

Electronic health records: essential tools in integrating substance abuse treatment with primary care

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Abstract: While substance use problems are considered to be common in medical settings, they are not systematically assessed and diagnosed for treatment management. Research data suggest that the majority of individuals with a substance use disorder either do not use treatment or delay treatment-seeking for over a decade. The separation of substance abuse services from mainstream medical care and a lack of preventive services for substance abuse in primary care can contribute to under-detection of substance use problems. When fully enacted in 2014, the Patient Protection and Affordable Care Act 2010 will address these barriers by supporting preventive services for substance abuse (screening, counseling) and integration of substance abuse care with primary care. One key factor that can help to achieve this goal is to incorporate the standardized screeners or common data elements for substance use and related disorders into the electronic health records (EHR) system in the health care setting. Incentives for care providers to adopt an EHR system for meaningful use are part of the Health Information Technology for Economic and Clinical Health Act 2009. This commentary focuses on recent evidence about routine screening and intervention for alcohol/drug use and related disorders in primary care. Federal efforts in developing common data elements for use as screeners for substance use and related disorders are described. A pressing need for empirical data on screening, brief intervention, and referral to treatment (SBIRT) for drug-related disorders to inform SBIRT and related EHR efforts is highlighted.

Keywords: electronic health records, Patient Protection and Affordable Care Act 2010, primary care, screening, brief intervention, substance abuse treatment, substance use disorders

Introduction

The Patient Protection and Affordable Care Act 2010 places an emphasis on improving early detection of substance use problems (eg, screening and counseling) and integration of substance abuse care with primary care.¹ With its full enactment in 2014, the law is expected to ensure that preventive services and treatment for substance use problems in primary care will be covered (reimbursed) and managed like other chronic medical illnesses. The Health Information Technology for Economic and Clinical Health (HITECH) Act, enacted as part of the American Recovery and Reinvestment Act 2009, promotes the adoption and meaningful use of the electronic health records (EHR) system as an effective tool to facilitate integration of care (eg, incorporating screening and preventive services into an EHR system).² The success of these promising goals will be influenced by whether individuals presenting for care in medical settings are screened for substance use and related problems and whether standardized screeners for substance use and related disorders are embedded into the EHR system. In response to this priority of national health care reform, we describe the potential impact of the

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Patient Protection and Affordable Care Act on substance abuse treatment and discuss the critical need for standardized and clinically meaningful screening tools that can be incorporated into the EHR system to facilitate integration of substance abuse treatment with primary care. A succinct review of the prevalence of substance use disorders (SUDs) is given below to show the unmet public health need for SUD detection and treatment.

Substance use problems are under-detected

Alcohol and drug use problems are among the leading causes of morbidity and mortality.^{3–5} According to the recent US National Survey on Drug Use and Health, nearly one-quarter of individuals aged 12 years or older (23.1%) engage in binge drinking (having five or more drinks on the same occasion on at least 1 day in the past 30 days prior to the survey), and 9% are current illicit or nonmedical drug users (including marijuana/hashish, cocaine/crack, heroin, hallucinogens, inhalants, prescription-type stimulants, opioids, sedatives, and tranquilizers).⁶ Overall, 9% of the general US population aged 12 years or older self-report having a SUD (alcohol or drug abuse or dependence) within a 12-month period, representing approximately 22.1 million people.⁶

Alcohol or drug abuse increase risk for substance-related injuries or overdose, cause a wide range of medical illnesses, and can exacerbate existing health conditions.^{7,8} While substance abuse conditions are considered to be common in medical settings, they are not systematically assessed and diagnosed for treatment management. One possible reason for this relates to the fact that treatment for SUDs occurs primarily in specialty substance abuse service settings that are often separated from mainstream health care and have no onsite primary care doctors.^{9,10} Therefore, the lack of organizational or structural support in the medical setting (eg, training, treatment resources, staffing, and reimbursement) may explain, in part, the under-detection or under-treatment of SUDs. For example, data from the 1997–2004 US National Ambulatory Medical Care Survey indicate that SUD diagnoses were recorded in only 0.9% of general and family practice visits, 0.8% of internal medicine visits, and 5.1% of psychiatric visits.¹¹ In an emergency department setting, 1% of patients had a recorded SUD diagnosis; after the research team applied a comprehensive case definition to account for denial and positive test results for substance use, as many as 27% of patients were considered as needing substance abuse treatment.¹² These data suggest that SUDs are under-detected or under-diagnosed and that systematic screening or assessments could increase their detection.^{11,12}

Treatments are either not received or delayed

Studies have shown that barriers to substance abuse treatment (eg, organizational, financial, fear of stigma, patient's denial) are substantial and that the vast majority of individuals with a SUD in the past year (regardless of age and sex) do not use treatment for problems related to substance abuse within the year.^{13–16} Survey data indicate that individuals with a SUD often have a lengthy delay (more than 10 years) in treatment-seeking for SUDs after the onset of substance use.¹⁷ Recent data from the Treatment Episode Data Set further reveal that, among adult patients, an average of 15.6 years elapsed between the first use of the primary substance of abuse and treatment entry.¹⁸ Therefore, while adolescence and young adulthood constitute a period of heightened risk for substance use and abuse, many substance-abusing individuals do not make treatment contact until age 30 years and older, suggesting that opportunities for reducing substance-related problems (eg, through school, work, relationships, crimes) by means of early detection and referral are missed.^{13–18}

Addiction is a chronic disease with many opportunities for intervention, and timely detection and effective use of treatment services can mitigate adverse consequences from a SUD.^{19,20} SUDs, like other chronic diseases such as diabetes and cardiovascular disease, should be treated, managed, and monitored over a lifetime.²¹ Specifically, the majority of individuals make one or more ambulatory medical visits to a doctor yearly, mainly to primary care clinicians.²² The regular or long-term contact between primary care providers and patients provides a natural opportunity and means for clinicians to screen for substance use and related problems (prevention), manage chronic diseases like addiction (treatment), and provide coordinated care for SUDs within mainstream health care. If health care professionals are provided with tools, resources, and incentives to support the practice of routine screening, brief intervention, and referral to treatment (SBIRT) for SUDs, primary care providers could then play a crucial role in increasing early detection and prevention intervention for SUDs.²³ Such benefits could be particularly important to the severe subset of underserved substance abusers who are affected by substance use-related health problems and have limited access to medical care.

The Patient Protection and Affordable Care Act will cover prevention and treatment for SUDs

Recognizing the critical importance of early detection and treatment, the US Preventive Services Task Force (USPSTF)

has recommended screening and behavioral counseling interventions to reduce alcohol misuse by adults in primary care settings.²³ However, the actual implementation of SBIRT in routine care is a complex issue, as clinicians' willingness and ability to conduct either screening and/or intervention is influenced by multiple factors such as competing priorities, availability of screening tools and resources, training about effective use of screening tools and intervention, reimbursement, and institutional support.^{24–27} Therefore, tools, resources, incentives, and structural support are needed to facilitate the implementation of SBIRT in routine care.

The Patient Protection and Affordable Care Act 2010 has increased the funding and expanded coverage for substance abuse services and treatment. It provides unprecedented opportunities to integrate SUD prevention and treatment with primary care.^{1,28} Selected items of the Patient Protection and Affordable Care Act relevant to SUD treatment are summarized here to describe their potential impact on preventive services and treatment. As shown in Table 1, the Patient Protection and Affordable Care Act not only supports prevention and management of patient care for SUDs like other chronic illness, but it also expands essential behavioral health care benefits to cover vulnerable substance users, including young adults, individuals with a pre-existing condition, and poor individuals, who otherwise would be at risk due to a lack of insurance.^{1,2,10,28}

Additionally, the HITECH Act requires clinicians' adoption and meaningful use of the EHR system to improve efficiency and safety of comprehensive patient care – ie, preventive services, treatment, monitoring, and management of chronic disease (Table 2).² Use of EHRs will enable establishment of a single source of behavioral health and medical information for each patient, providing clinicians with a readily available means of monitoring their patients' courses of treatment and coordinating services to facilitate integration of SUD care with primary care. This goal, however, requires development of standardized, clinically meaningful screeners and assessment tools (eg, feasibility, efficiency, patient-centered health indicators, validity) for substance use information and integration of such information into the EHR system (eg, initial questions for substance use status and follow-up assessment tools for detecting substance-related problems or disorders).^{29,30} Patients' privacy protection issues in the EHR system are reported by Hu et al.³¹ Current status of recommendations for SBIRT practice, and the need to incorporate the information about screening substance-related problems into the EHR system are discussed below.

Table 1 The Patient Protection and Affordable Care Act: implications for SUD treatment

Relevant provisions	Implications for SUD treatment
Integrating behavioral health and primary care	<ul style="list-style-type: none"> • SUD treatments will be provided within the primary care setting. • Reimbursement for treatment will be similar to other chronic diseases needing long-term management.
Emphasizing prevention of substance abuse	<ul style="list-style-type: none"> • Preventive services for substance-related conditions will be covered (eg, routine screening of substance use and related problems, brief intervention, and referral to treatment).
Allowing individuals with a pre-existing condition to have insurance coverage	<ul style="list-style-type: none"> • Previously uninsured individuals (due to a pre-existing condition) will have insurance coverage for SUD treatment. • Individuals who received SUD treatment in the public sector or from other specialty programs will receive SUD care in the mainstream health care system.
Expanding medicaid	<ul style="list-style-type: none"> • It will bring coverage to a large number of new enrollees. • Essential mental health and substance abuse services will be covered.
Increasing eligibility of coverage for children up to age 26 under their parents' plans	<ul style="list-style-type: none"> • Young adults – the group with an elevated rate of SUDs – will be covered for prevention services and treatment for SUDs.
Eliminating lifetime caps on essential benefits and supporting health care homes to coordinate care for individuals with chronic illnesses	<ul style="list-style-type: none"> • SUDs will be treated, managed, and monitored over a lifetime like other chronic illnesses.

Notes: The information about the Patient Protection and Affordable Care Act is adopted from the following sources: Buck;¹⁰ Substance Abuse and Mental Health Services Administration.²⁸

Abbreviation: SUD, substance use disorder.

Standardized screening assessments are needed to facilitate detection and treatment for SUDs

To achieve the goal of promoting prevention and treatment for SUDs in primary care, an essential step is to implement initial screening question(s) to identify substance users who then can be assessed further by standardized and validated assessment tools with a decision support algorithm to assess their level of substance use problems for determining brief intervention, treatment, or referral. Due to differences in current SBIRT practices for adults and adolescents, they are discussed separately below.

Table 2 The Health Information Technology for Economic and Clinical Health Act: implications for SUD treatment

Relevant provisions	Implications for SUD treatment
Supporting adoption and meaningful use of the health information technology – ie, the EHR system – to improve efficiency and safety of patient care	<ul style="list-style-type: none"> • Preventive services and coordinated care can be facilitated through linkage of behavioral health and other medical records. • Redundant treatments and prescriptions will be avoided (eg, reducing drug-drug interactions). • Long-term, continuous treatment progress will be monitored. • Performance indicators can be developed to support clinical decisions. • Patient-reported health indicators or common data elements can be collected systematically through use of standardized screeners for substance use and related conditions.

Notes: The Health Information Technology for Economic and Clinical Health (HITECH) Act is available at: <http://www.hhs.gov/ocr/privacy/hipaa/administrative/enforcementrule/hitech/enforcementiftr.html>.

Abbreviations: EHR, electronic health records; SUD, substance use disorder.

SBIRT for adults

In 2004, the USPSTF released recommendation statements for screening and behavioral counseling interventions to reduce alcohol misuse by adults, including pregnant women, in primary care settings.^{23,32} Several brief screening assessment tools have been found to be useful for detecting alcohol-related problems in primary care settings (eg, misuse, abuse, or dependence): the Alcohol Use Disorders Identification Test (AUDIT), the four-item CAGE (ie, feeling the need to Cut down, Annoyed by criticism, Guilty about drinking, and need for an Eye-opener in the morning), TWEAK (for pregnant women), and T-ACE (for pregnant women).^{23,33}

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) published in 2005 an updated SBIRT “Helping patients who drink too much: a clinician’s guide” for adult patients in medical settings.³⁴ According to the NIAAA guide, a single-question screener (“How many times in the past year have you had 5 or more drinks in a day [for men] or 4 or more drinks in a day [for women]?”) can be used at any time (eg, as part of routine examination), either in conjunction with the AUDIT or alone. Individuals who

screen positive (1 or more heavy drinking days or an AUDIT score of ≥ 8 for men or ≥ 4 for women) then are assessed for alcohol use disorders to determine appropriate interventions. In addition to the USPSTF and NIAAA, several agencies or organizations, such as the Substance Abuse and Mental Health Services Administration (SAMHSA)³⁵ and the American College of Emergency Physicians³⁶ have recommended SBIRT practices for preventing and reducing alcohol use problems.

Regarding illicit drug use (including nonmedical prescription psychoactive drug use), the USPSTF concluded in 2008 that current evidence is insufficient to assess the balance of benefits and harms of screening adolescents, adults, and pregnant women for illicit drug use, and this recommendation has not been modified to date.^{37,38} Systematic reviews of screening instruments indicated that there is inadequate evidence to determine the overall clinical utility of identified instruments for screening drug use or misuse when they are applied to adults or pregnant women in a busy primary care setting (ie, the eight-item Alcohol, Smoking and Substance Involvement Screening Test [ASSIST]; the four-item Cut down, Annoyed, Guilty, Eye-opener – Adapted to Include Drugs [CAGE-AID]; and the 20-item Drug Abuse Screening Test [DAST-20]). Additionally, the USPSTF indicates a lack of studies that can shed light on the feasibility and usefulness of applying screening instruments within a busy practice.³⁸ Therefore, additional studies with a large sample of patients from the general clinic or practice populations are clearly needed to establish the validity and acceptability of these screening tools for substance-related problems when they are used routinely in practice.³⁸

In an effort to support the drug abuse treatment field to initiate the development of EHRs for SUDs, the National Institute on Drug Abuse (NIDA) has tasked its Clinical Trials Network (CTN) to lead the effort to develop a set of standardized common data elements for drug abuse research that could also become part of EHRs for patient care. NIDA’s top priority for common data elements in EHRs is to identify and establish a small core set of screening questions that will serve as screeners for illicit or nonmedical drug use and related problems, which includes initial questions about a patient’s substance use status and subsequent assessment tools for detecting levels of substance-related problems.³⁰ The chief goal is not only to identify and test promising screening questions that will be useful for SBIRT practices for patients with drug use disorders in the primary care setting, but also to incorporate these questions into the EHR system. Preliminary findings from

reviews of the literature, a CTN-wide survey and numerous consensus building meetings with stakeholders (eg, service providers, investigators, health care administrators, research staff, health science specialists) suggest that “brief and validated” assessment instruments for screening illicit drug use disorders in the primary care settings are lacking, and that “brevity” is the primary consideration for adopting a screener for routine use.^{29,30}

Additionally, to address the lack of research regarding the efficacy of SBIRT for drug users presenting in emergency departments, the CTN is currently conducting a multi-site randomized trial to test the efficacy of Screening, Motivational Assessment, Referral, and Treatment in Emergency Departments (SMART-ED).³⁹ When completed, the results are expected to provide information for guiding efforts related to SBIRT practices for drug use disorders. The CTN also is in the process of collaborating with the SAMHSA to explore SAMHSA’s existing SBIRT efforts to generate evidence that can be used to support the development of meaningful use of screening tools for drug use problems among adults and adolescents in primary care settings (eg, specifying research and program gaps, establishing priorities).

SBIRT for adolescents

Adolescence is the most critical, vulnerable period during which substance use initiation occurs, and substance use-related adverse health risks (eg, pharmacological effects on the developing brain and mental health, injuries, overdose) and other consequences (eg, problems related to schooling, relationships, delinquency, or the criminal justice system) can have a profound and lasting negative impact on multiple areas of life.^{6,7} Adolescents thus may benefit most from routine preventive services for substance use. Recent national data confirm that substance use is pervasive among adolescents aged 12–17 years: 37% used alcohol or drugs in the past year (32% any alcohol, 19% any illicit or nonmedical drugs, 15% alcohol and drugs), and 8% met criteria for a substance-related disorder in the past year (5.4% any alcohol use disorder, 4.6% any drug use disorder).⁴⁰ Of note, slightly more than one in five past-year adolescent substance users (22%) met criteria for an alcohol or drug use disorder in the past year, indicating that routine SBIRT practice in pediatric populations will detect a high number of adolescent substance users who experience problems related to substance use.⁴⁰ Given the young age of this high-risk group and the large size of the population of substance users, it is clear that research is needed to provide evidence-based guidance about

preventive services through SBIRT in primary care to inform the USPSTF’s recommendations.

In 2004, the USPSTF concluded that evidence is insufficient to recommend for or against screening and behavioral counseling interventions to prevent or reduce alcohol misuse by adolescents in primary care settings; at the time during which this paper was being prepared, this recommendation had not been updated or modified.⁴¹ By contrast, the NIAAA – in collaboration with the American Academy of Pediatrics (AAP), a team of underage drinking researchers and clinical specialists, and practicing health care professionals – released in 2011 a SBIRT guide for youth aged 9–18 years.⁴²

While there are no illicit drug-specific recommendations for SBIRT for adolescents, the Committee on Substance Abuse of the AAP released a policy statement in November 2011 for SBIRT practices among adolescent patients.⁴³ The committee provides a compelling rationale that adolescents as a group are at the highest risk of experiencing substance use-related acute and chronic health consequences (eg, injuries, overdose, deaths), and that these health risks can occur long before there is substance addiction. According to the AAP’s SBIRT algorithm, adolescents are initially asked for substance use status in the past 12 months (alcohol, marijuana, and other drugs); those with a positive response to the substance use question are then administered CRAFFT (six questions regarding locations and reasons for substance use: Car, Relax, Alone, Friends, Forget, Trouble) to determine the level of risk.^{43,44} The AAP recommends that pediatricians screen all adolescent patients for substance use with a formal, validated screening tool (CRAFFT) at every health supervision visit and appropriate acute care visits, and then respond to screening results with the appropriate intervention. The AAP’s policy statement also includes detailed descriptions about brief interventions corresponding to the level of substance use risk, as well as criteria for the selection of a substance abuse treatment program following the guidelines generated by Center for Substance Abuse Treatment (CSAT) of SAMHSA.⁴⁵

Conclusion

The Patient Protection and Affordable Care Act will enable reimbursement of the similar essential medical treatment for SUDs as is available for other medical illnesses in primary care, including preventive services (eg, screening, counseling), treatment (eg, office-based medication or inpatient treatment), and long-term follow-up (eg, via medical homes) to reduce SUD relapse and maintain recovery. To achieve this

promising goal, substance-using individuals must be identified through systematic screening practices like those included in the recommendations made by the USPSTF and AAP. The required adoption of the EHR system and its meaningful use by the HITECH Act will help ensure that screeners and intervention resources of SBIRT (ie, common data elements) are incorporated into routine practice for implementation, record-tracking, reimbursement, quality of care (follow-up), and development of performance indicators to inform shared clinical decision-making. The need for empirical data to guide efforts on screening, brief intervention, and referral to treatment for SUDs thus is urgent and clear.

Available data from recent research and clinical recommendations demonstrate an urgent need for research to address issues related to SBIRT for drug use and disorders in adolescents and adults, including developing validated and brief screening instruments for detecting drug-related problems that are acceptable and adoptable to clinicians in a busy general practice setting and testing effectiveness of SBIRT. Specifically, while there are well-studied screening tools for alcohol use problems, fewer studies exist regarding brief screening tools that are sensitive to drug use problems and useful for clinical decision-making in primary care.^{46–48} For example, the DAST (10-, 20-, 28-item) has been used for assessing or screening severity of drug use problems,^{49,50} but it may not be brief enough for widespread adoption in busy clinical practice. To advance research efforts on the utility and outcomes of SBIRT, studies are needed to identify and develop brief standardized questionnaires that demonstrate the clinical utility and feasibility for screening illicit and nonmedical drug use problems when they are applied in busy primary care settings.⁴⁶ The diversity among illicit and prescription drugs (nine major categories) also requires research to determine whether drug-specific screeners are warranted and whether universal screening of all drug classes is cost-effective.⁴⁶

Additionally, given the urgent demand for evidence-based information about SBIRT and the critical role that the USPSTF has played in making current recommendations about evidence-based preventive services in primary care, it warrants an updated statement from the USPSTF about SBIRT practices for alcohol and drug use in both adolescents and adults (including pregnant women). Such an update would be invaluable to clinicians, researchers, and health care administrators. While this paper has focused on SBIRT and its relevancy to EHR efforts in the primary care settings, specialty SUD treatment programs also face substantial barriers, such as a lack of substance abuse treatment-specific

metrics, outcome measures, funding opportunities, and business infrastructures, to implement the health information technology (eg, EHRs), which also deserves research to identify effective means to help reduce barriers.⁵¹ Further, substance abuse treatment programs that employ a physician are eligible for incentives for adopting EHRs. Physicians consulting with a SUD treatment program, such as opioid maintenance treatment programs (OMTPs), should establish a relationship with a primary care environment for consultation, primary care, and referrals to improve integrated patient care and management.

Lastly, several medications have been approved for SUD treatment such as bupropion and varenicline for nicotine dependence, disulfiram and acamprosate for alcoholism, naltrexone for alcoholism or opioid addiction, and buprenorphine and vivitrol for opioid addiction.^{52–55} A greater involvement of medical care settings in the screening of substance use problems through SBIRT practice, however, is needed to increase patients' access to and use of these new treatments.⁵⁵

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