, patient-centered records that make information available instantly and securely to authorized users."[7] Data from patient encounters are stored in a practice's EHR and can be accessed by patients and authorized providers or shared with other providers within a health system from whom a patient may receive care.

While EHRs serve to store a patient's symptoms, treatments, medications, and diseases, these data are limited in value if other health organizations are not able to access them. The practice of health information exchange (HIE) addresses challenges in connecting EHRs and other components of HIT so that information can be available to external providers, administrators, public health agencies, and others when needed.[8] As patients are screened for BH treatment needs in primary care or BH settings, transfers or referrals to necessary services can be documented within an EHR at the point of care. Through permissible sharing of information from previous visits across provider organizations directly or by HIE, HIT can facilitate integrated care for patients as they visit providers at different practices and in different care settings. Telehealth is another form of HIT that allows providers to connect more easily with patients via video conference or telephone while maintaining similar outcomes[9-11] as face-to-face sessions in BH treatment and can effectively complement a collaborative approach to patient care.[12]

Providers currently implementing integrated care models consider HIT as a critical component.[13] An evaluation on the implementation of a collaborative care model (CoCM) found that EHRs were important in the facilitation of referrals, noting that clinicians benefited from consulting electronically with psychiatrists. Studies have also found that although BH providers and clinicians are unlikely to use HIEs to exchange BH information due to privacy concerns, they believe that using HIEs to exchange BH data in an integrated care approach would improve communication and coordination across the patient's care team.[14,15] Robust use of HIT and HIE in BH are needed to achieve the goals of the HHS Roadmap; however, BH practices currently lag in adoption and use of HIT and HIE relative to hospitals and physician practices.

[a] "Behavioral health" in this report is used as a terminology that includes both services for SUD and MH.

RTI International was contracted by the HHS Office of the Assistant Secretary for Planning and Evaluation (ASPE) to better understand HIT adoption and utilization in BH settings, including barriers to interoperability due to complex privacy requirements and policy opportunities. The study includes both MH and SUD providers collectively when using the term BH.

The HITECH Act, Incentive Programs, and Behavioral Health Providers

In 2009, Congress passed the Health Information Technology for Economic and Clinical Health (HITECH) Act as part of the American Recovery and Reinvestment Act (Public Law 111-5). HITECH provided financial incentives to Medicare and Medicaid hospitals, critical access hospitals (CAHs), and professionals to use certified EHRs to collect, store, transmit and use health care information in a meaningful, secure, and timely way.[16] The law specified that certain providers and hospitals were eligible for the incentive program. The Centers for Medicare & Medicaid Services (CMS) implemented the incentive program for the eligible professionals (EPs), eligible hospitals (EHs), and CAHs to adopt and use certified EHR technology. In 2018, the program changed its focus to increasing interoperability and improving patient access to their health information and became the Promoting Interoperability Program.[17] In 2022, additional changes were made to the program discontinuing the Medicaid Promoting Interoperability Program. As of 2024, CMS continues to administer the program for Medicare EHs and CAHs. EPs (clinicians) participate in the CMS Merit-based Incentive Payment System's Promoting Interoperability Performance Category.[17]

While psychiatrists were eligible for the HIT incentive programs described above, other BH provider types--including many BH clinicians and provider organizations--were ineligible. The 2013 ASPE report to Congress required under HITECH described the providers ineligible for EHR incentives and other funding including in BH. **Figure 1** provides the types of providers ineligible for the Medicare and Medicaid EHR Incentive Program and ongoing Promoting Interoperability programs under CMS. Many BH provider types were not eligible to benefit from the incentives, although some ineligible providers working in eligible facilities may have benefited from incentives that were provided to EHs and CAHs. For example, BH clinicians that are integrated into an office-based primary care physician practice or who work in an acute care hospital may have access to certified EHR systems. The Substance Use Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities (SUPPORT) Act in 2018 authorized CMS to support a demonstration program for EHR adoption in the BH sector, but this remains unimplemented as of 2024.[18]

Figure 1. BH Providers Ineligible for EHR Payment Incentives and Other Funding Under HITECH*

- Psychologist
- Clinical social worker
- Community mental health center
- Psychiatric hospital/unit (including substance abuse)
- Residential treatment centers (facilities for MH and/or substance abuse)

Source: Dixon, B.E. (2023). *Health Information Exchange: Navigating and Managing a Network of Health Information Systems* (Second edition. ed.). Academic Press, an imprint of Elsevier.

EHR adoption rates are discussed in more detail in the **Current State of HIT Adoption and HIE in BH Settings** section of this report. Findings show that adoption is impacted by technical, workforce, cost, and policy factors. A 2021 EHR adoption study conducted by the Office of the National Coordinator for Health Information Technology (ONC) shows 78% of office-based physicians have a certified EHR,[19] and a 2019-2021 analysis by ONC shows a 75% adoption rate by psychiatric hospitals.[20]

Federal Privacy and Disclosure Rules: 42 CFR Part 2 Revised, HIPAA Privacy Rule, and 21st Century Cures Information Blocking

The following federal privacy and disclosure rules, along with state rules, are applicable in BH settings and relate to the use of HIT.

- ***42 CFR Part 2 Revised, Confidentiality of Substance Use Disorder Patient Records***: 42 CFR Part 2 restricts the disclosure of SUD patient records in federally funded programs and specifies conditions when patient consent is needed.[21] SUD records are typically shared only with explicit written consent for each specific use, and generally cannot be shared with other persons (individuals or entities) unless there is a court order, with certain exceptions.[b] The rule was revised in July 2020 to modernize care coordination, improve quality, and advance integration of care for individuals with SUDs.[22] In December 2022, HHS released a Notice of Proposed Rule Making (NPRM) substantially revising the procedures for Part 2 record use, disclosure and redisclosure by aligning them with the Health Insurance Portability and Accountability Act (HIPAA) of 1996 Privacy Rule and includes additional safeguards to protect SUD information per Section 3221 of the CARES Act.[23] The NPRM also proposes establishing a definition of SUD counseling notes under 42 CFR Part 2, similar to the definition of psychotherapy notes under the HIPAA Privacy Rule. The final rule was published on February 10, 2024, and went into effect on April 16, 2024, with a compliance date of February 16, 2026.[21]

- ***HIPAA and HIPAA Privacy Rule***: The HIPAA Privacy Rule established safeguards to protect the privacy of health information by establishing a uniform approach to health record's use and disclosure. There is one exception, however, pertaining to psychotherapy notes where special protections are required in the form of patient authorization to disclose unless required by law. These notes contain specific types of sensitive MH information from counseling sessions and are kept separate from the rest of the patient's medical record.[24]

- ***21st Century Cures Act (Cures Act) and Information Blocking Provisions***: In 2016, Congress passed the Cures Act which included provisions related to electronic health information (EHI) and its secure access, exchange, and use. Healthcare providers (including BH providers), certified HIT developers, and HIE/health information networks (HINs) are considered actors under the rule and are prohibited from impeding access, exchange, and use of EHI. Claims of information blocking are reportable and Office of Inspector General is given authority to investigate. The Cures Act final rule, published in 2020, provides more detail on information blocking and eight exceptions.[25]

- ***State BH Privacy and Disclosure Laws and Regulations***: States may also have requirements related to BH privacy and disclosure. In 2016, the National Association of State Mental Health Program Directors compiled a list of BH patient treatment privacy and disclosure laws and regulations.[26] In 2017, ONC released an application with state HIT privacy and consent laws and policies.[27]

Additional discussion of the issues, BH provider confusion regarding permissible sharing under these rules, and potential policy considerations are addressed in the **Care Coordination, Integration and Collaboration Approaches and State Policy Technology Initiatives** section.

Study Approach

To investigate HIT adoption and utilization in BH settings, we addressed three key research questions:

- What are the barriers to HIT adoption and/or interoperability among BH providers? Are there differences between MH and/or SUD providers?

[b] The limited exceptions are codified in current regulation at 42 CFR 2.12(c), 42 CFR Part 2 subpart D, and 42 CFR 2.33(b).

- How may the lag on adoption of technology and interoperability affect community-based BH providers working with Black, Hispanic, American Indian and Alaska Native (AI/AN), or other racial/ethnic populations who are underserved?

- What current policies are being leveraged to improve use of HIT in BH settings, including policies that protect privacy but do not impede sharing of data for the provision of coordinated care for BH?

We explored these research questions through a literature review and focus group interviews with subject matter experts (SMEs). The group interviews provided additional context and understanding of the research questions including the current state of interoperable HIT adoption in BH, the challenges and gaps identified in the literature, and insights on approaches, strategies and policies that could be pursued. The groups discussed the diverse populations served by BH providers and misconceptions/misunderstandings of complex regulatory requirements that inhibit EHR adoption and interoperability. See **Appendix B** for a detailed description of the study methodology as well as study limitations.

Summary of Methods for Conducting the Environmental Scan

We first conducted an environmental scan to identify and describe adoption of HIT, determinants of EHR adoption within BH settings, as well as potential policy levers influencing adoption within these settings. With the help of a research librarian, we created a search strategy to identify relevant peer-reviewed and gray literature published 2011–2023 and pertinent to HIT adoption within BH settings. Our search yielded 548 deduplicated results. Two team members first reviewed titles and abstracts for relevance, during which time 231 sources were excluded. During full-text review, three researchers reviewed full documents to further assess relevance to our study; they excluded an additional 145 sources. Information related to study characteristics, implementation determinants, the impacts of lagging HIT adoption, and policy considerations were then extracted from the final sample of studies and reports (n=172).

Summary of Methods for Conducting the Focus Group Interviews

We conducted four focus group interviews between April and July 2023 including researchers, BH provider associations and HIT vendors, HIE/HINs organizations, representatives from state policy and public health reporting entities, and federal policymaker experts at CMS, ONC, the Centers for Disease Control and Prevention, the Health Resources and Services Administration, and the Substance Abuse and Mental Health Services Administration (SAMHSA). We focused on federal, HIE/HINs, provider/vendor, and state reporting topics, and identified SMEs to speak to each topic based upon their critical work in the subject area in conjunction with the use of HIE in the BH space.

CURRENT STATE OF HEALTH INFORMATION TECHNOLOGY ADOPTION AND HEALTH INFORMATION EXCHANGE IN BEHAVIORAL HEALTH SETTINGS

Current State of Adoption

Our study found that most BH providers use electronic systems to support specific processes in some way, yet BH provider use of EHR lags behind other providers such as hospitals and physician practices (primary care, medical and surgical specialists) when comparing ONC HIT adoption[28] and use data against SAMHSA surveys such as the National Mental Health Services Survey (N-MHSS). (**Exhibit E-2**).

We did not identify any programs that promote the nationwide use of interoperable HIE by BH providers in the same way that the Meaningful Use/Promoting Interoperability Program increased adoption and use by hospitals and physician practice settings. SMEs shared their concerns that the lack of alignment with these programs or equivalent policy levers could further widen the gap between BH and their care partners and hinder integration efforts. Without a federal incentive program or strategy, BH providers are left to contend with a web of state-level requirements and initiatives including laws and regulations on privacy and disclosure. Some examples of the relevant state requirements and initiatives are described in the **Care Coordination, Integration and Collaboration Approaches and State Policy Technology Initiatives** section of this report.

SME interviewees discussed the limited use of HIT and interoperability including the use of pen and paper among BH providers. As described above, most BH providers did not have access to EHR incentive funding and are not eligible for current CMS interoperability programs. Some providers, such as psychiatrists, were, and continue to be, eligible for the CMS programs. Some BH providers are integrated into EH and professional/clinician organizations and therefore have access to certified HIT. Despite having access to data sharing and interoperability features, regulatory privacy concerns (actual and perceived) limit use of HIT in BH settings.

> *"We are limited in our ability to understand the adoption of EHR and HIE among BH providers due to a lack of data. The American Hospital Association (AHA) measures adoption at the hospital level and not within units, and freestanding facilities are excluded (and many don't participate in the AHA supplement). The N-MHSS and the National Survey of Substance Abuse Treatment Services (N-SSATS) added some questions, which helps, but they do not align with the ONC's definitions of basic EHR adoption, so it is difficult to make exact comparisons, and leads to overestimates of basic EHR adoption. CMS' Inpatient Psychiatric Facility Quality Reporting (IPFQR) program had one question related to HIE (though they labeled it as "EHR") but they dropped this measure."*
>
> —SME Focus Group Participant

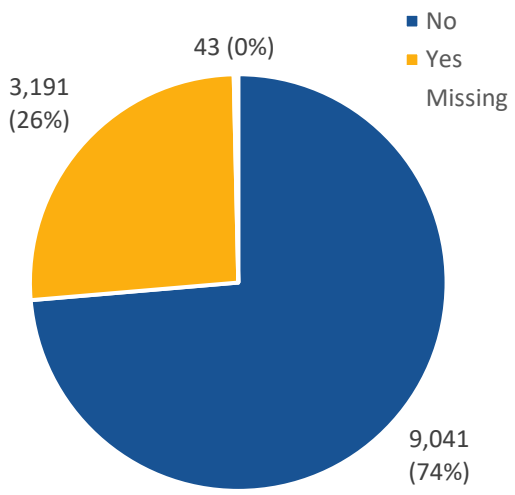
In general, study findings showed HIT adoption can be impacted by the location (e.g., rural vs. urban setting), infrastructure (e.g., workforce, technology) and policies affecting providers, clinics, and health systems (e.g., interaction of federal privacy regulations and state privacy laws).[29,30] (More detail about these determinants will be provided in the **Determinants of HIT Adoption** section of this report.) There are multiple benefits to HIT adoption, including streamlined data sharing capabilities, improved care coordination, decision support for providers, and easier access to medical records for patients; overall, the benefits help to improve quality of care and patients' clinical outcomes, while also lowering costs.[31]

Despite the potential benefits, the adoption of HIT within BH settings has been limited. Studies have found a myriad of barriers for EHR adoption among BH providers, such as low levels of staff trained in HIT, technical complexities, alert fatigue, and resistance due to legacy system.[32] Strategies implemented to improve adoption rates such as the HITECH Act excluded many BH providers, resulting in disproportionate lower adoption of certified health HIT across BH settings and providers.[33]

SMEs expressed frustration with the current state of adoption and focused more on limitations and obstacles to data collection and effective use of EHRs and other forms of HIT.

The consequence of limited adoption is further compounded due to the historically siloed nature of primary care and BH services. Physical health treatment is rarely integrated into BH treatment, potentially resulting in gaps in communication between providers and possibly impeding patients' care (see **Figure 2**).[34]

Figure 2. BH Treatment Facilities Offering Integrated Primary Care Services



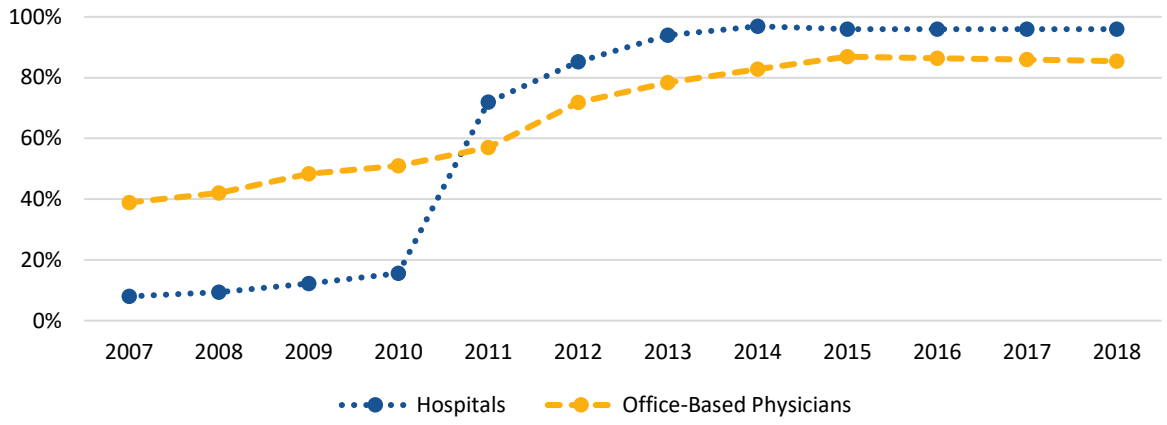
Source: 2020 N-MHSS.

As of 2020, the latest year of data available from N-MHSS, EHR adoption varied widely by facility type and specific EHR activity (see **Figures E-4 and E-5**).[c] In 2020, EHR use for intake, discharge, and documenting treatment plans and health records were consistently higher across facility types compared to activities like receiving or sending client health and/or treatment information from outside providers or sources outside of their organization (N-MHSS, 2020). Across all facility types, EHR adoption varied by activity type. (**Exhibit E-2**).

There were lower rates of EHR use for sending (43%) and receiving (37%) health records to outside organizations--in other words, interoperable HIE--providing evidence for the limited ability for efficient coordination of care and the desired improved health outcomes for patients. SMEs confirmed this limitation, noting that some BH settings are set up to receive data from HIEs but not to send data because of privacy and data segregation concerns. According to one SME from an HIE/HIN organization, approximately 50% of BH practices in their state participate in bi-directional exchange of health information (sharing and using), and about 70% of providers have a view-only access. In contrast other care settings that share and coordinate care with BH have adopted EHRs at a faster rate (see **Figure 3**), likely due to incentive programs and regulations. SMEs expressed concern that as hospitals and physician practices move toward interoperability quicker compared to BH, the EHR and HIE gap will get worse further impeding integration efforts.

[c] 2020 is the only year of survey data to date that explicitly uses the term "EHR methods" as opposed to prior surveys which used the term "*mental health treatment facilities with specific computerized operational functions*, by facility type".

Figure 3. Percent EHR Adoption Over Time by Hospitals* and Physician Practices Before and After the EHR Incentive Program Implementation**



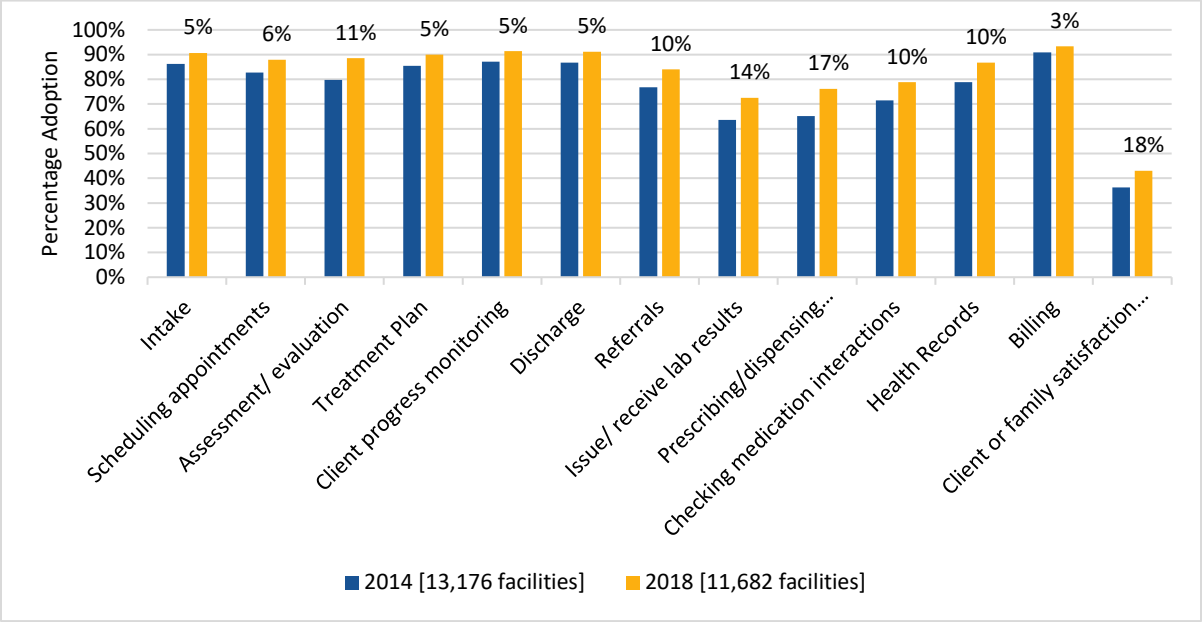
Sources:
Henry, J., Pylypchuk, Y., Searcy, T., & Patel, V. (2016). *Adoption of Electronic Health Record Systems among U.S. Non-federal Acute Care Hospitals: 2008-2015*. https://www.healthit.gov/sites/default/files/briefs/2015_hospital_adoption_db_v17.pdf. Office of the National Coordinator for Healthcare Technology. (2019). *Office-based Physician Electronic Health Record Adoption*. https://dashboard.healthit.gov/quickstats/pages/physician-ehr-adoption-trends.php.

Notes:
* Hospitals: Percent basic EHR adoption data from 2008-2010 and switches to certified EHR adoption data in 2011, which is consistent with the EHR Incentive Program requirements. Earliest surveyed year 2008 and latest surveyed year 2015, with all other years applied natural growth rate.
** Office-Based Physicians: Percent EHR Adoption of any EHR type (Basic, Certified, Other). Earliest surveyed year 2008 and latest surveyed year 2017, with all other years applied natural growth rate.

In 2020, most BH facilities (84%) reported using EHRs to store and maintain client health and/or treatment records, but use ranged from 52% at private psychiatric hospitals to 96% at Certified Community Behavioral Health Clinics. To conduct a longitudinal view of EHR or EHR-similar questions, we compared 2014 to 2018 data for BH treatment facilities with use of EHRs to conduct specific activities (referred to as "computerized operational functions" in the years referenced). **Figure 4** shows the percent adoption of computerized operational function regardless of facility type and the on-chart percentage shows the percentage point change between 2014 and 2018. Client or family satisfaction surveys, prescribing/dispensing medication, and issue/receive lab results were the functions of greatest growth between 2014 and 2018, while billing was the category with greatest overall use in both years. SMEs noted that the increasing adoption rates in recent years in the BH space do not necessarily lead to improved EHR utilization. Effective use of an EHR-capable software differs from simply having the software installed.

Figure 5 shows the latest publicly available EHR adoption data by computerized operational function for SUD providers from the 2017 N-SSATS. This older set of adoption statistics makes it difficult to provide definitive statements on the current state of EHR adoption in SUD. We did not find any additional SUD provider HIT adoption data in the literature. This lack of SUD statistics represents a notable finding in and of itself, hindering the ability to assess the current state of adoption beyond anecdotal comments and evidence from SMEs, and presenting an opportunity for additional data monitoring and future research.

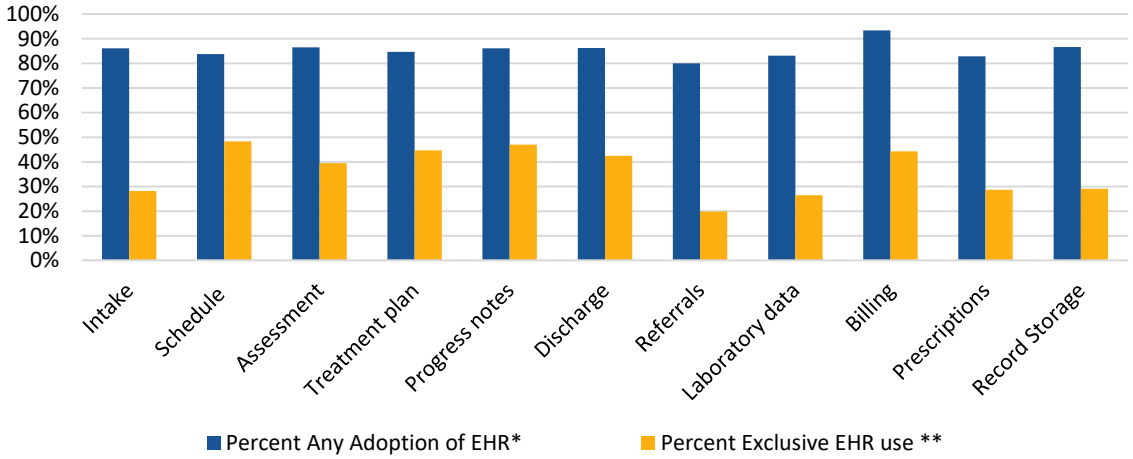
Figure 4. Percentage Point Increase of BH Treatment Facilities That Use Specific Computerized Operational Functions, 2014-2018



Source: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, National Mental Health Services Survey (N-MHSS), 2014 and 2018.

Note: The definition of an EHR varied between iterations of the N-MHSS and over time, precluding comparisons between the surveys.

Figure 5. EHR Use in U.S. SUD Treatment Facilities, 2017, by Computerized Operational Function



Source: Substance Abuse and Mental Health Services Administration. (2018). *2017 National Survey of Substance Abuse Treatment Services*. Data on substance abuse treatment facilities. Retrieved September 25, 2023, from https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/2017_NSSATS.pdf.

Notes: U.S. substance abuse facilities 2017 (n=13,583). Not all facilities in the survey were included in calculations of proportions due to missing values.
* EHR adoption was defined as any computerized system, including those that still had a non-computerized component.
** Exclusive EHR use was defined as a paper free system.

According to the N-SSATS and N-MHSS data, as of 2017, SUD EHR use did not lag far behind MH EHR adoption, and both MH and SUD providers had upwards of 80% EHR adoption across most computerized operational

functions, at least in terms of non-exclusive use of EHRs. This high rate of adoption seems at odds with the SME frustrations with overall BH HIT adoption data--suggested that their frustrations, in both the MH and SUD spaces, has more to do with the poor effectiveness of EHR use, in terms of data sharing, care coordination, and resultant health outcomes for patients, rather than the adoption rates. This signifies EHR adoption is a necessary, but not sufficient step, to successfully using HIT features to improve data sharing and care coordination.

EFFECT OF LAGGING HEALTH INFORMATION TECHNOLOGY ADOPTION AND INTEROPERABILITY ON HEALTH EQUITY

The second aim of this study was to explore the impact of limited HIT adoption on racial and ethnic minority groups. The environmental scan yielded limited information on this topic. Among the sample of peer-reviewed articles (n=472), only one[38] contained information related to this aim. The study used mixed methods to elicit patients' and providers' feedback regarding using HIT to facilitate BH screening and telehealth implementation to care for individuals with HIV. The authors of this study found that successful implementation of HIV-related programs in rural communities will require overcoming several HIT challenges in increasing telehealth usage.

Despite the limited research at the nexus of health equity and HIT, it seems plausible that lagging EHR adoption in BH could negatively affect racial and ethnic minority groups. For example, research shows, due to the impacts of structural and system-level barriers, some racial and ethnic groups--specifically Blacks/African Americans and Indigenous groups--have higher rates of poverty compared to other groups and are therefore more likely to be enrolled in Medicaid.[39] Among those covered by Medicaid, there is a higher prevalence of mental illnesses and SUD compared to privately insured groups.[40] Data also indicate that African American patients are less likely to use HIT, such as patient portals, compared to White patients, due largely to distrust.[41] These are not explicit findings from this study, but existing literature on the effect of structural racism on certain racial and ethnic groups suggests these topics merit further exploration in future research.

SME Interview Takeaways on Effect of Lagging Health Information Technology Adoption and Interoperability on Health Equity

Given the lack of literature discussing the intersection of health equity and HIT, most findings on this topic came from the SME interviews. Several overarching themes emerged from these conversations.

> *"There are a whole host of things that come before health IT adoption that cause adoption issues. It's not as though certain racial or ethnic minorities are explicitly choosing not to adopt health IT."*
>
> —SME Focus Group Participant

Upstream and Downstream Health Equity Issues Need Solutions

Several SMEs categorized HIT and data sharing concerns as downstream health equity issues that can be resolved by addressing more systemic and overarching root causes, like social determinants of health (SDOH) and health inequities.

An SME from the state reporting group noted that internal state-specific data shows Black patients are less likely to complete treatment goals than their White counterparts, even at the same facility, indicating there may be structural issues beyond HIT that cause these disparities. The disparities do not start with HIT adoption. According to the SME, the disparities are already there, and they contribute to any other issues people might have.

HIT has come up in discussions addressing health equity beyond the HIT community. For example, in April 2022, HHS released a Strategic Approach to Addressing Social Determinants of Health to Advance Health Equity to improve coordination across the government and key stakeholders including health care providers, the private sector, and community-based organizations.[42] The approach focuses on three goals: building a robust and interconnected data infrastructure (including interoperability standards); improving access to and affordability of health care services by supporting partnerships and connections; and adopting whole-of-government approaches, partnerships, and community engagement to address SDOH and enhance population health and well-being.

Rural Community Struggles

SMEs noted that rural communities which already struggle with resources find it hard to have uptake without the proper incentives to purchase, implement, use, and maintain systems with more sophisticated features and functions including interoperability. The lack of Internet connection in rural areas poses a connectivity problem,[43] as well as lack of health care providers in those areas in general. Slower adoption can result from the lack of providers. The underserved populations in these rural areas do not have the capacity to have telehealth visits, much less access an EHR.

Losing Out on Value-Based Care Initiatives

SMEs surmised that not receiving resources from value-based care (VBC) incentives exacerbates the general funding shortages BH providers already experience. CMS defines VBC as programs "that reward providers with incentive payments for the quality of care they give to people."[44] The CMS Innovation Center's strategic objectives include advancing health equity in their models, including those that have not participated in VBC.[45] SMEs suggested CMS Innovation models that focus on or are inclusive of BH could provide opportunities to address this gap. Practices with less robust EHR technology are more limited in opportunities to receive VBC incentives, where most of the population health-based funding is being rolled out.

Race, Ethnicity and Language Data Collection

Not having the requisite racial and ethnic data to examine potential disparities poses a challenge. By receiving electronically shared data from participating providers, HIE/HINs can help in gathering this patient demographic data, providing a better understanding of underlying data that can then be used to improve data sharing and health outcomes.

Mistrust Issues

A recent study linked race and ethnicity and concerns with discrimination as contributing to medical mistrust.[46] Mistrust, which tends to be stronger in racially and ethnically diverse communities, led to a desire to protect confidentiality and limit data sharing/HIE. Patients opting not to give permission to share their data limits the power of HIT to aid in care coordination and integration.[47]

These issues and observations highlight the opportunities and need for change at the community level and at the BH EHR level. There remain policy opportunities to address both which will be addressed in the **Care Coordination, Integration and Collaboration Approaches and State Policy Technology Initiatives** section.

DETERMINANTS OF HEALTH INFORMATION TECHNOLOGY ADOPTION

Through the environmental scan and SME focus groups, we identified numerous determinants of HIT adoption, particularly related to EHR functionality and appropriateness for BH settings, staff capabilities, cost, and policy-level concerns. These categories are summarized with examples in **Figure 6**. The categories were also informed by the integration barriers found in the 2022 HHS Roadmap for BH Integration and described in **Appendix D**.

Figure 6. Determinants of HIT Adoption

Determinant	Examples
Technical	• Compatibility and interoperability of reporting systems (within and outside of organizations). • Data standards and standardized EHR templates related to BH care and treatment.
Workforce	• Staff information technology literacy and training capacity. • Time constraints during appointments and impact on patient-provider relationship.
Cost	• Level of funding (for HIT setup, workflow redesign, continued support and technology improvements). • Capacity for maintaining EHR and other HIT systems.
Policy	• Communication of benefits of adoption/integration. • Financial incentive alignments and policy/regulatory requirements. • Privacy concerns (42 CFR Part 2, psychotherapy notes subject to the HIPAA Privacy Rule, Cures Act Information Blocking, and different state laws).

Technical

Data sharing between providers using different HIT systems (e.g., between two health care organizations) requires additional tracking mechanisms and communication, requiring providers to develop workarounds to limitations such as double documentation and duplicate data entry, scanning or faxing documents, and relying on patient recall for undocumented EHR information.[48,49] SMEs noted that the incompatibility between electronic reporting systems used for BH and other medical information typically stems from the differences between patient and provider data sharing preferences in BH settings. SMEs stated that providers often want all the necessary information/data to help make care decisions, while patients sometimes feel they will not get treated as well if the provider has all their BH information. This divergence of interests leads to complaints from providers about how EHR systems are not tailored to the data content needs of BH patients, a result of inadequate structured and standardized data formats for data exchange in the relatively nascent BH HIT space. These limited data standards and a lack of billable codes applicable outside of a fee-for-service system[50] make the integration of BH care into primary clinics difficult.[51] Incompatible reporting systems, and the related lack of structured data standards and standardized BH templates (e.g., patient intake, charting), inherently lead to non-interoperable systems and poor care coordination.[52] Research shows, and SMEs confirmed, incorporating standardized fields (youth and family information, diagnoses, progress notes, etc.) helps improve care coordination, communication among team members, and ultimately data sharing.[53-55] However, some SMEs warned record management systems often do not evolve fast enough to accommodate the changing data sharing consent standards, making the design of documentation templates that fit the needs of BH patients difficult.[55]

Workforce

Lack of staff training in the use of HIT, provider burnout, resources for technology training, and the availability of consistent technical assistance exhibit considerable influence over HIT adoption and are cited as top determinants of adoption by SMEs and academic experts.[32] One SME noted with the renewed focus on SDOH, the lack of capacity to pull in all requested data means other data get missed. Given the shortage of BH providers, studies have found many providers are overworked, suffering from burnout, and feel their time is

too limited to learn and use a new HIT system.[54] This staffing and capacity problem proves particularly acute for small practices that serve rural or under-resourced communities.[56]

Another workforce challenge described by SMEs is the lack of resources to maintain an information technology infrastructure and skilled staff who plan, implement, maintain, and upgrade HIT systems. Stand-alone BH providers are particularly challenged compared to those within a hospital or health system which can impact their ability to implement technical data sharing and interoperability features. To address these staffing and workforce competency concerns, some states, such as Massachusetts and Washington State, have passed bills mandating all health care providers complete digital health training, thus requiring all BH providers to have at least a basic understanding of the information technology components necessary to successfully run a BH practice.[57]

Cost

> *"The software itself is the cheapest part of the process… It's being able to afford support along the way, in learning how to use it and training staff. The financing of these systems without broader resources available is a major challenge and really slowing the adoption of EHRs among BH providers."*
>
> —L. Getz, see reference 58

Sufficient funding and time for HIT implementation prove essential factors in cases of successful use.[48,54,58] Pooling of resources for small providers offers a strategy to overcome some of these financial barriers to adoption. SMEs reported some federally qualified health centers in Delaware have created the Delaware HealthNet, a shared administrative structure that pools information technology staff to troubleshoot issues because they cannot afford to have full-time informatics teams. One SME succinctly described the challenge of obtaining funding for HIT adoption in BH, stating "historically, the majority of funding has gone to providing direct services rather than administrative or IT functions, making full utilization and implementation more difficult." Another SME noted that BH funding often comes through grants, which sometimes does not last for more than a few years. Sustainable funding has always been a problem for these organizations, especially since BH was left out of the HITECH initiative,[33] making long-term HIT investments difficult when paired with unstable funding.

SMEs highlighted that the lack of financial incentives has been a barrier to wider HIT adoption. As discussed previously, BH clinicians were largely excluded from the EHR Incentive Program and the current Promoting Interoperability Program and therefore were not incentivized to go digital, explaining the lag in adoption compared to other providers.[59] SMEs agreed financial incentives should exist for providers to send data to an HIE.

Policy

Effectively communicating the benefits of HIT adoption and integration (e.g., improvements in patient outcomes resulting from data sharing, particularly with primary care physicians[60]) can positively impact adoption. Once providers and health care organizations understand the health and financial benefits of interoperable HIT systems, they will be more likely to continue supporting these enterprises and participate in HIEs.[61-63] SMEs argued the business case for how HIT adoption will help providers care for patients and exchange information more efficiently must be made: "Some providers do not understand they could have access to resources that would facilitate connections with a larger network or HIE that can support information sharing between providers."

As previously stated, privacy concerns were identified as a significant barrier to HIT adoption in both the literature review and the SME interviews. Many SMEs stressed the confusion over the privacy provisions in 42 CFR Part 2 regulation and its lack of alignment with HIPAA Privacy Rule standards.[64] Specifically, the Cures Act called for the sharing of SUD data for treatment purposes after prior written consent to be consistent with the HIPAA Privacy Rule, rather than requiring consent for each future sharing under 42 CFR Part 2.[65] Clarifying this issue and eliminating this sequester of information could improve data sharing possibilities. SMEs reported

that many BH providers do not understand or do not agree with the new interoperability rule requiring information sharing with other providers. Some providers are still insisting on having a consent signed even when not required.

> *"Psychotherapy notes" means notes recorded (in any medium) by a health care provider who is an MH professional documenting or analyzing the contents of conversation during a private counseling session or a group, joint, or family counseling session and that are separated from the rest of the of the individual's medical record. Psychotherapy notes excludes medication prescription and monitoring, counseling session start and stop times, the modalities and frequencies of treatment furnished, results of clinical tests, and any summary of the following items: diagnosis, functional status, the treatment plan, symptoms, prognosis, and progress to date.*

SME providers and HIT developers described additional confusion stemming from a lack of clarity concerning what information can go into psychotherapy notes and how information in psychotherapy notes[66] can be shared; the different data types are not clearly defined, making data segregation extremely difficult. This confusion and the lack of a financial penalty for not sharing data means providers often opt not to use EHRs or participate in information exchange out of caution and a desire to protect patients. SMEs found that, in general, there is confusion about definitions and how to treat these notes when sharing. They also noted that there are missed opportunities to clearly outline these issues through federal guidelines. SMEs attribute the difference in data sharing between MH and SUD to these 42 CFR Part 2 concerns: "No new language has been incorporated [in the Part 2 rule] to open up data sharing in the SUD realm, even though you are more allowed to share data now."

SMEs also elaborated on these data segregation concerns, explaining non-Part 2 data often gets intermingled with Part 2 data in reporting systems, and thus all health data gets blocked from being shared because the system cannot segment out the data unless the patient gives consent. They believe providers fear inappropriately sharing information and the stigma associated with making mistakes. SMEs referenced the value of trust between vendors, clinicians, and patients. Data flows tend to increase as trust with providers grows.

> *"SMEs suggested having testimonies from BH providers who share information with HIEs and have benefited from this relationship, in terms of care coordination, and other benefits, has helped this communication and cultural barrier."*
>
> —SME Focus Group Discussion

HIT SMEs within the Federal Government acknowledged the comments from stakeholders regarding the lack of alignment between 42 CFR Part 2 and the HIPAA Privacy Rule. Some HIT SMEs also explained how SUD providers see themselves as protecting their patients from harm and argued the case has not been made to providers that going digital will help their patients.

Different state privacy laws also act as obstacles to effective and interoperable information sharing systems.[57,67] SMEs reported that many providers have adopted EHRs, but do not use the HIE features because they may require customization and workflow redesign to meet different state privacy laws, disclosure/data sharing regulations, and data reporting requirements. BH providers may be required or asked to share data with a variety of different systems in their state such as a state-owned HIE, private or community-based HIE, care coordination platform, or the state's Department of Health and Human Services (DHHS) database. SMEs report that the existence of multiple state-level systems that do not connect to one another causes BH providers to incorrectly believe federal policies block them from reporting or sharing health data when that is not the intent or case. SMEs also urged increased education to inform MH and SUD providers they will not be in violation of laws if they share data properly.

CARE COORDINATION, INTEGRATION AND COLLABORATION APPROACHES AND STATE POLICY TECHNOLOGY INITIATIVES

The 2022 report from the American Medical Association, *Accelerating and Enhancing Behavioral Health Integration Through Digitally Enabled Care*, states that HIT tools provide the capability to perform fundamental data sharing and integration activities such as intake and screenings, referrals, care planning and coordination, outcome monitoring, and comprehensive caseload reviews.[68]

State policymakers recognize that HIT and HIE help improve care coordination. Advancing HIT among BH providers offers promising benefits, most notably through improved data reporting and sharing facilitated by more interoperable EHR systems and increased use of and participation in HIE organizations. Both technologies allow more health information to reach primary care and other providers, allowing patients easier access to their information while simultaneously improving communication between their healthcare providers.[52] This allows patients and providers to implement a more coherent treatment plan that encapsulates the full needs of the patient, leading to improved health outcomes.[59]

> *"Appropriately applied, the incorporation of technology--including digital tools for screening and intake, clinical decision support, and telehealth care delivery--can support current integration models by helping engage more people in behavioral health treatment and possibly encouraging broader adoption by providers."*
>
> —A.M.C. Campbell, see reference 64

The literature review and SME interviews yielded numerous examples of novel uses of HIT and state policy approaches for improving care coordination and data reporting that may serve as guides for emulation and further improvement and are detailed further below.

Examples of Health Information Technology in Collaborative Care Models

Primary care clinicians in the University of Pennsylvania Health System created and implemented the Penn Integrated Care (PIC) program, a new model of collaborative care for BH. PIC utilizes a triage and referral management system to refer primary care patients to BH services and to offer integrated CoCM services provided by BH professionals in primary care practices.[69] Model designers built an entirely new documentation system for their EHR system that had built-in support for primary care providers (PCPs) to initiate patient referrals to BH professionals as part of the CoCM process; the PIC resource center also documents decisions and outcomes in the EHR for PCPs.[70] This model is still in the early stages of implementation and refinement, but preliminary results show modest reductions in depression and anxiety, and interviewed stakeholder groups perceive the program as effective. Both PCPs and patients report higher quality of care.

Another example is Concert Health, a BH medical group that operates in 17 states and utilizes a CoCM approach to integrate BH care into the services of PCPs, OB/GYNs, and other clinicians by providing access to BH practitioners who offer evidence-based BH interventions.[71] The model identifies patients through screening tools, prescription data, and provider referrals, and connects health plans with patients in need of BH care, conducts remote patient assessments, and provides weekly recommendations for patients not reporting improvement in their symptomology.

Health Information Technology Screening Tools to Identify Behavioral Health Needs

A pilot project developed at the Medical University of South Carolina led to the development of a screening tool for pharmacists to use within a EHR module to identify patients within the medical center at a high risk of opioid overdose and then to discharge them with take-home naloxone.[72] The screening tool includes a calculator that identifies patients receiving at least 100mg of morphine equivalents per day to capture at-risk

populations. Pharmacists reviewed the screening tool and flagged additional risk factors alongside the regular patient chart, minimizing the burden of review.

Spotlight on State Government Health Information Exchange and Care Coordination Technology Uses

Medicaid is the largest payer of MH services and increasingly covers reimbursement for SUD treatment.[73] A June 2022, Medicaid and Children's Health Insurance Program (CHIP) Payment and Access Commission (MACPAC) Report to Congress on policy options for integrating BH care through HIT found that "EHRs are not designed for BH, states lack guidance on how Medicaid can be used to support interoperability, and federal opportunities are not being used to incentivize adoption."[74]

MACPAC Policy Recommendation

- Develop guidance on using Medicaid authority and other federal resources to promote BH HIT adoption and interoperability.
- Develop a voluntary certification program for BH HIT aligned with the ONC Certified EHR Technology program.
- Move forward with Center for Medicare and Medicaid Innovation EHR adoption demonstrations.

Source: McGregor, B., Mack, D., Wrenn, G., Shim, R. S., Holden, K., & Satcher, D. (2015). Improving service coordination and reducing mental health disparities through adoption of electronic health records. *Psychiatr Serv*, 66(9), 985-987. doi.org/10.1176/appi.ps.201400095. PMCID: PMC4558322. PMID: 25975885.

Discussions with SMEs during focus groups and references they shared provide examples of how some states are utilizing policy levers and funding to advance HIT and improve integration between BH and physical health. Although the examples and approaches vary, the following themes emerged and could provide the basis for further study on how states are using policy authority, Medicaid program activities, and other federal opportunities:

- Improve integration by implementing statutory mandates for BH providers to connect to the state HIE or offering financial incentives to BH providers for sending data to an HIE.
- Utilize state data platforms and standardized data requirements to support care coordination and consent for disclosure of information.
- Provide HIT-related technical assistance and support services to BH providers.
- Offer positive payment adjustments for billed services that support integration.

While the focus of the SME interviews was not on the details of Medicaid programs or federal funding opportunities to incentivize BH HIT adoption, participants referenced a number of programs that financially support state activities including Medicaid waiver programs, the CMS State Innovation Models Initiative, and the 2018 CMS State Medicaid Director Letter announcing demonstration projects that "design innovative service delivery systems."[75] We have supplemented SME interviews with brief searches of publicly available information about state examples. These nine state descriptions are only meant as examples of state efforts and are not intended as case studies, which was beyond the scope of this work. Further, because the examples came out of SME interviews, they should not be interpreted as being representative of all state efforts."

Arizona: In 2016, the state of Arizona's Medicaid agency established care coverage policies that integrate physical and MH. As part of this policy, physical health and BH providers were integrated into the state HIE.[76] The state also offers funding to select providers and populations that meet requirements for advanced

integrated coordinated care for certain populations. Recipients include Community Service Agencies, Independent Substance Abuse Counselors, Behavioral Health Therapeutic Homes, and Rural Substance Abuse Transitional Agencies. Providers are eligible for positive payment adjustments for state fee-for-service rates billed. Education and training for providers are also a component of their initiatives.[77]

SMEs reported that the Arizona HIE can process 42 CFR Part 2 and non-Part 2 data. The state's Medicaid program incentivizes sending HIE data, but all providers can access data (e.g., portal access to health information and real-time alerts). Alerts are also available for admissions to psychiatric inpatient facilities as long as they are not a 42 CFR Part 2-only facility. Inpatient and outpatient BH facilities typically participate in Arizona's HIE.

Connecticut: Connecticut has a mandate for all health care providers licensed by the state (including BH) to connect to the state HIE platform, Connie, by May 2024 regardless of a patient's payment method or insurance provider.[78]

Delaware: The Delaware state-run psychiatric hospital is connected to the HIE bi-directionally and is in the process of adopting a care coordination platform as an expansion of their closed-loop e-referral system.[79] This is an engagement and growth approach rather than a regulation/requirement approach. SMEs hoped this will create an ecosystem where the default choice for providers is to engage with the HIE rather than have a regulation.

Maine: Maine used a state innovation model grant to create a "certified EHR technology-like" incentive program that brought in federal money to help BH providers adopt EHRs and be interoperable. Maine uses HL7 V2 transactions, which are discrete data transactions rather than majority Continuity of Care Document-Clinical Document Architecture (CCD-CDA), which allows them to segregate data on the inbound side, which saves time.[80,d]

Michigan: Michigan has had contractual requirements for Medicaid-funded BH systems to connect to the state HIE. Those requirements were removed because the goals were achieved. Michigan leveraged language in Medicaid expansion related to enhancing the use of HIE data sharing across payers to add a performance incentive component. The state also increased community BH plans' ability to participate in HIE organizations and share admission, discharge, and transfer (ADT) messages.[81] The state requirement to use a standardized consent form helped accelerate BH information sharing. An SME shared one example in which grant funding helped a community BH provider partner with their EHR vendor and HIE to build an e-consent system and single sign-on that addressed the requirements of applicable privacy rules (42 CFR Part 2 and HIPAA Privacy Rule). This resulted in BH providers and medical providers having access to the patient information they needed.[13]

Michigan also has a web-based system that sits on top of the state's DHHS data warehouse.[82] The system is intended to serve as a care coordination tool to facilitate information across payer systems. Michigan has a BH carve-out in Medicaid from physical health care services, so Medicaid beneficiaries receive their physical health care services through a different managed care plan than their BH services.[83] The state has been working to integrate this BH information into the care coordination platform to make it available to the

[d] Health Level Seven's (HL7) Version 2.x (V2) messaging standard is the workhorse of electronic data exchange in the clinical domain and arguably the most widely implemented standard for health care in the world. This messaging standard allows the exchange of clinical data between systems. CCD was developed by Health Level Seven International with consultation and advice from several members of ASTM E31, the technical committee responsible for development and maintenance of the Continuity of Care Record (CCR) standard. In the opinion of HL7 and its members, the CDA CCD combines the benefits of ASTMs CCR and the HL7 CDA specifications.

specialty BH system since they are primarily responsible for covering the Medicaid SUD treatment. The state is attempting to combine all data in one place for the Prepaid Inpatient Health Plan system, but this effort is in its infancy.[83]

Nebraska: Nebraska has had an all-provider mandate to participate in the state's designated HIE regardless of payment method or insurance provider as of September 30, 2021. Additionally, all health insurance plans are required to participate in the HIE as of January 1, 2022 .[84]

North Carolina: By regulation, any organization receiving North Carolina state funds must have connected to the HealthConnex HIE by January 1, 2023. The goal of HealthConnex is to establish a provider network/referral platform that supports coordination of care. The services include a patient records exchange platform, patient activity notification system (e.g., ADT), controlled substance reporting, and support for meeting CMS Promoting Interoperability requirements.[85]

Oregon: Oregon has an HIE Onboarding Program, launched in January 2019, offering Medicaid providers a financial incentive to support the costs connect to a private HIE.[86] This program aims to reduce gaps in HIE coverage to provide better support for care coordination and referrals.

> ***Innovation***: The state of Washington is in the process of offering rural, BH, and Tribal providers access to outpatient EHR functionality to support patient care, integration of care, and HIE.

Washington: Washington's state Medicaid program is fully integrated managed care with combined payment for primary care, acute care, and BH. Integration between BH providers has been supported through a Medicaid 1115 research and demonstration waiver referred to as "Waiver 1.0," and they have submitted an application to CMS for "Waiver 2.0" with a request to continue and enhance the focus on integrated care.[87] Washington implemented an Integrated Care Assessment (WA-ICA) to assist providers and care teams to assess their level of integration across multiple domains and identify where support may be needed. There are also companion assessment tools tailored for primary care and BH and including domains such as registries and telehealth.[88,89] With support of managed care organizations and an approved waiver, Washington is able to move forward and fully roll out the assessment and integration technical support. Due to state legislation and federal requirements, the state also has a statutory requirement to develop and implement a crisis center platform and a BH integrated referral system.[90]

POLICY CONSIDERATIONS, OPPORTUNITIES AND RESEARCH

The literature scan and SME interviews pointed to several potential policy considerations as well as potential future research opportunities to increase interoperable HIT use among BH providers. SME groups and findings from the literature identified opportunities that fall into two main themes: (1) addressing BH provider areas of confusion where there is intersection of federal rules across 42 CFR Part 2, the HIPAA Privacy Rule, and the Cures Act Information Blocking requirements; and (2) advancing sustainable adoption of HIT and HIE in BH. Due to the lack of research on health equity and technology to address the study's research question, further studies and analysis on how HIT adoption affects underserved and excluded populations and communities is needed.

The considerations and potential policy actions discussed below reflect the findings from the study. We recognize that HHS agencies have several initiatives, strategies, and policies underway to address BH integration, use of HIT, SDOH, and use of technology in underserved communities, but these potential actions were suggested over the course of the study period.[42,91]

Address Regulatory Privacy Barriers: 42 CFR Part 2, the HIPAA Privacy Rule, and the Cures Act Information Blocking Requirements

BH provider privacy concerns over sharing sensitive patient health information inhibit HIE and effective EHR use. Federal and state policymakers have opportunities to determine whether, when, and how to offer guidance or modify and reconcile federal and state regulations and policies.

SMEs expressed that providers are confused over what they can and cannot share--especially patient notes, because notes themselves are not clearly defined. For example, the definition of psychotherapy notes often depends on provider interpretation of privacy and disclosure rules. Having a standardized definition would help to facilitate data sharing. SMEs perceived that there is no penalty not to share data and therefore, out of caution, providers opt not to adopt EHRs or share data. To reduce confusion, SMEs also suggest better explanation of the new Cures Act Information Blocking requirements, as well as additional guidance and provider education on the substantially revised Part 2 rule, particularly if data sharing is permitted. SMEs noted that the substantially revised 42 CFR Part 2 rule, once finalized, may address concerns identified in the study.

> SMEs attribute the difference in adoption between MH and SUD to 42 CFR Part 2 concerns:
>
> *"No new language has been incorporated to open up data sharing in the SUD realm, even though you are allowed to share data now."*
>
> —SME Focus Group Participant

The following privacy-related potential policy actions and considerations are based on interpretation of study findings from the literature and SME interviews pertaining to policy guidance, communication, research, and technical standards:

- ***Policy Guidance***: Provide further federal or state guidance where there are identified areas of confusion or gaps in how policies interact.
  - Analyze federal vs. state law interaction and provide policy guidance where rules intersect at the federal and state levels.
  - Publish guidelines on how the HIPAA Privacy Rule applies to psychotherapy notes in the context of EHR use.[e] Specifically, the Cures Act called for the sharing of SUD data for treatment purposes after prior written consent to be consistent with the HIPAA Privacy Rule, rather than requiring

[e] See 45 CFR 164.508(a)(2); the Office for Civil Rights (OCR) has published guidance at https://www.hhs.gov/hipaa/for-professionals/faq/558/does-hipaa-permit-a-covered-entity-to-disclose-psychotherapy-notes-to-an-hio/index.html.

consent for each future sharing under 42 CFR Part 2.[65] Clarifying this issue and eliminating the separation of this information could improve data sharing.

- ***Communication***: HHS should develop simple, short, plain language guidance for providers and separately for patients (as appropriate) from HHS (e.g., CMS, ONC, OCR, SAMHSA, states) on privacy topics to help address ongoing issues and improve awareness where guidance already exists.
  - For BH providers subject only to HIPAA and not 42 CFR Part 2, develop communication clearly stating providers could be subject to penalties under Cures information blocking federal regulation if they do not promptly provide relevant records for required disclosures (e.g., treatment, payment, and health care operations) absent consent unless a provider has documentation that the person asked not to share the information.
  - For patients and providers, develop communication on the personal benefits to individuals when their providers share their health information.
  - Address trust issues by communicating testimonials and stories about the benefits from different perspectives and cultures.

- ***Research***: Consider conducting studies to understand the patient perspective on HIT adoption/use for their BH needs and how they shape BH provider actions to protect privacy or limit disclosure despite laws which allow them to do so.
  - Study the patient perspectives on information sharing across different scenarios to better understand privacy concerns.
  - Study patient perspectives on SUD privacy issues, confidentiality, and trust to determine what is important to them and to understand their needs, priorities, and wants around data privacy to inform policy and guidance.

- ***Technical Standards***: Ensure technical requirements and standards for data reporting systems consider data segregation issues for 42 CFR Part 2 and non-42 CFR Part 2 data are intermingled to prevent reporting when the system cannot segment out the data unless the patient consents.

Advance Financially Sustainable Health Information Technology and Health Information Exchange Adoption and Use

BH providers struggle with adoption and ongoing use of HIT and HIE due to technical, workforce, cost, and policy issues. A significant policy barrier limiting BH adoption of HIT and HIE is the lack of financial incentives or requirements to use HIT. Sustainable funding for HIT implementation and ongoing upgrades that align with the needs of physician practices and hospitals is needed to prevent the current gap from widening further. Most BH providers were left out of the HITECH Act, and therefore not eligible for EHR incentives or current Promoting Interoperability programs.[33] Prioritizing HIT when faced with other competing priorities and lack of a clear business case for going digital makes long-term HIT investments difficult when paired with unstable funding and reimbursement limitations. Recognizing these issues, the study identified how some states and HIE/HINs use their policy authority, funding programs, and innovations to target BH providers and advance their HIT and HIE adoption and use.

The following potential actions and considerations for advancing HIT and HIE in BH are based on interpretation of study findings from the literature and SME interviews pertaining to research, funding, technical standards:

- ***Research EHR/HIE Adoption***: Address the BH EHR/HIE adoption data limitation identified in this study by refining EHR/HIE adoption studies to collect comprehensive and comparable data from different types of MH and SUD providers including those that do not bill insurance. Design studies that allow

trending over time and comparisons within BH and across other settings. Assess the impact of Internet and connectivity problems on EHR/HIE adoption and use.

- ***Research and Communicate Effective Policy Levers Used by States and HIE/HINs***: Conduct a comprehensive study on the approaches and policy levers used by states and HIE/HINs to advance the use of HIT and HIE in BH. To the extent possible, assess the effectiveness and impact of these approaches on HIT adoption determinants (technical, workforce, cost, and policy issues).

- ***Sustainable Funding***: Investigate HIT incentive program options tied to certified HIT to advance data sharing. Assess available policy approaches to support sustainable funding for BH HIT building on approaches states are using (e.g., offering EHR access and supporting pooling of resources). Identify opportunities with VBC CMS Innovation models focused on BH and VBC models to advance HIT/HIE in BH and provide sustainable funding.

- ***Workforce Support***: Investigate BH workforce needs to comprehensively understand and address training, development, and resource needs to use the HIT and HIE tools available to the provider.

- ***Technical Data and Interoperability Standards***: Identify opportunities to prioritize and fund initiatives focused on the development of MH and SUD data standards and bi-directional data sharing use cases including reporting.
  - Assess opportunities for ONC's United States Core Data for Interoperability (USCDI)[92] building on BH data classes and elements in USCDI Version 4[93] to be more inclusive and comprehensive of BH data needs. Inclusion in USCDI can help increase integration of standardized data in off-the-shelf EHRs and reporting systems including BH assessments and screening tools. (Note: Since the study was conducted, ONC and SAMHSA announced the USCDI+ BH HIT initiative.)[94]
  - Assess current SDOH data standards (including collection of race, ethnicity, and language data) and consider their application to meet BH needs, updating standards and reporting requirements as appropriate.
  - Continue to innovate data segmentation and e-consent standards and tooling.
  - Utilize HHS communication tools to build awareness and educate BH settings on the value of interoperability.

- ***Telehealth Policy, Planning, Use, and Research***: Monitor advances in telehealth use by BH providers to identify policy opportunities that address barriers and facilitators. Prioritize Internet connectivity issues. Gain an understanding of providers not eligible for the expansion of telehealth services and patient populations impacted. Consider resources to support telehealth adoption that overcome cost and workforce training that deter its use.

- ***Socioeconomic Status and HIT Research***: Develop research studies on the relationship between socioeconomic status and HIT use to coordinate care. The paucity of research concerning how the lag on adoption of technology and interoperability may affect community-based BH providers working with Black, Hispanic, AI/AN or other racial/ethnic populations who are underserved suggests several avenues for future research on health equity.
  - Study the effects of lower Internet availability and access on minoritized and underserved populations. Understand more fully how living in a rural area impacts the cost and availability of health care services (including the impact of Internet access), and how this affects the population including those with lower SES.
  - Conduct studies with a greater focus on racial and ethnic minority groups within the HIT adoption literature would be beneficial.

- Study additional outcome measures related to the impacts of HIT adoption (e.g., patient or provider satisfaction, effects on continuity of care, health outcomes).
- Consider future research that expands beyond racial and ethnic minority groups to examine the effects of lagging HIT adoption on other underserved and excluded populations (e.g., LGBTQ+, older adults, non-native English speakers, low-income adults, beneficiaries dually enrolled in Medicare and Medicaid).

CONCLUSION

Although most BH providers are adopting EHRs, their use is limited to specific functions, and use of data sharing and interoperability remains low. While CoCMs, screening tools, telehealth and technology have led to improvements and innovations, there is ongoing confusion and hesitation to use HIE and data sharing approaches due to the complexity of various privacy rules. Through a literature review and SME interviews, this study found that provider and patient confusion impact the use of EHRs and HIE in BH. Federal policy, additional guidance, and further research could help clarify these issues and improve data interoperability among BH providers. Additionally, federal agencies should more clearly articulate how providers and populations currently underserved in BH could benefit from increased use of HIT, including how MH and SUD record sharing can be done within the current privacy regulations.

APPENDIX A: ABBREVATIONS

The following acronyms are mentioned in this report and/or appendices.

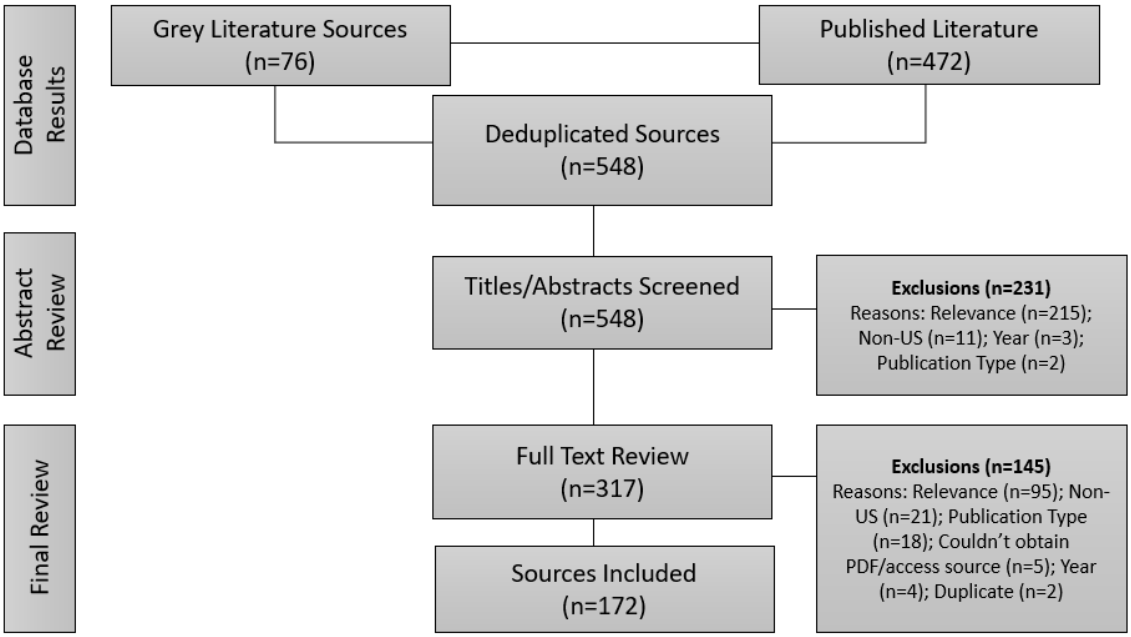
ADT	Admission, Discharge, and Transfer
AHA	American Hospital Association
AI/AN	American Indian and Alaska Native
ASPE	HHS Office of the Assistant Secretary for Planning and Evaluation
BH	Behavioral Health
CAH	Critical Access Hospital
CCBHC	Certified Community Behavioral Health Clinic
CCD	Continuity of Care Document
CCR	Continuity of Care Record
CDA	Clinical Document Architecture
CFR	Code of Federal Regulations
CHIP	Children's Health Insurance Program
CMS	HHS Centers for Medicare & Medicaid Services
CoCM	Collaborative Care Model
Cures Act	21st Century Cures Act
DHHS	state Department of Health and Human Services
EH	Eligible Hospital
EHI	Electronic Health Information
EHR	Electronic Health Record
EP	Eligible Professional
HHS	U.S. Department of Health and Human Services
HIE	Health Information Exchange
HIN	Health Information Network
HIT	Health Information Technology
HIPAA	Health Insurance Portability and Accountability Act
HITECH Act	Health Information Technology for Economic and Clinical Health Act
HIV	Human Immunodeficiency Virus
HL7	Health Level Seven
IPFQR	Inpatient Psychiatric Facility Quality Reporting
MACPAC	Medicaid and CHIP Payment and Access Commission
MH	Mental Health
N-MHSS	National Mental Health Services Survey
N-SSATS	National Survey of Substance Abuse Treatment Services
NPRM	Notice of Proposed Rule Making

OB/GYN	Obstetrician Gynecologist
OCR	HHS Office for Civil Rights
ONC	HHS Office of the National Coordinator for Health Information Technology
PCP	Primary Care Provider
PIC	Penn Integrated Care
SAMHSA	HHS Substance Abuse and Mental Health Services Administration
SDOH	Social Determinants of Health
SME	Subject Matter Expert
SUD	Substance Use Disorder
SUPPORT Act	Substance Use Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act
U.S.	United States
USCDI	ONC United States Core Data for Interoperability
VBC	Value-Based Care
WA-ICA	Washington Integrated Care Assessment

APPENDIX B: DETAILED METHODS FOR ENVIRONMENTAL SCAN

Search Strategy: We created the search strategy alongside a research librarian and SMEs in HIT and BH. The search strings included terms related to HIT, EHRs, and BH organizations/providers. We conducted the search in January 2023 within the PubMed database, Google Scholar, and manual searches of gray literature. Our search included the following limiters: year (published after 2010), language (English only), geography (United States-based studies), and publication type (empirical studies). Using Endnote reference manager (version X9), the research librarian compiled and electronically deduplicated the results (see **Figure B-1**).

Figure B-1. Identification of Studies via Databases and Registers



Screening Processes and Information Extraction: The team used Excel spreadsheets to manage the environmental scan screening and synthesis, and article screening was completed in two phases. First, the reviewers piloted screening procedures with an initial subset of abstracts (n=10) to refine inclusion/exclusion. Next, a single reviewer independently screened titles and abstracts from the search yield or relevant gray literature sources to assess eligibility.

Second, full-text review and data extraction were completed simultaneously (i.e., when an article was deemed appropriate for inclusion, the reviewer immediately proceeded to extract relevant data). Before beginning full-text review, the three reviewers met to conduct an initial pilot of the full-text screening and extraction procedures using ten randomly selected articles. The team compared coding results, discussed reasons for exclusion, and discussed the type and presentation of extracted data. Throughout the screening process, the research team held weekly meetings, during which time any discrepancies were resolved via discussion. Ultimately, 145 sources were excluded during full-text review, leaving 172 sources for extraction and synthesis.

Limitations: First, we searched only one electronic database, and we limited the environmental scan to sources based on language, year of publication, and setting (as described above). As a result, our search may have excluded relevant publications. However, we believe the sources identified are representative of the existing literature and allow us to summarize emerging topics, as well as gaps in the literature. Second, given the scope and purpose of the environmental scan to identify implementation determinants, potential policy levers, and describe how BH providers are using EHRs, we did not conduct a thorough extraction of study

characteristics and outcomes from primary research studies, reports, or program evaluations. The information we captured was descriptive and qualitative in nature, to aid in efficiently categorizing and grouping similar concepts from an array of sources. This limits the conclusions we can draw with respect to the availability of evidence regarding provider, patient, and utilization outcomes associated with HIT utilization in BH settings.

APPENDIX C: DETAILED METHODS FOR SUBJECT MATTER EXPERT FOCUS GROUPS

Recruitment

To confirm/fill in gaps from the environmental scan findings, gather insights, and discuss policy/research opportunities, RTI engaged SMEs who are experts, leaders, policy analysts, and/or researchers in HIT in BH. RTI interviewed four SME groups (providers/vendors, HIE/HINs, state reporting entities, and federal policymakers). The SMEs included, but will not be limited to, academic researchers, state officials, federal officials, and individuals who represent organizations actively engaged in federal and state HIT in BH policy. SMEs who agreed to participate in an interview were sent a project one pager, and interview questions.

Data Collection

All SME interviews were capped at nine participants and were 60 minutes in length; they were recorded solely for notetaking purposes. The research questions varied across the group and discussed current state of HIT adoption in BH settings, barriers, and facilitators to EHRs in BH settings, challenges to accessing and sharing data, and potential policy solutions that could promote EHR adoption and use. The 1-hour RTI-led interviews contained an RTI lead staff member and a primary notetaker. ASPE representatives were included on all SME interview invitations. The lead used a semi-structured interview technique so that the key questions were asked while also allowing space for the interviewer and SME to explore relevant topic areas that may not have been considered when the question guide was developed. SMEs could also follow-up to the interview with written feedback or comments.

Data Analysis

RTI synthesized anonymous pieces of the interviews to include in the final report as well as work to include SME quotes in cases where the quotes added further emphasis or context. The final report will be shared with the SMEs after the conclusion of the project.

APPENDIX D: HHS ROADMAP FOR BEHAVIORAL HEALTH INTEGRATION

Box 1: Major Challenges to Behavioral Health Integration

1. *Structural Support for Siloed Care*
2. *Stigma and Mistrust*
3. *Limited Adoption of Technology*
4. *Inconsistent Use of Data and Evidence*
5. *Insufficient Investment in Promotion and Prevention*
6. *Insurance and Financing Limitations*
7. *Workforce Challenges*
8. *Inequitable Engagement of Underserved Populations*

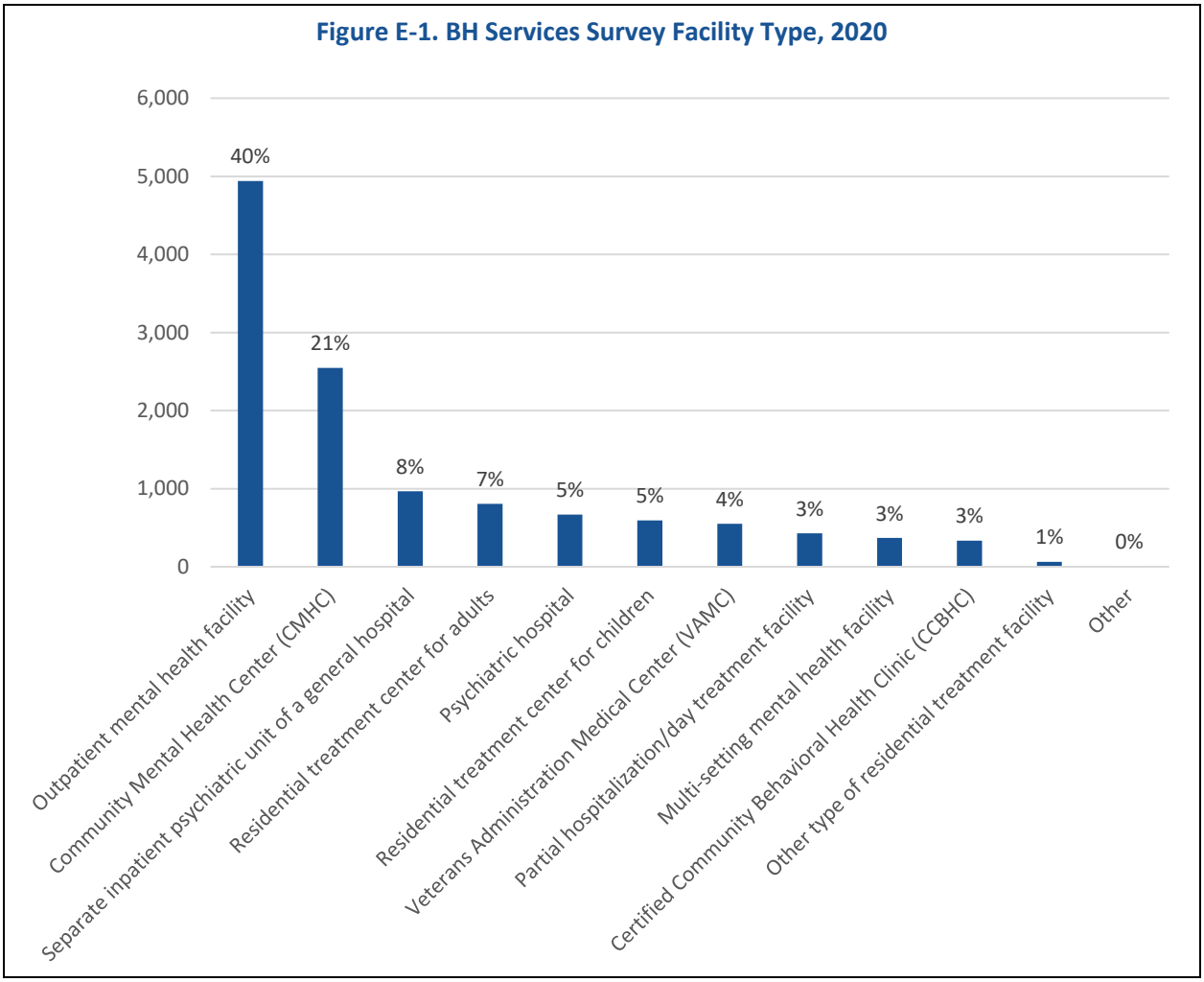
Source: Bagalman, E., Dey, J., Jacobus-Kantor, L., Stoller, B., West, K.D., Radel, L., Schreier, A., Rousseau, M., Blanco, M., Creedon, T.B., Nye, E., Ali, M.M., Dubenitz, J.M., Schwartz, D., White, J.O., Swenson-O'Brien, A.J., Oberlander, S., Burnszynski, J., LynchSmith, M., Bush, L., et al. (2022). *HHS Roadmap for Behavioral Health Integration (Issue Brief)*. https://aspe.hhs.gov/sites/default/files/documents/4e2fff45d3f5706d35326b320ed842b3/roadmap-behavioral-health-integration.pdf.

APPENDIX E. NATIONAL MENTAL HEALTH SERVICE SURVEY RESULTS

The N-MHSS collected data on BH services and some data pertains to EHR adoption and usage.[f] Findings on EHR adoption rates by setting are described below.[4] Tracking EHR adoption rates within BH settings is challenging because there is no unifying definition of EHRs within the BH sector. Therefore, it is difficult to compare adoption rates over time by EHR and setting types. Thus, this is a limitation of this study. What is known about HIE is included by provider setting.

In the 2020 N-MHSS, facilities were categorized into 11 types, with 40% being outpatient MH facilities.

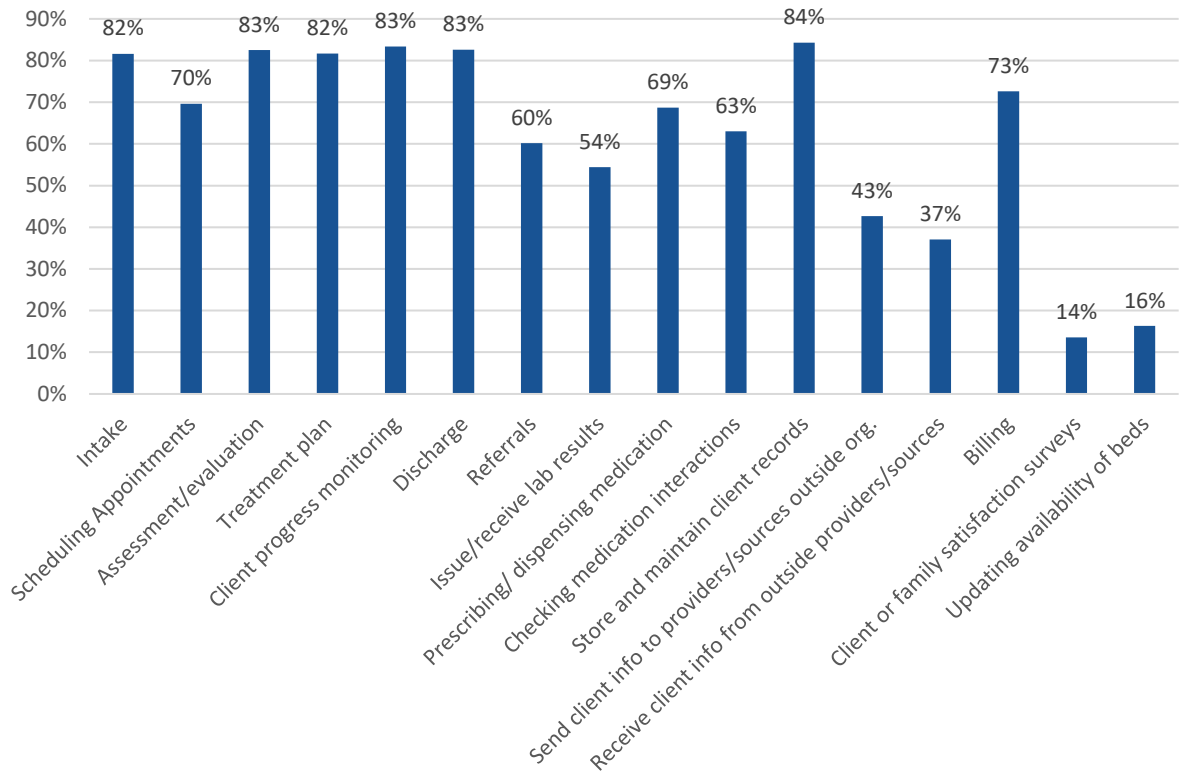
Figure E-1. BH Services Survey Facility Type, 2020



In 2020, BH treatment facilities that use EHRs used them for a variety of activities, including storing and maintaining client health and/or treatment records, client progress monitoring and discharge information. Client or family satisfaction surveys and updating availability of beds had the lowest percentage usage among facilities.

[f] The National Substance Use and Mental Health Service Survey replaced the National Survey of Substance Abuse Treatment Services (N-SSATS) and the N-MHSS after 2021 data which became available after report data collection December 2022-January 2023.

Figure E-2. Percent of 2020 BH Treatment Facilities that Use EHR Methods to Accomplish Specific Activities



Notes: Includes facilities in 50 states, the District of Columbia, American Samoa, Guam, Puerto Rico, Commonwealth of Northern Mariana Islands, and the U.S. Virgin Islands. Percentages sum to more than 100%, because a facility could report more than one EHR function.

In the 2020 N-MHSS, 69% of all facilities surveyed offered telemedicine/telehealth therapy.

Figure E-3. Facility Offers Telemedicine/Telehealth Therapy

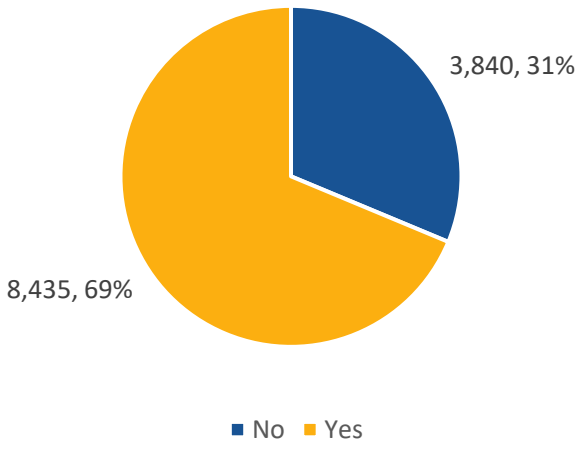


Figure E-4. N-MHSS Detailed Data, 2020

Table 3.21b. Mental health treatment facilities that use electronic health record (EHR) methods to accomplish specific activities, by facility type: Row percent distribution, 2020

Facility type	Total number of facilities[1]	EHR methods							
		Intake	Scheduling appointments	Assessment/ evaluation	Treatment plan	Client progress monitoring	Discharge	Referrals	Issue/ receive lab results
Total	12,275	81.6	69.6	82.5	81.7	83.4	82.6	60.2	54.4
Psychiatric hospitals	668	53.0	31.9	54.2	51.9	53.1	54.0	39.4	47.8
Public	205	64.4	32.7	66.3	62.4	63.9	65.9	43.4	49.3
Private	463	47.9	31.5	48.8	47.3	48.4	48.8	37.6	47.1
General hospitals[2]	967	85.2	62.4	92.0	81.8	91.9	92.1	75.3	92.7
RTCs for children	592	63.9	31.9	64.0	63.5	63.9	64.0	32.1	28.9
RTCs for adults	807	65.2	40.8	65.4	67.9	68.4	68.6	41.0	37.3
Other types of residential treatment facilities	63	79.4	36.5	74.6	76.2	79.4	77.8	52.4	46.0
Veterans Affairs medical centers	552	96.6	85.3	97.8	97.8	96.4	90.9	97.6	96.7
Community mental health centers	2,548	89.6	84.9	89.9	89.6	91.3	90.5	63.0	53.8
Certified community behavioral health clinics	336	94.3	93.5	94.3	94.6	94.3	94.9	72.6	64.6
Partial hospitalization/day treatment facilities	429	74.8	54.8	77.2	77.6	77.4	77.6	43.1	47.1
Outpatient mental health facilities	4,941	83.2	75.7	83.4	83.4	84.7	83.3	61.3	49.2
Multi-setting mental health facilities[3]	369	86.4	71.0	86.4	86.2	86.4	87.3	65.0	56.1
Other	3	33.3	33.3	66.7	66.7	66.7	66.7	66.7	66.7

Continued. See notes at end of table.

Table 3.21b. Mental health treatment facilities that use electronic health record (EHR) methods to accomplish specific activities, by facility type: Row percent distribution, 2020 (continued)

Facility type	Total number of facilities[1]	EHR methods							
		Prescribing/ dispensing medication	Checking medication interactions	Store and maintain client health and/or treatment records	Send client health and/or treatment info to providers or sources outside org.	Receive client health and/or treatment info from providers or sources outside org.	Billing	Client or family satisfaction surveys	Updating availability of beds
Total	12,275	68.7	63.0	84.3	42.7	37.1	72.6	13.6	16.3
Psychiatric hospitals	668	56.3	53.4	57.2	31.3	27.4	42.5	8.1	29.0
Public	205	62.0	56.6	68.8	30.7	26.8	42.4	5.4	30.7
Private	463	53.8	52.1	52.1	31.5	27.6	42.5	9.3	28.3
General hospitals[2]	967	91.4	90.5	92.9	70.2	60.5	76.8	11.8	47.8
RTCs for children	592	51.7	48.1	66.4	26.9	21.8	48.3	9.6	19.3
RTCs for adults	807	50.4	44.4	70.0	33.1	26.8	56.1	9.0	31.4
Other types of residential treatment facilities	63	58.7	60.3	77.8	33.3	20.6	63.5	15.9	33.3
Veterans Affairs medical centers	552	94.9	94.4	94.0	55.8	57.2	50.5	19.9	26.8
Community mental health centers	2,548	75.5	68.1	90.9	38.2	33.9	82.9	11.5	9.9
Certified community behavioral health clinics	336	85.7	75.3	95.5	49.4	37.2	88.7	27.1	10.7
Partial hospitalization/day treatment facilities	429	66.2	60.6	81.1	32.4	29.1	67.4	12.6	9.3
Outpatient mental health facilities	4,941	63.5	56.9	85.5	43.9	37.8	77.5	15.4	7.4
Multi-setting mental health facilities[3]	369	71.0	63.7	87.3	39.3	35.5	81.0	15.2	29.3
Other	3	66.7	66.7	66.7	33.3	- -	66.7	- -	33.3

- - Quantity is zero.

RTC = residential treatment center.

[1] Includes facilities in the 50 states, the District of Columbia, American Samoa, Guam, Puerto Rico, Commonwealth of the Northern Mariana Islands, and the U.S. Virgin Islands. Percentages sum to more than 100 percent, because a facility could report more than one EHR function.

[2] General hospitals consists only of non-federal general hospitals with separate psychiatric units.

[3] Includes non-hospital residential, plus either outpatient and/or partial hospitalization/day treatment.

SOURCE: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, National Mental Health Services Survey (N-MHSS), 2020.

Figure E-5. N-MHSS Detailed Data, 2018

Table 2.17b. Mental health treatment facilities with specific computerized operational functions, by facility type: Percent, 2018

Facility type	Total number of facilities [3]	Percent of facilities [1]: Computerized operational functions [2]: Intake	Scheduling appointments	Assessment/ evaluation	Treatment plan	Client progress monitoring	Discharge	Referrals	Issue/ receive lab results	Prescribing/ dispensing medication	Checking medication interactions	Health records	Send client health/treatment info	Receive client health/treatment info	Billing	Client or family satisfaction surveys
Total	11,682	90.7	87.9	88.6	90.0	91.4	91.1	84.1	72.5	76.2	78.9	86.8	70.5	72.5	93.3	43.0
Psychiatric hospitals	692	84.0	69.8	71.2	65.5	65.9	71.8	68.1	84.1	78.2	84.1	70.1	62.3	65.8	89.0	34.2
Public	206	81.1	69.4	74.8	79.6	77.2	84.5	70.4	87.4	84.5	88.8	84.5	62.6	66.0	85.9	34.0
Private	486	85.2	70.0	69.8	59.5	61.1	66.5	67.1	82.7	75.5	82.1	64.0	62.1	65.6	90.3	34.4
General hospitals[4]	1,066	89.6	72.3	84.5	84.5	95.4	97.7	86.3	98.8	97.1	98.7	93.0	83.3	79.1	93.6	33.6
RTCs for children	580	88.8	78.8	80.7	90.3	89.1	88.6	86.4	66.9	68.8	71.7	82.9	76.6	80.9	91.4	55.9
RTCs for adults	840	81.8	70.6	76.7	87.3	86.7	89.3	80.2	63.2	66.4	71.8	81.5	66.7	69.9	87.3	40.4
Other types of residential treatment facilities	72	94.4	81.9	87.5	95.8	94.4	93.1	86.1	73.6	73.6	75.0	91.7	79.2	77.8	94.4	69.4
Veterans Administration medical centers	459	99.3	99.8	99.1	99.6	99.1	91.1	99.1	99.1	99.3	99.1	94.1	75.6	78.9	84.5	75.8
Community mental health centers	2,553	95.2	97.1	95.9	96.0	96.6	95.6	87.7	73.4	82.8	83.6	90.1	70.1	72.9	95.8	42.5
Partial hospitalization/day treatment facilities	360	83.6	73.3	76.7	82.5	86.9	83.6	74.7	61.4	64.2	67.2	80.0	61.9	65.6	92.2	37.8
Outpatient mental health facilities	4,665	90.8	93.2	90.8	91.3	92.0	91.0	83.4	64.7	68.5	71.5	87.1	68.5	70.8	94.5	41.4
Multi-setting mental health facilities[5]	382	92.7	89.8	91.4	93.7	93.7	95.0	86.9	74.3	79.3	85.1	87.7	74.6	74.3	97.4	54.7
Other	13	100.0	92.3	100.0	100.0	100.0	100.0	92.3	92.3	100.0	92.3	100.0	100.0	92.3	100.0	53.8

RTC = residential treatment center.

[1] Percentages sum to more than 100 percent, because a facility could report more than one computerized operational function.

[2] Created variable; includes facilities that use computer/electronic only and both electronic and paper to complete function.

[3] Includes facilities in the 50 states, the District of Columbia, American Samoa, Guam, Puerto Rico, and the U.S. Virgin Islands.

[4] General hospitals consists only of non-federal general hospitals with separate psychiatric units.

[5] Includes non-hospital residential, plus either outpatient and/or partial hospitalization/day treatment.

SOURCE: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, National Mental Health Services Survey (N-MHSS), 2018.

REFERENCES

1. Kwan, B.M., & Nease Jr., D.E. (2013). The state of the evidence for integrated behavioral health in primary care. In Integrated behavioral health in primary care: Evaluating the evidence, identifying the essentials. (pp. 65-98). *Springer Science + Business Media*. doi.org/10.1007/978-1-4614-6889-9_5.

2. Shmerling, A.C., Gold, S.B., Gilchrist, E.C., & Miller, B.F. (2020). Integrating behavioral health and primary care: A qualitative analysis of financial barriers and solutions. *Transl Behav Med*, 10(3), 648-656. doi.org/10.1093/tbm/ibz026. PMID: 32766872.

3. Malâtre-Lansac, A., Engel, C.C., Xenakis, L., Carlasare, L., Blake, K., Vargo, C., Botts, C., Chen, P.G., & Friedberg, M.W. (2020). Factors influencing physician practices' adoption of behavioral health integration in the United States: A qualitative study. *Annals of Internal Medicine*, 173(2), 92-99. doi.org/10.7326/m20-0132. PMID: 32479169.

4. Bagalman, E., Dey, J., Jacobus-Kantor, L., Stoller, B., West, K.D., Radel, L., Schreier, A., Rousseau, M., Blanco, M., Creedon, T.B., Nye, E., Ali, M.M., Dubenitz, J.M., Schwartz, D., White, J.O., Swenson-O'Brien, A.J., Oberlander, S., Burnszynski, J., Lynch Smith, M., Bush, L., Kennedy, G., Sherry, T.B., & Haffajee, R.L. (2022). *HHS Roadmap for Behavioral Health Integration (Issue Brief)*. https://aspe.hhs.gov/sites/default/files/documents/4e2fff45d3f5706d35326b320ed842b3/roadmap-behavioral-health-integration.pdf.

5. U.S. Department of Health and Human Services. (2022). HHS Roadmap for Behavioral Health Integration. https://www.aspe.hhs.gov/reports/hhs-roadmap-behavioral-health-integration.

6. Office of the National Coordinator for Health Information Technology. (n.d.). HealthIT Frequently Asked Questions. Retrieved April 29, 2024, from https://www.healthit.gov/faq/what-health-it.

7. Office of the National Coordinator for Health Information Technology. (n.d.). Electronic Health Records Frequently Asked Questions. https://www.healthit.gov/faq/what-electronic-health-record-ehr.

8. Dixon, B.E. (2023). Health Information Exchange: Navigating and Managing a Network of Health Information Systems (Second edition. ed.). Academic Press, an imprint of Elsevier.

9. Batastini, A.B., Paprzycki, P., Jones, A.C.T., & MacLean, N. (2021). Are videoconferenced mental and behavioral health services just as good as in-person? A meta-analysis of a fast-growing practice. *Clinical Psychology Review*, 83, 101944. doi.org/10.1016/j.cpr.2020.101944. PMID: 33227560.

10. Berryhill, M.B., Culmer, N., Williams, N., Halli-Tierney, A., Betancourt, A., Roberts, H., & King, M. (2019). Videoconferencing psychotherapy and depression: A systematic review. *Telemed J E Health*, 25(6), 435-446. doi.org/10.1089/tmj.2018.0058. PMID: 30048211.

11. Bellanti, D.M., Kelber, M.S., Workman, D.E., Beech, E.H., & Belsher, B.E. (2022). Rapid review on the effectiveness of telehealth interventions for the treatment of behavioral health disorders. *Military Medicine*, 187(5-6), e577-e588. doi.org/10.1093/milmed/usab318. PMID: 34368853.

12. Hilty, D.M., Rabinowitz, T., McCarron, R.M., Katzelnick, D.J., Chang, T., Bauer, A.M., & Fortney, J. (2018). An update on telepsychiatry and how it can leverage collaborative, stepped, and integrated services to primary care. *Psychosomatics*, 59(3), 227-250. doi.org/10.1016/j.psym.2017.12.005. PMID: 29544663.

13. Commonwealth Fund. (2020). *How Practices can Advance the Implementation of Integrated Care in the COVID-19 Era (Issue Brief)*. https://www.commonwealthfund.org/publications/issue-briefs/2020/nov/practices-advance-implementation-integrated-care-covid.

14. Shank, N. (2012). Behavioral health providers' beliefs about health information exchange: A statewide survey. *Journal of the American Medical Informatics Association*, 19(4), 562-569. doi.org/10.1136/amiajnl-2011-000374. PMCID: PMC3384100. PMID: 22184253.

15. Cochran, R.A., Feldman, S.S., Ivankova, N.V., Hall, A.G., & Opoku-Agyeman, W. (2021). Intention to use behavioral health data from a health information exchange: Mixed methods study. *JMIR Ment Health*, 8(5), e26746. doi.org/10.2196/26746. PMID: 34042606.

16. Dougherty, M., Williams, M., Millenson, M., & Harvell, J. (2013). EHR Payment Incentives for Providers Ineligible for Payment Incentives and Other Funding Study. https://aspe.hhs.gov/reports/ehr-payment-incentives-providers-ineligible-payment-incentives-other-funding-study#main-content.

17. Centers for Medicare & Medicaid Services. (n.d.). Promoting Interoperability Programs. Retrieved September 12, 2023, from https://www.cms.gov/medicare/regulations-guidance/promoting-interoperability-programs.

18. Medicaid and CHIP Payment and Access Commission. (2022). Chapter 4: Encouraging health information technology adoption in behavioral health: Recommendations for action. In *Report to Congress on Medicaid and CHIP*.

19. Office of the National Coordinator for Health Information Technology. (n.d.). Office-based Physician Electronic Health Record Adoption. Retrieved September 12, 2023, from https://www.healthit.gov/data/quickstats/office-based-physician-electronic-health-record-adoption.

20. Office of the National Coordinator for Health Information Technology. (2022). Adoption of Electronic Health Records by Hospital Service Type 2019-2021. Retrieved September 12, 2023, from https://www.healthit.gov/data/quickstats/adoption-electronic-health-records-hospital-service-type-2019-2021.

21. U.S. Department of Health and Human Services. Confidentiality of Substance Use Disorder (SUD) Patient Records, Final Rule. 89 FR 12472, 12472-12631, Doc Number 2024-02544, 02/16/2024. Accessed at https://www.federalregister.gov/documents/2024/02/16/2024-02544/confidentiality-of-substance-use-disorder-sud-patient-records.

22. Substance Abuse and Mental Health Services Administration. (2020). Health Privacy Rule 42 CFR Part 2 is Revised, Modernizing Care Coordination for Americans Seeking Treatment for Substance Use Disorders. https://www.samhsa.gov/newsroom/press-announcements/202007131115.

23. Substance Abuse and Mental Health Services Administration. (2022). *HHS Proposes New Protections to Increase Care Coordination and Confidentiality for Patients with Substance Use Challenges*. https://www.samhsa.gov/newsroom/press-announcements/20221128/hhs-increase-care-coordination-confidentiality-patients-substance-use-challenges.

24. Office for Civil Rights. (n.d.). *HIPAA Privacy Rule and Sharing Information Related to Mental Health*. Retrieved September 18, 2023, from https://www.hhs.gov/sites/default/files/hipaa-privacy-rule-and-sharing-info-related-to-mental-health.pdf.

25. Office of the National Coordinator for Health Information Technology. (n.d.). *Information Blocking*. Retrieved September 12, 2023, from https://www.healthit.gov/topic/information-blocking.

26. Gordon, S.Y., Malik, C., & Harding, J.C. (2016). *2016 Compilation of State Behavioral Health Patient Treatment Privacy and Disclosure Laws and Regulations*. https://www.nasmhpd.org/content/tac-assessment-working-paper-2016-compilation-state-behavioral-health-patient-treatment.

27. Office of the National Coordinator for Health Information Technology. (n.d.). *State Health IT Privacy and Consent Laws and Policies*. Retrieved April 29, 2024, from https://www.healthit.gov/topic/state-health-it-privacy-and-consent-laws-and-policies.

28. Office of the National Coordinator for Health Information Technology. (n.d.). *HeatlhIT.gov Apps*. Retrieved April 29, 2024, from https://www.healthit.gov/data/apps.

29. Schreiweis, B., Pobiruchin, M., Strotbaum, V., Suleder, J., Wiesner, M., & Bergh, B. (2019). Barriers and facilitators to the implementation of eHealth services: Systematic literature analysis. *J Med Internet Res*, 21(11), e14197. doi.org/10.2196/14197. PMCID: PMC6898891. PMID: 31755869.

30. Kruse, C.S., Kristof, C., Jones, B., Mitchell, E., & Martinez, A. (2016). Barriers to electronic health record adoption: A systematic literature review. *J Med Syst*, 40(12), 252. doi.org/10.1007/s10916-016-0628-9. PMCID: PMC5054043. PMID: 27714560.

31. Atasoy, H., Greenwood, B.N., & McCullough, J.S. (2019). The digitization of patient care: A review of the effects of electronic health records on health care quality and utilization. *Annu Rev Public Health*, 40, 487-500. doi.org/10.1146/annurev-publhealth-040218-044206. PMID: 30566385.

32. Jung, S.Y., Hwang, H., Lee, K., Lee, D., Yoo, S., Lim, K., Lee, H.Y., & Kim, E. (2021). User perspectives on barriers and facilitators to the implementation of electronic health records in behavioral hospitals: Qualitative study. *JMIR Form Res*, 5(4), e18764. doi.org/10.2196/18764. PMCID: PMC8063095. PMID: 33830061.

33. Cohen, D. (2015). Effect of the exclusion of behavioral health from Health Information Technology (HIT) legislation on the future of integrated health care. *J Behav Health Serv Res*, 42(4), 534-539. doi.org/10.1007/s11414-014-9407-x. PMID: 24807647.

34. Substance Abuse and Mental Health Services Administration. (2020). *National Mental Health Services Survey (N-MHSS): 2019, Data on Mental Health Treatment Facilities*. Retrieved September 12, 2023, from https://www.samhsa.gov/data/report/national-mental-health-services-survey-n-mhss-2019-data-mental-health-treatment-facilities.

35. Henry, J., Pylypchuk, Y., Searcy, T., & Patel, V. (2016). *Adoption of Electronic Health Record Systems among U.S. Non-federal Acute Care hospitals: 2008-2015*. https://www.healthit.gov/sites/default/files/briefs/2015_hospital_adoption_db_v17.pdf.

36. Office of the National Coordinator for Healthcare Technology (ONC). (2019). *Office-based Physician Electronic Health Record Adoption*. https://dashboard.healthit.gov/quickstats/pages/physician-ehr-adoption-trends.php.

37. Substance Abuse and Mental Health Services Administration. (2018). *2017 National Survey of Substance Abuse Treatment Services*. Data on substance abuse treatment facilities. Retrieved September 25, 2023, from https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/2017_NSSATS.pdf.

38. Eaton, E.F., Burgan, K., McCollum, G., Levy, S., Willig, J., Mugavero, M.J., Reddy, S., Wallace, E., Creger, T., Baral, S., Fogger, S., & Cropsey, K. (2022). Expanding access to substance use services and mental health care for people with HIV in Alabama, a technology readiness assessment using a mixed methods approach. *BMC Health Serv Res*, 22(1), 919. doi.org/10.1186/s12913-022-08280-z. PMCID: PMC9284957. PMID: 35841096.

39. Iceland, J. (2019). Racial and ethnic inequality in poverty and affluence, 1959-2015. *Popul Res Policy Rev*, 38(5), 615-654. doi.org/10.1007/s11113-019-09512-7. PMCID: PMC6934366. PMID: 31885410.

40. Bergamo, C., Juarez-Colunga, E., & Capp, R. (2016). Association of mental health disorders and Medicaid with ED admissions for ambulatory care-sensitive condition conditions. *Am J Emerg Med*, 34(5), 820-824. doi.org/10.1016/j.ajem.2016.01.023. PMCID: PMC4837066. PMID: 26887865.

41. Walker, D.M., Hefner, J.L., Fareed, N., Huerta, T.R., & McAlearney, A.S. (2020). Exploring the digital divide: Age and race disparities in use of an inpatient portal. *Telemed J E Health*, 26(5), 603-613. doi.org/10.1089/tmj.2019.0065. PMCID: PMC7476395. PMID: 31313977.

42. U.S. Department of Health and Human Services. (n.d.). *HHS's Strategic Approach to Addressing Social Determinants of Health to Advance Health Equity--At a Glance*. Retrieved September 26, 2023, from https://aspe.hhs.gov/sites/default/files/documents/aabf48cbd391be21e5186eeae728ccd7/SDOH-Action-Plan-At-a-Glance.pdf.

43. Federal Communication Commission. (n.d.). *Mapping Broadband Health in America*. Retrieved September 26, 2023, from https://www.fcc.gov/health/maps.

44. Centers for Medicare & Medicaid Services. (n.d.). *What are the Value-based Programs?* Retrieved September 12, 2023, from https://www.cms.gov/medicare/quality/value-based-programs.

45. Centers for Medicare & Medicaid Services. (n.d.). *Strategic Direction*. Retrieved September 12, 2023, from https://www.cms.gov/priorities/innovation/about/strategic-direction.

46. Bazargan, M., Cobb, S., & Assari, S. (2021). Discrimination and medical mistrust in a racially and ethnically diverse sample of California adults. *Ann Fam Med*, 19(1), 4-15. doi.org/10.1370/afm.2632. PMCID: PMC7800756. PMID: 33431385.

47. Moore, C., Coates, E., Watson, A.R., de Heer, R., McLeod, A., & Prudhomme, A. (2023). 'It's important to work with people that look like me': Black patients' preferences for patient-provider race concordance. *Journal of Racial & Ethnic Health Disparities*, 10(5), 2552-2564. doi.org/10.1007/s40615-022-01435-y.

48. Cifuentes, M., Davis, M., Fernald, D., Gunn, R., Dickinson, P., & Cohen, D.J. (2015). Electronic health record challenges, workarounds, and solutions observed in practices integrating behavioral health and primary care. *J Am Board Fam Med*, 28 Suppl 1(Suppl 1), S63-72. doi.org/10.3122/jabfm.2015.S1.150133. PMCID: PMC7304941. PMID: 26359473.

49. Anastas, T., Waddell, E.N., Howk, S., Remiker, M., Horton-Dunbar, G., & Fagnan, L.J. (2019). Building behavioral health homes: Clinician and staff perspectives on creating integrated care teams. *J Behav Health Serv Res*, 46(3), 475-486. doi.org/10.1007/s11414-018-9622-y. PMCID: PMC6250593. PMID: 29790040.

50. Ranallo, P.A., Kilbourne, A.M., Whatley, A.S., & Pincus, H.A. (2016). Behavioral health information technology: From chaos to clarity. *Health Affairs*, 35(6), 1106-1113. doi.org/10.1377/hlthaff.2016.0013. PMID: 27269029.

51. Clark, K.D., Woodson, T.T., Holden, R.J., Gunn, R., & Cohen, D.J. (2019). Translating Research into Agile Development (TRIAD): Development of electronic health record tools for primary care settings. *Methods Inf Med*, 58(1), 1-8. doi.org/10.1055/s-0039-1692464. PMCID: PMC6823924. PMID: 31277082.

52. Falconer, E., Kho, D., & Docherty, J.P. (2018). Use of technology for care coordination initiatives for patients with mental health issues: A systematic literature review. *Neuropsychiatr Dis Treat*, 14, 2337-2349. doi.org/10.2147/NDT.S172810. PMCID: PMC6143125. PMID: 30254446.

53. Bruns, E.J., Hook, A.N., Parker, E.M., Esposito, I., Sather, A., Parigoris, R.M., Lyon, A.R., & Hyde, K.L. (2018). Impact of a web-based electronic health record on behavioral health service delivery for children and adolescents: Randomized controlled trial. *J Med Internet Res*, 20(6), e10197. doi.org/10.2196/10197. PMCID: PMC6024107. PMID: 29903701.

54. Matthews, E.B. (2017). Integrating the electronic health record into behavioral health encounters: Strategies, barriers, and implications for practice. *Adm Policy Ment Health*, 44(4), 512-523. doi.org/10.1007/s10488-015-0676-3. PMID: 26208693.

55. Stanhope, V., & Matthews, E.B. (2019). Delivering person-centered care with an electronic health record. *BMC Med Inform Decis Mak*, 19(1), 168. doi.org/10.1186/s12911-019-0897-6. PMCID: PMC6704707. PMID: 31438960.

56. Goldman, M.L., Smali, E., Richkin, T., Pincus, H.A., & Chung, H. (2022). Implementation of behavioral health integration in small primary care settings: Lessons learned and future directions. *Community Ment Health J*, 58(1), 136-144. doi.org/10.1007/s10597-021-00802-z. PMID: 33638059.

57. Cavanagh, R., Gerson, S.M., Gleason, A., Mackey, R., & Ciulla, R. (2022). Competencies needed for behavioral health professionals to integrate digital health technologies into clinical care: A rapid review. *J Technol Behav Sci*, 1-14. doi.org/10.1007/s41347-022-00242-w. PMCID: PMC8853702. PMID: 35194561.

58. Getz, L. (2013). EHRs in behavioral health--a digital future? *Social Work Today*, 13(3), 24.

59. McGregor, B., Mack, D., Wrenn, G., Shim, R.S., Holden, K., & Satcher, D. (2015). Improving service coordination and reducing mental health disparities through adoption of electronic health records. *Psychiatr Serv*, 66(9), 985-987. doi.org/10.1176/appi.ps.201400095. PMCID: PMC4558322. PMID: 25975885.

60. Beil, H., Feinberg, R.K., Patel, S.V., & Romaire, M.A. (2019). Behavioral health integration with primary care: Implementation experience and impacts from the State Innovation Model round 1 states. *Milbank Q*, 97(2), 543-582. doi.org/10.1111/1468-0009.12379. PMCID: PMC6554552. PMID: 30957311.

61. El-Mallakh, P., Howard, P.B., Bond, G.R., & Roque, A.P. (2014). Challenges of implementing a medication management evidence-based practice in a community mental health setting: Results of a qualitative study. *Issues Ment Health Nurs*, 35(7), 517-525. doi.org/10.3109/01612840.2014.888601. PMID: 24963852.

62. Shields, M.C., Horgan, C.M., Ritter, G.A., & Busch, A.B. (2021). Use of electronic health information technology in a national sample of hospitals that provide specialty substance use care. *Psychiatr Serv*, 72(12), 1370-1376. doi.org/10.1176/appi.ps.202000816. PMCID: PMC8517030. PMID: 33853380.

63. Henry, T.L., Schmidt, S., Lund, M.B., Haynes, T., Ford, D., Egwuogu, H., Schmitz, S., McGregor, B., Toomer, L., & Bussey-Jones, J. (2020). Improving depression screening in underserved populations in a large urban academic primary care center: A provider-centered analysis and approach. *Am J Med Qual*, 35(4), 315-322. doi.org/10.1177/1062860619884639. PMID: 31701768.

64. Campbell, A.N.C., McCarty, D., Rieckmann, T., McNeely, J., Rotrosen, J., Wu, L.T., & Bart, G. (2019). Interpretation and integration of the federal substance use privacy protection rule in integrated health systems: A qualitative analysis. *J Subst Abuse Treat*, 97, 41-46. doi.org/10.1016/j.jsat.2018.11.005. PMCID: PMC6310476. PMID: 30577898.

65. Substance Abuse and Mental Health Services Administration. (2020). *Fact Sheet: SAMHSA 42 CFR Part 2 Revised Rule*. Retrieved September 12, 2023, from https://www.samhsa.gov/newsroom/press-announcements/202007131330.

66. U.S. Department of Health and Human Services. (2022). *Summary of the HIPAA Privacy Rule*. Retrieved September 18, 2023, from https://www.hhs.gov/hipaa/for-professionals/privacy/laws-regulations/index.html.

67. Barnett, B., & Connery, H.S. (2018). Implementation challenges of the final rule of Title 42 of the Code of Federal Regulations Part 2: Can privacy endure in an era of electronic health information exchange? *Am J Addict*, 27(1), 37-38. doi.org/10.1111/ajad.12667. PMID: 29283482.

68. American Medical Association. (2022). *Accelerating and Enhancing Behavioral Health Integration Through Digitally Enabled Care: Opportunities and Challenges*. https://www.ama-assn.org/system/files/bhi-return-on-health-report.pdf.

69. Wolk, C.B., Last, B.S., Livesey, C., Oquendo, M.A., Press, M.J., Mandell, D.S., Ingram, E., Futterer, A.C., Kinkler, G.P., & Oslin, D.W. (2021). Addressing common challenges in the implementation of collaborative care for mental health: The Penn Integrated Care Program. *Ann Fam Med*, 19(2), 148-156. doi.org/10.1370/afm.2651. PMCID: PMC7939709. PMID: 33685876.

70. Richmond, L. (2021). Three health systems find success with collaborative care. *Psychiatric News*. https://psychnews.psychiatryonline.org/doi/10.1176/appi.pn.2022.12.26.

71. Concert Health. (2023). Concert Health Collaborative Care Model. Retrieved September 12, 2023, from https://concerthealth.com/.

72. Cooler, J., Ross, C.A., Robert, S., Linder, L., Ruhe, A.M., & Philip, A. (2019). Evaluation and optimization of take-home naloxone in an academic medical center. *Ment Health Clin*, 9(2), 105-109. doi.org/10.9740/mhc.2019.03.105. PMCID: PMC6398357. PMID: 30842919.

73. Medicaid.gov. (n.d.). *Behavioral Health Services*. Retrieved September 12, 2023, from https://www.medicaid.gov/medicaid/benefits/behavioral-health-services/index.html#:~:text=This%20website%20has%20been%20organized%20around%20several%20key,Addiction%20Equity%20Act%20%28MHPAEA%29%20application%20to%20Medicaid%20programs.

74. Medicaid and CHIP Payment and Access Commission. (2022). *MACPAC Releases June 2022 Report to Congress*. https://www.macpac.gov/news/macpac-releases-june-2022-report-to-congress/#:~:text=The%20Medicaid%20and%20CHIP%20Payment%20and%20Access%20Commission,eligible%20for%20both%20the%20Medicaid%20and%20Medicare%20programs.

75. Centers for Medicare & Medicaid Services. Letter to State Medicaid Director, SMD# 18--011 RE: Opportunities to design innovative service delivery systems for adults with a serious mental illness or children with a serious emotional disturbance. Retrieved September 29, 2023, from https://www.medicaid.gov/sites/default/files/federal-policy-guidance/downloads/smd18011.pdf.

76. Bachrach, D., Boozang, P., & Davis, H.E. (2017). *How Arizona Medicaid Accelerated the Integration of Physical and Behavioral Health Services (Issue Brief)*. https://www.commonwealthfund.org/sites/default/files/documents/___media_files_publications_issue_brief_2017_may_bachrach_arizona_medicaid_integrated_behavioral_hlt_ib.pdf.

77. Arizona Health Care Cost Containment System. (2023). *AHCCCS Differential Adjusted Payment (DAP) CYE 2024 Final Public Notice*. Retrieved September 12, 2023, from https://azahcccs.gov/AHCCCS/Downloads/PublicNotices/rates/CYE24_DAP_Notice.pdf.

78. CT.gov. (2023). *Behavioral Health Engagement 2023--FAQ*. Retrieved September 12, 2023, from https://portal.ct.gov/OHS/HIT-Work-Groups/Behavioral-Health-Engagement/FAQ.

79. Commonwealth Fund. (n.d.). *Delaware: First State, First Statewide Health Information Exchange*. Retrieved September 12, 2023, from https://www.commonwealthfund.org/publications/newsletter-article/delaware-first-state-first-statewide-health-information-exchange.

80. Maine.gov. *Promoting Interoperability (PI) Program*. Retrieved September 12, 2023, from http://www1.maine.gov/dhhs/oms/providers/promoting-interoperability-program.

81. Michigan Department of Health and Human Services. (2023). Behavioral and Physical Health and Aging Services Administration, Bureau of Community Based Services, FY 2023 Performance Bonus Incentive Program (PBIP). https://www.michigan.gov/mdhhs/-/media/Project/Websites/mdhhs/Keeping-Michigan-Healthy/BH-DD/Reporting-Requirements/PBI/Performance_Bonus_Incentive_Pool_FY23.pdf?rev=e587b542100e4256ba85fa203c0b454f&hash=82EBDF3B193A09A0FEFA789EE03A88B1.

82. Michigan Health Information Network Shared Services (MiHIN). (n.d.). *Michigan Exchanges*. Retrieved September 12, 2023, from https://mihin.org/exchanges/.

83. Holladay, S., Howard, J., Toth, M., Suarez, G., D'Cruz, B., Huber, B., Moore, P., Wang, J., Peddada, S., Chiri, G., Dorneo, A., Fletcher, D., Srocynski, N., Cohen, H., Rutledge, R., Kandilov, A., Coomer, N., Chepatis, A.E., Kordomenos, C., Hodge, S., et al. (2022). *Financial Alignment Initiative: Michigan MI Health Link Second Evaluation Report*. https://www.cms.gov/priorities/innovation/data-and-reports/2022/fai-mi-secondevalrpt.

84. Nebraska Legislature. (n.d.). Nebraska Revised Statute 81-6, 125. Act; purpose; designated health information exchange; duties; health care facility; health insurance plan; participation required; terms and conditions; individuals; opt out. Retrieved September 12, 2023, from https://nebraskalegislature.gov/laws/statutes.php?statute=81-6,125.

85. North Carolina Health Information Exchange Authority. *NC HealthConnex*. Retrieved September 12, 2023, from https://hiea.nc.gov/.

86. Oregon Health Authority. (n.d.). *HIE Onboarding Program*. Retrieved September 12, 2023, from https://www.oregon.gov/oha/HPA/OHIT/Pages/HIE-Onboarding-Program.aspx.

87. Washington State Health Care Authority. (2023). *Washington State will Continue Medicaid Waiver for Five More Years*. Retrieved September 12, 2023, from https://www.hca.wa.gov/about-hca/news/announcements/washington-state-will-continue-medicaid-waiver-five-more-years.

88. Washington State Department of Health. *Washington Integrated Care Assessment (WA-ICA) | Healthier Washington Collaboration Portal*. Retrieved September 12, 2023, from https://waportal.org/.

89. Washington State Health Care Authority. (n.d.). *Electronic Health Records (EHR) as a Service*. Retrieved September 12, 2023, from https://www.hca.wa.gov/about-hca/programs-and-initiatives/health-information-technology/electronic-health-records-ehr-service.

90. Washington State Legislature. (2021). House Bill Report HB 1477: An act relating to the implementation of the national 988 system to enhance and expand behavioral health crisis response and suicide prevention services statewide by imposing an excise tax on certain telecommunications services. https://lawfilesext.leg.wa.gov/Biennium/2021-22/Pdf/Bill%20Reports/House/1477%20HBR%20FIN%2021.pdf.

91. Centers for Medicare & Medicaid Services. (n.d.). *CMS Behavioral Health Strategy*. Retrieved September 29, 2023, from https://www.cms.gov/cms-behavioral-health-strategy.

92. HealthIT.gov. (n.d.). *United States Core Data for Interoperability (USCDI)*. Office of the National Coordinator for Health Information Technology (ONC). Retrieved September 29, 2023, from https://www.healthit.gov/isa/united-states-core-data-interoperability-uscdi.

93. Office of the National Coordinator for Health Information Technology. (2023). *ONC Health IT Standards Bulletin*. https://www.healthit.gov/sites/default/files/page/2023-07/Standards_Bulletin_2023-2.pdf.

94. Tripathy, M., & Delphin-Rittmon, M.E. (2024). *SAMHSA and ONC Launch the Behavioral Health Information Technology Initiative*. SAMHSA blog. https://www.samhsa.gov/blog/samhsa-onc-launch-behavioral-health-information-technology-initiative.

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