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**Program Evaluation on the Use of the Screening, Brief Intervention and Referral to
Treatment (SBIRT) Process in Primary Care Physician Offices**

Lisa Sanchez-Navarro

School of Nursing, Duquesne University

Abstract

Screening, Brief Intervention, and Referral to Treatment (SBIRT) is an early screening intervention tool for individuals with non-dependent substance use, which is employed to identify and provide care before a patient needs extensive specialized treatment. SBIRT can be used in primary care settings, to methodically screen individuals who might not seek help for a substance use issue (Centers for Medicare & Medicaid Services, [CMS], 2020). Gaps in using the SBIRT screening process were identified within the insurance organization's PCP practices, therefore, a program evaluation was completed to: (a) determine whether Primary Care Physicians (PCPs) were using the SBIRT process, (b) identify the facilitators and barriers to utilizing the SBIRT process, (c) determine the location and specialties of those PCP offices utilizing and billing for SBIRT screening, and (d) provide recommendations to the healthcare insurance organization. Quantitative and qualitative data revealed that the PCPs were not utilizing the SBIRT process. The barriers and facilitators to utilizing the SBIRT screening process found in the research literature paralleled the insurance organization's SBIRT results. Recommendations for implementing the SBIRT screening process within the PCP practices include identifying SBIRT initiative resources and support, conducting roundtable discussions with PCP providers to enlist their support and collaboration, establishing SBIRT champions within practices, standardizing billing and payment policies for all payor sources, providing educational opportunities on SBIRT billing and payment policies, and developing an SBIRT Toolkit to support the PCP offices.

Keywords: Substance use disorder, brief intervention, referral to treatment, SBIRT process, implementation, substance misuse, primary care, Substance Abuse and Mental Health Services Administration.

Program Evaluation on the Use of the Screening, Brief Intervention and Referral to Treatment (SBIRT) Process in Primary Care Physician Offices

Introduction

The Substance Abuse and Mental Health Services Administration (SAMHSA) reports that Substance Use Disorder (SUD) continues to reach epidemic proportions in the United States (U.S.). (SAMHSA, 2019). Data from 2019 suggests that in the U.S. approximately 165.4 million people aged 12 or older, were using substances such as tobacco, alcohol, or an illicit drug, in any one months' time. This includes 58.1 million people using tobacco, 139.7 million people using alcohol, and 35.8 million people using illicit drugs (SAMHSA, 2019).

In the state of Pennsylvania the 2018-2019 data suggests that the overall illicit drug use in any one month among individuals aged twelve years or older, was 10.6% -12.4% of the population, or 1.2 million people (SAMHSA, 2020d). The data also shows that in the past year marijuana use among individuals aged twelve years or older was between 14.8% and 16.3% of the population, or 1.7 million people and heroin use was between 0.39% and 0.65% or forty-four thousand people; somewhat higher than other states with a national average of 0.29% and 0.32%. From 2018-2019 the number of people diagnosed with SUD in the state was 760,000 people (SAMHSA, 2020b). The COVID-19 pandemic has exacerbated the nation's drug overdose epidemic (American Medical Association, 2021) and in 2020, the rate of opioid-related mortality increased in more than 40 states (Abramson, 2021).

Screening, Brief Intervention, and Referral to Treatment (SBIRT) is an integrated and comprehensive public health approach to early intervention and treatment for individuals at risk of developing substance use disorders, as well as those already affected by these disorders. hospital emergency rooms, primary care centers, and other community settings can provide the

opportunity for early intervention with at-risk substance users before more severe use or harmful consequences occur (SAMHSA, 2020). Quick screening can assess substance use severity and identify appropriate levels of treatment. If needed, brief intervention then focuses on increasing insight and awareness in relation to substance use and increased motivation toward behavioral change. A referral to treatment will provide those who need more extensive treatment with a connection to specialty care (SAMHSA, 2020a).

SBIRT is an early screening intervention tool to identify individuals with non-dependent substance use and provide care before they need extensive specialized treatment. It is distinct from the specialized treatment of those with more severe substance misuse, or patients meeting criteria for SUD. SBIRT can be used in primary care settings, to methodically screen individuals who might not seek help for a substance use issue, allowing access to SBIRT treatment services. These services have been shown to decrease the severity of alcohol and drug use, reduce health care costs, reduce risk of physical trauma, and reduce the percentage of individuals who go without specialized treatment (CMS, 2020).

The healthcare insurance organization's billing code data did not indicate that PCPs were using the SBIRT screening process. Therefore, a program evaluation was completed to quantify the use of the SBIRT process by the healthcare insurance organization's PCP offices in the state of Pennsylvania, and to identify the facilitators and barriers in utilizing the SBIRT screening process.

Literature Review

A computerized literature search was performed using electronic databases which included: CINAHL, PubMed, Medscape, Ovid, Cochrane Database of Systematic Reviews, Joanna Briggs Institute, and Google Scholar. The search terms: substance use; brief intervention;

referral to treatment; SBIRT screening; implementation; substance misuse; primary care; and evaluation were used to identify articles published between 2016 and 2021. The synthesis review was completed on 45 articles using the Johns Hopkins Evidenced-Based Practice Model (Dang & Dearholt, 2018). Eighteen articles were identified along with six guidelines, and 10 studies with quality ratings of good to high across levels I to V.

It is important to understand what is meant by the term “substance use disorder.” “The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) no longer uses the terms substance abuse and substance dependence. Instead, it refers to substance use disorders, which are classified as mild, moderate, or severe” (CMS, 2020, p. 3). SBIRT screens for SUD. The United States Preventive Services Task Force (USPSTF, 2020) recommends that screening should occur in primary care settings by asking those 18 years or older, questions regarding unhealthy drug use. Also, the Kansas Department of Health and Environment (n.d.) states that SUD occurs with the recurring use of drugs and/or alcohol and can cause clinically significant impairment as well as disability, health problems, and a failure to meet work, home, or school responsibilities. Therefore, it is imperative to screen patients to identify those at risk of health issues or other problems relating to the use of drugs and/or alcohol. It can also identify patients who have already developed problems. The National Council for Behavioral Health (2018) recommends screening all adults at least once per year.

There are several differing screening tools which can be used, ranging between three to five questions and full screening tools with an average of eight to 10 questions. The recommended and most common pre-screening tools include: the National Institute on Drug Abuse (NIDA) Quick Screen; a modified ASSIST pre-screening tool which assesses lifetime usage of various substances; the Four Ps, a four question pre-screening clinical tool for prenatal

substance use and abuse; the National Institute on Alcohol Abuse and Alcoholism (NIAAA), a three-item pre-screening tool for alcohol, used to assess drinking habits; and the World Health Organization's Alcohol Use Disorders Identification Test-Consumption (AUDIT-C) (New York State Office of Addiction Services and Supports, n.d.). Full screenings are given after a patient has a positive screening outcome with a pre-screening tool. A series of validated questions to assess the level of substance use are asked during the full screening process.

In order to comply with the National Council for Behavioral Health and the Substance Abuse and Mental Health Services Administration (SAMHSA) recommendations, SBIRT screenings should be implemented and conducted once per year (National Council for Behavioral Health, 2018). Del Boca et al. (2017) discussed a conceptual framework for the implementation of SBIRT services. The components of their framework include: SBIRT services provided, performance site or setting, SBIRT providers, patients, and management. Successful implementation of the framework components indicates reaching successfully intended target populations, the program is tenable over time, and reduces the likelihood of major modifications possibly jeopardizing evidence-based practice (Del Boca et al., 2017). Hargraves et al. (2017) reviewed eight best practices for primary care providers implementing SBIRT screening. These best practices include having a practice champion; utilizing an interprofessional team; defining and communicating details of each SBIRT step with the team; developing relationships with referral partners; instituting ongoing SBIRT training; aligning SBIRT flow within the existing primary care office flow; considering the use of a pre-screening instrument; and integrating SBIRT within the electronic health record (Hargraves et al., 2017).

Moser et al. (2020) report common barriers in the adoption of SBIRT in the primary care setting that include: cost of adding services, lack of clarity of responsibility or role, timing of the

intervention or screening during a visit, lack of training for all providers, lack of overall time, lack of personnel or space, cost of reimbursement, and inability to adapt the workflow in a relevant manner. A study conducted by Vendetti et al. (2017) looked at SBIRT grant programs and modifications in program design that address facilitators to SBIRT implementation. The study found six themes relating to facilitation of implementation. These themes included: having committed leaders, communication and collaboration, factors regarding context, model-acceptance and provider buy in, grant requirements, and quality assurance. The study also found that over time programs had a tendency to use contracted specialists to perform the SBIRT screening and services, to adopt more efficient pre-screening tools, to screen for risk factors as well as substance or alcohol use, and the implementation of both on-site and telephone treatment delivery (Vendetti et al., 2017).

A separate study by Barbor et al. (2017) looked at another cross-site evaluation of a national SAMHSA SBIRT program. This study reviewed major findings and implications of the program which screened over one million patients. They concluded that the pre-and post-changes were clinically meaningful and significant for the majority of substance use measures. Implementation had been facilitated by substance use specialists and committed leadership. A large percentage of the original performance sites in the program adapted and redesigned the delivery of SBIRT after the initial grant funding ended (Barbor et al., 2017).

Aldridge et al. (2017) reviewed outcomes and estimated the changes relating to the substance use of patients who received service as part of the SAMHSA grant program. Their study compared substance use behavior among 17, 575 patients before and six months after SBIRT service. They found “large and statistically significant decreases for almost every measure of substance use” (p.43).

Sociotechnical Model

The Action-Network Theory (ANT) is the sociotechnical model to be used to assess the impact of technology in this program evaluation. ANT is based upon the premise that everything in the environment or situations are actors playing an active role in the system, and that nothing and no one plays a passive role. This creates a network system based upon interaction rather than a linear system based upon layers or hierarchy. McBride and Tietze (2019) point out “actors are dynamic entities that may possess agency well beyond their immediate contexts or environments” (p. 54). Under the ANT model, other actors to be included as part of the population that might impact the DNP project are attitudes of the providers, ease of using the screening tool, and the complexity of the billing system. When applying the ANT sociotechnical perspective to the assessment of the impact of technology, there are several actors to be considered. First, the insurance organization’s billing system codes act as an actor that might have a great impact on the project. If the providers are implementing the SBIRT screening tool but not billing for the tool, why are they not billing for the tool? Do they know that they can bill for the tool, that an SBIRT billing code exists in the system, or which billing code is to be used? A second actor under the ANT sociotechnical perspective, would be the SBIRT tool itself and its ease of use. Other actors to consider would be provider attitudes, and patient attitudes. The ANT sociotechnical perspective will be used to help identify undiscovered variables that may exist in this healthcare environment.

WK Kellogg Evaluative Framework

Program evaluations identify opportunities which can impact change and improve the quality of care that patients receive. The W.K. Kellogg Foundation (WKKF) Step-by-Step Guide

to Evaluation (2017) was chosen for this program evaluation. The following are steps involved in the W. K. Kellogg Foundation (2017) framework:

1. Prepare for conducting an evaluation.
2. Determine the stakeholders and when/ how to engage them.
3. Identify any assumptions; determine theory of change and logic model.
4. Develop evaluation plan.
5. Collect and analyze data.
6. Communicate results to interpret findings to facilitate learning.
7. Make informed decisions (W.K. Kellogg Foundation, 2017).

This approach to program evaluation is an effective tool to evaluate and inform the progress made on the strategies that have been implemented. The steps listed will be discussed throughout the manuscript.

Description of the Project

Aims and Objectives

The purpose of this program evaluation was to quantify the use of the SBIRT process by the insurance organization's PCP offices in the state of Pennsylvania, and to identify the facilitators and barriers to the utilization of SBIRT within those PCP offices. Aims and objectives were identified in collaboration with the insurance organization's project stakeholders including an interdisciplinary team consisting of mid-management directors of Behavioral Health, Mental Health and SUD programs and included:

1. Evaluate use of the SBIRT process in the insurance organization's PCP offices.
 - a. Collect baseline insurance billing data to identify and quantify providers billing use for SBIRT and SUD screenings.

- b. Identify financial consequences of missed utilization of SBIRT screening tool through cost-benefit analysis, and to identify patient consequences of missed utilization.
2. Gather information to identify reasons why the SBIRT process is or is not being used by the insurance organization's PCP practices.
 - a. Obtain input from stakeholders to develop an evaluation strategy.
 - b. Collect data using interviews/survey, regarding use of SBIRT in the PCP practices.
 - c. Collect data using interviews/survey to identify barriers and facilitators to the implementation of SBIRT in the PCP practices.
3. Provide outcome findings and recommendations to the insurance organization's stakeholders on increasing utilization of the SBIRT process within their PCP offices. Compare and contrast organizational SBIRT protocol with national standards and guidelines - identify gaps in their process.
 - a. Create an SBIRT workflow process for utilization in PCP offices.
 - b. Complete a formal written document and presentation for stakeholders to share outcomes, recommendations, and next steps.

Overview of Methodology

Program Evaluation

A process/formative program evaluation was completed to determine if the SBIRT screening tool process had been implemented as planned in the PCP offices. A case-study methodology was used with a focus on understanding the SBIRT screening tool process. The

evaluation also examined if the process was producing the intended outputs, along with identifying facilitators and barriers of utilizing the SBIRT screening tool process (WKKF, 2017).

The Logic Model in Table 1 was developed in collaboration with the stakeholders. The inputs and outputs involved the participation and collaboration of the project team members in order to develop the survey design, dissemination, and analysis of the survey results as well as follow-up interviews conducted. A cost-benefit-analysis was also completed.

Table 1

Program Evaluation Logic Model

Inputs	Activities	Outputs	Short-term Outcomes	Intermediate Outcomes	Long-Term Outcomes
<ul style="list-style-type: none"> ▪ Stakeholder ▪ Evaluator ▪ Behavioral Health ▪ Substance Use Services ▪ Department ▪ Research ▪ Marketing ▪ PCP Offices ▪ Patients 	<ul style="list-style-type: none"> ▪ Survey designed and created ▪ Survey Rolled out ▪ Data compiled ▪ Data analyzed ▪ Report compiled ▪ Interview questions written ▪ Billing data collected 	<ul style="list-style-type: none"> ▪ Participation collaboration of Primary Care Providers ▪ Collaboration with Substance Use Services Department ▪ Survey questions created ▪ Interviews ▪ Cost-Benefit analysis 	<ul style="list-style-type: none"> ▪ Survey questionnaire designed and distributed ▪ Data collected and analyzed ▪ Interviews conducted if possible 	<ul style="list-style-type: none"> ▪ SBIRT screening use identified and quantified ▪ Facilitators and/or barriers ascertained ▪ SBIRT best practice identified ▪ Recommendations provided 	<ul style="list-style-type: none"> ▪ SBIRT implemented across sites ▪ Reduced risky substance use ▪ Improved overall community health

Note: Adapted from “Understanding and Applying Program Logic Models,” by J. McDavid, I. Huse and L. Hawthorn, 2019. *Program Evaluation and Performance Measurement: An Introduction to Practice*, p. 55, copyright 2019 by SAGE Publications, Inc.

Once the Logic Model was completed the stakeholders were instrumental in developing the list of program evaluation questions to be answered:

1. Are the providers using the SBIRT process according to national guidelines (at least once per year per patient)?
 - a. If so, are the SBIRT billing codes utilized?
 - b. Which PCP specialties are utilizing SBIRT billing codes, most often?
 - c. Which areas in PA are utilizing SBIRT billing codes, most often?
 - d. If not, are the providers utilizing SUD screening and billing codes?
 - e. Do the providers know the difference between SUD screening and SBIRT?
2. What are the identified facilitators/barriers to SBIRT utilization?
3. What is the cost benefit of increasing utilization of SBIRT?
4. Based on national standards, what are the recommendations to increase utilization of SBIRT in organization's PCP offices?

Setting and Population

This program evaluation was conducted between August 2020 to July 2021. It included the insurance organizations 17,635 PCP practices, Internal Medicine, and specialty practices, throughout the state of Pennsylvania. The program evaluation project was approved by the University Institutional Review Board.

Implementation

Data Management Plan

The first step in the SBIRT program evaluation was to determine the utilization rate for the use of any SBIRT screening tools in the insurance organization's PCP offices. The billing data was compiled and reviewed to obtain baseline information using descriptive statistics. The data collected for the SBIRT program evaluation involved 2019 billing data that included SBIRT and SUD related billing codes, CPT 99408, CPT 99409, and G0442, used by the 17,635 PCP practices. A cost-benefit analysis was also completed to identify the financial consequences of missed utilization of the SBIRT screening process.

A mixed-method survey to obtain qualitative and quantitative data was designed with input from the project team members, and distributed to 125 PCP offices electronically. The survey questions focused upon SBIRT knowledge and usage, as well as any known facilitators or barriers to the use of the SBIRT screening process within the PCP practices. The survey was created through Qualtrics and distributed through the Chief Medical Officer's email to increase response. Post-survey follow-up interviews with the PCP practices were planned to expand upon individual PCP usage, possible facilitators and/or barriers, as well as to identify any SBIRT workflow processes successfully being used in order to create a workflow process for the PCP offices, in general. The billing code data, as well as the survey and interview responses were to be used to compare and contrast the insurance organization's PCP practices to national standards and guidelines, and to provide recommendations. A presentation and written document to share the program evaluation outcomes, recommendations, and next steps will also be provided to the healthcare insurance organization.

Program Evaluation Results

Quantitative Results - SBIRT Screens

As noted earlier, the insurance organization managed 17, 635 PCP practices in the state of Pennsylvania with 334,310 providers. Due to the unknown number of patients, utilization rates were unable to be determined. However, the billing data showed that in 2019, there were a total of 90,681 SBIRT screenings and a total of 17,461 SUD screens performed. In order to determine where in Pennsylvania these screenings were occurring, both the SBIRT and SUD screening data was broken down by zip code and provider specialty, with the top ten producing zip codes and specialties charted on a map of Pennsylvania counties as noted in Figure 1 below.

Figure 1

SBIRT Screens in Pennsylvania Counties



The 2019 SBIRT data showed zip code 15601, Westmoreland County, Greensburg, Pennsylvania produced the most amount of SBIRT screenings at 18,891. The second most productive zip code regarding SBIRT screenings was almost 50% less at 9,208 screenings in Butler County, Cranberry Township. The number of remaining screenings ranged from 6,984 to 4,094 with zip code 15644, Westmoreland County, Jeannette, Pennsylvania rounding out the top ten zip codes. (see Appendix B).

To identify the providers who are performing the SBIRT screening processes in this insurance organization, the top ten zip codes were reviewed. As shown in Appendix C, the specialty of Internal Medicine performed the most SBIRT processes with 14,385 screenings. The second top SBIRT producing specialty was Family Practice with 13,955 screenings. The least

SBIRT productive specialty was Mental Health Rehabilitation at two SBIRT screenings performed. The total SBIRT screenings performed by all specialties within the top ten producing zip codes in Pennsylvania equaled 63,219.

Quantitative Results - SUD Screens

The 2019 SUD billing data showed that zip code 16001, Butler County, Butler, PA, performed the most SUD screenings with 2,018 screens. The second most productive zip code regarding SUD screenings was 15401, Fayette County, Uniontown, PA with 1,251 screens. After this the number of SUD screenings ranged from 1,001 to 465 with zip code 16673, Blair County, Roaring Spring, Pennsylvania rounding out the top ten zip codes (see Appendix D). As seen with the SBIRT data, the SUD screening data showed that the majority of SUD screening occurred in the Western counties within Pennsylvania as shown below in Figure 2.

Figure 2

SUD Screens in Pennsylvania Counties



To determine who is performing the SUD screens in this insurance organization the top provider specialties performing SUD screening within the top producing zip codes were reviewed. As shown in Appendix E, Family Practice performed the most SUD screens with 5,676 screenings. The second top producing specialty screening for SUDs was Internal Medicine with 2,889 screenings. The least productive specialty for SUD screenings was General Practice

with 45 screenings. The total SUD screenings performed by all specialties within the top ten producing zip codes in this insurance organization equaled 8,792.

This data showed that the provider specialties within the top 10 zip codes are performing 70% of the total 2019 SBIRT interventions in all of Pennsylvania, and 50% of all the 2019 SUD screenings within the state of Pennsylvania. It also showed that the top two producing PCP specialties providing SBIRT screenings are Internal Medicine and Family Practice, and the top two PCP specialties providing SUD screens are Family Practice and Internal Medicine.

Cost Benefit Analysis

A cost-benefit analysis (see Appendix F) was performed to determine the financial consequences of not utilizing and billing the SBIRT screening tools. Total training on SBIRT and educational material costs equaled \$134,740. Assuming that each of the 17,635 practices performed 25 SBIRT screening processes per year, 440,875 SBIRT screenings would be completed. The total benefit to the insurance organization is dependent upon the billing code used, which is dependent upon time spent with patient. This produces gross revenue of \$14,729,634 - \$28,881,721, prior to applying any billing code percentages and payor mix. It is evident that additional revenue can be obtained by utilizing and billing for the SBIRT screening tools. The intangible patient benefits identified in this CBA included decreased overdose rates, decreased mortality, and decreased morbidities (Paltzer et al., 2017; American Society of Addiction Medicine, 2017).

Qualitative Results: Survey Response

The 12-question mixed method survey was distributed randomly to 125 practices through the insurance organization's email. Of the 125 surveys distributed, there was one response with greater than 80% of the surveys remaining unopened. This was a major unintended

consequence and was not expected. A twelve-question interview was then completed with the organization's mid-management team. The team included managers and directors from the Behavioral Health Department, Mental Health Department, SUD Department, Behavioral Integration, Behavioral Health Authorization Reviews, and Strategic Management/Data Management. The interview questions were based upon the original PCP survey questions (see Appendix G) in order to ascertain mid-management perspectives regarding SBIRT utilization and the facilitators and barriers to utilization within the individual PCP practices.

The information gathered during this interview session identified some important elements concerning the SBIRT screening process. Overall, the sentiment of this group was that the PCP offices do not know how to use or bill for SBIRT screenings and that they are not comfortable performing these screenings.

The interprofessional mid-management team believed the barriers to SBIRT implementation seen within the PCP practices are related to: no incentive for increased work; not aware of codes; not aware of how to use the form; not comfortable asking questions about SUD/mental health; not enough time; provider would not know what to do if a screen was positive; do not know where to refer; PCPs inclined to send to specialists; the physicians prefer "Dr to Dr approach" regarding education; and no training – staff do not feel competent. The team believed the following facilitators could increase SBIRT utilization:

- Registered Nurse/Social Worker Care Managers can serve as champions working with the PCP and specialty practices.
- Include physician input and collaboration in order to provide "Dr. to Dr. approach."
- Create PCP SBIRT Tool Kits to educate on a variety of topics.
- Incorporate SBIRT and billing codes within EHR.

An SBIRT workflow process diagram based on best practices within this insurance organization was not able to be obtained due to the lack of survey responses. Therefore, a flow chart for utilization in the PCP offices, was created based on national standards and SAMHSA guidelines (2011) and can be found in Appendix H.

Limitations

The major limitation was the COVID-19 pandemic and the inability to meet face to face with stakeholders and providers. The lack of response from the PCP offices to the survey limited the ability to gather information on provider perspectives of SBIRT, as well as their views of facilitators and barriers to the SBIRT screening and billing processes.

Summary and Interpretation

As seen in the research, the healthcare insurance organization's SBIRT utilization rate could not be determined. Hargraves, et al. (2017) state that across the United States, SBIRT utilization rates have not been determined due to lack of data. This was also seen in the insurance data for SBIRT and SUD screens. In the literature review, the USPSTF (2020) identified important gaps related to unhealthy substance use screening. Gaps in SBIRT practice were also identified within the healthcare insurance organization's PCP practices. The gaps and barriers to SBIRT implementation described in the literature, such as lack of time, training, lack of role clarity, stigma, and reimbursement challenges, paralleled the healthcare insurance organization's SBIRT results (Hargraves et al., 2017; Vendetti et al., 2017). The facilitators to SBIRT implementation alluded to by the mid-management team, including provider buy-in, collaboration, leader commitment, and communication with referral partners was also paralleled in the literature review (Hargraves et al., 2017; Vendetti et al., 2017).

The billing data identified and quantified the PCP offices that were billing for SBIRT and SUD screenings. It identified financial consequences of missed utilization of SBIRT screenings through a cost-benefit analysis as well as the patient consequences of missed utilization of the SBIRT screening process. The data obtained in this program evaluation provides a baseline to be used in a new SBIRT screening process initiative and new opportunities to develop and strengthen nursing and social worker Care Managers as SBIRT champions to support a new SBIRT initiative project.

Conclusions and Recommendations

SBIRT is a dynamic tool with the ability to enable PCPs and specialty physicians to identify and treat patients with substance use issues before SUDs occur. It has the ability to decrease patient healthcare utilization and costs, thereby increasing positive patient outcomes (Paltzer et al., 2019).

The literature reviewed best practices for SBIRT implementation, such as creating a practice champion position, communicating and defining a SBIRT workflow process in detail, creating a network and relationship with referral partners, implementing ongoing SBIRT training, and utilizing an interprofessional team (Hargraves et al, 2017). These best practices paralleled what the healthcare insurance organization's mid-management team alluded to as potential facilitators to SBIRT implementation, and are recommendations moving forward with their SBIRT screening process initiative.

Additionally, it was recommended to have a roundtable discussion with an interprofessional team, including physicians, to determine best practices within the individual PCP and specialist offices. Implementing a Care Manager Champion position, along with staff and provider training and education on the workflow of the SBIRT screening process and the

appropriate coding and billing was also recommended. Networking within the community to begin developing relationships with referral partners also needs to be strategized.

An SBIRT workflow process diagram for utilization in PCP offices and a formal written document and presentation for stakeholders to share outcomes, recommendations, as well as next steps was created and provided to the healthcare insurance organization. This program evaluation created a sense of urgency for them to refocus and restart their SBIRT screening process initiative. Together, these recommendations may increase utilization of SBIRT screenings with the potential to improve positive patient outcomes regarding substance use, and enhance the revenue for the healthcare insurance organization.

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Appendix A

Data Management Plan

Data Collected	Data Management & Data Display	Data Analysis	Strengths	Limitations
Use of SBIRT tool insurance billing data from Health Plan PCPs.	Excel spreadsheet; charts and/or graphs.	Descriptive Statistics.	Will allow the determination of utilization rate of SBIRT tool.	Percentage of primary care provider offices surveyed may be limited
Billing data for use of SBIRT screening; referral data for Substance Use Disorder (SUD); billing data for SUD treatment within any Health Plan provider offices	Excel spreadsheet; charts and/or graphs.	Descriptive Statistics.	Can be used to perform cost-benefit analysis, missed return on investment and financial consequences of missed billing opportunities. Can also be used to infer possible patient consequences and cost of missed utilization	Percentage of primary care provider offices surveyed may be limited
Input from stakeholders	Excel spreadsheet; charts and/or graphs.	Descriptive Statistics.	Can provide information, ideas, direction and guidance	Participant bias
Individual provider uses of SBIRT tool and workflow process collected through survey/questionnaire	Excel spreadsheet; charts and/or graphs.	Descriptive Statistics.	Can provide information on reasoning behind use or non-use Can provide information on benefits/limitations	Participant bias
Workflow process of expected Health Plan SBIRT utilization	Excel spreadsheet; charts and/or graphs.	Descriptive Statistics.	Can be used to create workflow chart to compare and contrast to National Standards and SBIRT Logic Models.	

Appendix B

Top 10 Screening, Brief Intervention and Referral to Treatment (SBIRT) Screens in Pennsylvania Zip Codes

Zip Code & County	SBIRT Screens
15601: Westmoreland County, Greensburg	18,891
16066: Butler County, Cranberry Township	9,208
16501: Erie County, Erie	6,984
16001: Butler County, Butler	5,875
15206: Allegheny County – Pittsburgh, Sharpsburg	4,817
15701: Indiana County –	4,725
15132: Allegheny County – McKeesport, White Oak	4,606
15237: Allegheny County – Ross, Franklin & McCandless Townships	4,552
15901: Cambria County – Johnstown	4,481
15644: Westmoreland County – Jeannette	4,094

Note. Data obtained through review of Insurance Organization’s SBIRT billing data, 2019.

Appendix C

**Screening, Brief Intervention and Referral to Treatment (SBIRT)
Top Provider Specialties In Top 10 Zip Codes**

Specialty	SBIRT Screens
Internal Medicine	14,385
Family Practice	13,955
Anesthesiology	9,035
General Practice	6,780
Pediatrics	5,143
Emergency Medicine	2,969
PCP OB/GYN	2,210
Physician Assistant	1,943
Physician Assistant in PCP	1,933
Surgery	1,239
Public Health & General Prevention	1,239
Pain Management	845
CRNP w/o Prescribing Authority BH	349
Pulmonary Diseases	261
Physical Medicine & Rehabilitation	192
Neonatal/Perinatal Medicine	177
Psychiatry	158
Hematology/Oncology	146
Neurology	143
Gynecology	115
Mental Health Rehabilitation Facility	02

Note. Data obtained through review of Insurance Organization's SBIRT billing Data, 2019.

Appendix D

Top 10 Substance Use Disorder (SUD) Screens in Pennsylvania Zip Codes

Zip Code & County	SUD Screens
16001: Butler County, Butler	2,018
15401: Fayette County, Uniontown	1,251
15090: Allegheny County – Wexford, McCandless & Franklin Park Townships	1,001
16117: Lawrence County – Ellwood City	959
15237: Allegheny County – Pittsburgh: Ross & McCandless Townships	877
15146: Allegheny County – Pittsburgh: Monroeville	644
15218: Allegheny County – Pittsburgh: Swissvale, Edgewood	590
15425: Fayette County – Connellsville	509
15423: Washington County – California	478
16673: Blair County – Roaring Spring	465

Note. Data obtained through review of Insurance Organization's SUD billing data, 2019.

Appendix E**Substance Use Disorder Screening
Top Provider Specialties In Top 10 Zip Codes**

Specialty	SUD Screens
Family Practice	5,676
Internal Medicine	2,889
Gynecology/OBGYN	101
Physician Assistant (PCP Office)	80
General Practice	45
Total	8,791

Note. Data obtained through review of Insurance Organization's Substance Abuse Disorder billing Data, 2019.

Appendix F
Cost-Benefit Analysis

Total Costs: \$134,740.

Training and educational materials.

Insurance Organization Benefits:

SBIRT billing code 99408 15-30min \$33.41

SBIRT billing code 99409 > 30min \$65.51

IF each of the 17,635 practices did 25 SBIRT process per year

$17,635 \times 25 = 440,875$

$440,875 \times \$33.41 = \$14,729,634$

$440,875 \times \$65.51 = \$28,881,721$

Total Organizational Benefit Range:

\$14,729,634 - \$28,881,721 Dependent on Billing Code Used

Note. Data obtained through review of Insurance Organization's SBIRT billing Data, 2019. Does not include payor mix calculations.

Appendix G

Interview Questions

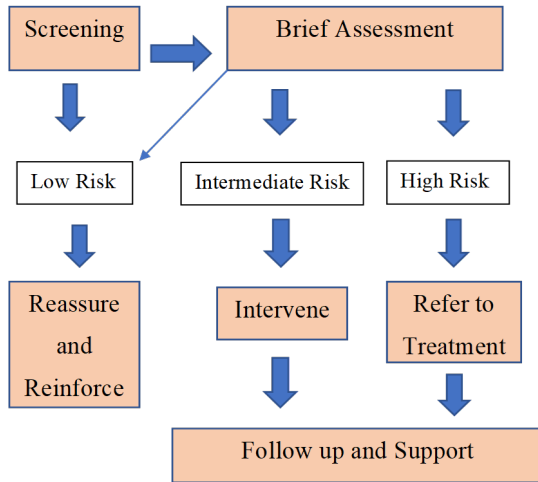
1. What are your perceptions of the use of the SBIRT process in the PCP or specialty practices? Is it being used? Who does the screen? Who bills for the screen(s)?
2. Have you heard of any facilitators that have supported the use of the SBIRT process?
3. Have you heard of any barriers that have prevented the use of the SBIRT process?
4. Do you think the offices know how to use the SBIRT screening tool versus the SUD, Depression, Anxiety tools?
5. Do they know the different billing codes to use for each tool?
6. Can more than one billing code be used in the same visit?
7. How was the SBIRT screening tool implemented to the practices? Has this implementation differed from the original plan? Why might that be?
8. Do you think that offices would benefit from education around SBIRT, other screens, and billing codes?
9. What is the best way to provide that education from your perspectives?
 - In-person Presentation
 - Virtual presentation
 - On-line self-led training
 - Manual
 - Other: _____
10. What approach do you think might work to engage the offices to discuss SBIRT to identify a process that works for the insurance organization since the survey did not work?
11. Do you think offices would be willing to participate in a work group to identify best practice for using SBIRT screening tool as well as appropriate billing codes?
12. How does the insurance organization communicate changes in practices, such as SBIRT, to their practices for implementation?

Note: Mid-management team interview questions based on Insurance Organization PCP survey questions, 2021.

Appendix H

SBIRT Flowchart

SBIRT Workflow Model



Note. SAMHSA. (2011). Screening, Brief Intervention and Referral to Treatment (SBIRT) in behavioral healthcare. https://www.samhsa.gov/sites/default/files/sbirtwhitepaper_0.pdf