Improving Management of Somatic Symptom Disorders in Integrated Healthcare through Routine Assessment

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Abstract

This project implemented routine screening for Somatic Symptom Disorders (SSD) in a reverse integration clinic (that is, primary care incorporated into a mental health center). The purpose of the screening was twofold: first, to explore the prevalence of somatization in this particular clinical setting; and second, to identify patients who might benefit from enhanced care for treating high symptom burden and/or health anxiety. Screening was conducted for new enrollees in a reverse integration setting over a six-month period. The screening found that in this setting, 57% of newly-enrolled patients who underwent screening endorsed high health anxiety, high symptom burden, or high levels of distress from their physical symptoms. Patients had high rates of co-occurring mental health diagnosis (including depressive disorders, post-traumatic stress disorder, and substance use disorders) and high rates of co-morbid medical issues (including pain, headaches, gastrointestinal disorders, and breathing problems). ***Conclusions***: Somatic symptom disorders may be significantly prevalent in reverse integrations settings, and routine screening for somatic symptom disorders provides an opportunity to provide appropriate, evidence-based, patient-centered, cost-effective care at the intersection of physical and mental health.

Keywords: Somatic symptom disorders, somatization, screening, assessment, integrated care, reverse integration

Introduction: The clinical problem

In integrated behavioral healthcare settings (that is, practices that offer co-located, collaborative, interdisciplinary services to treat both physical and mental health problems), patients receive treatment for both mental health and medical issues. Traditionally, care provision is dichotomous: psychiatric providers treat mental health problems such as depression and anxiety, and medical providers treat acute and chronic medical conditions. Patients who present with multiple *somatic* (physical) *symptoms* in addition to psychiatric problems are often challenging for both mental health and medical clinicians (Creed et al., 2012).

Somatic symptoms in primary care are ubiquitous, and rightfully so—it is through the report of symptoms that providers are able to make diagnoses and predict the severity and course of diseases (Gierk et al., 2014). "Bothersome" somatic symptoms are very common in healthy people in the general population: 80-90% of adults experience at least one symptom every one to three weeks (Barsky, 2014). About 20% of people in the general population suffer from "serious, disabling, and frequent chronic somatic complaints" (Rief & Martin, 2014).

The DSM-IV category of somatization and somatoform disorders was significantly revised for the DSM 5 (American Psychiatric Association, 2013). While the prevalence of the new DSM 5 diagnosis of *"Somatic Symptom Disorder" (SSD)* is not yet known, its prevalence is expected to be higher than that of the more restrictive DSM-IV somatization disorder (<1%) but lower than that of undifferentiated somatoform disorder (approximately 19%) (Creed & Barsky, 2004).

Somatization (that is, physical symptoms that cause significantly more impairment or psychological distress than what would be considered an expected level of distress from the symptom(s) or their underlying pathology) is also quite common. In primary care settings,

studies estimate that between 20% and 30% of patients meet diagnostic criteria for SSD (Koh, 2013). In mental health centers, the prevalence of somatic symptoms is even higher; over 80% of those presenting to a mental health center endorsed a “relatively high” number of physical symptoms (in comparison to 11% in a community sample who reported a similar number of physical symptoms) (Minsky, Etz, Gara, & Escobar, 2011).

Many studies have found that somatoform disorders are highly comorbid with depression and anxiety disorders (Koh, 2013). In a primary care setting, Kroenke and Rosmalen (2006) found that 54% of patients with anxiety or depression had DSM-IV somatization disorder. In addition, studies in primary care have found that those with somatization disorder may have co-occurring generalized anxiety disorder (34%), depressive disorders (55-94%), personality disorders (23-37%), panic disorder (26-45%), and phobic disorders (25-39%) (Schaefert et al., 2012).

Primary care patients with multiple somatic complaints have considerably higher medical care utilization and costs (Barsky, Ettner, Horsky, & Bates, 2001). However, despite their prevalence and impact, somatic symptom disorders often go unrecognized or undiagnosed. Somatoform diagnoses are rarely assigned to patients in the US and UK, despite the fact that most American family doctors report that these patients are seen “frequently” in primary care (Rief & Martin, 2014).

Population affected by the problem

According to Creed et al. (2012), risk factors associated with somatization include having fewer than twelve years of education; separated, widowed or divorced marital status; experiencing psychological abuse during childhood; and having co-existing medical illnesses, anxiety, or depression–risk factors shared by many served by community mental health centers.

Epidemiology

In integrated healthcare settings where primary care is incorporated into mental health centers (henceforth referred to as *reverse integration settings*), it is likely that the prevalence rates and associated costs of somatization disorders will be much higher than those found in either stand-alone primary care or in settings where behavioral healthcare is integrated into primary care. However, there are no published studies that explore the prevalence or impact of somatization in reverse integration settings.

Purpose of the project

This project was implemented in an integrated healthcare program whose guiding purpose is to achieve the "triple aim" of healthcare reform: "Better care for individuals, better health for populations, and lower per capita costs" (Institute for Healthcare Improvement, 2016). By implementing a project to improve identification and care of patients with somatic symptom disorders, the program hoped to gain insights that would ultimately lead to improved patient satisfaction, better outcomes, and lower costs. The goal was to conduct the project in a way that could be sustainable by the organization after the pilot project period, as well as could be reproducible in other integrated healthcare settings.

Review of relevant literature

A literature search was performed in the Medline and PsycINFO databases on September 10, 2015. A database search strategy was formulated which contained a combination of somatoform disorder (or synonyms, including but not limited to "somatoform disorders", "psychophysiologic disorders", "hypochondriasis", "unexplained symptoms", and "somat$" [keyword]), Diagnostic Statistic Manual 5, diagnosis, and integrated health care (or synonyms, including but not limited to "primary health care", "mental health services", and "community

mental health services"). The search was restricted to adults (19 plus years) and English language. The search was then expanded to review primary sources and their reference lists; specifically, the DSM 5 entry on Somatic Symptom Disorder (APA, 2013) and the UpToDate website entries on Somatization (epidemiology and treatment) (Greenburg, 2015) and Hypochondriasis (epidemiology and treatment) (Levenson, 2015).

The titles and abstracts of the retrieved articles were screened to exclude articles that dealt with specific disorders (i.e., seizures, fibromyalgia, arthritis, autism, conversion disorder, dissociative disorder, body dysmorphic disorder, anxiety, depression, or schizophrenia) or dealt exclusively with specific minority populations. Articles were flagged for further review if the title or abstract indicated a focus on epidemiology and prevalence; identification, diagnosis, or diagnostic criteria; assessments; management; emphasis on identifying somatic symptoms with a psychological/anxiety component; or comparisons of DSM-IV and DSM 5 definitions and diagnostic criteria. Preference was given to articles written after 2010, as this approximately corresponds to the time that research on proposals for the DSM 5 started appearing in the literature as well as when many health systems started attempting pilot projects with integrated care in response to changes in the Affordable Care Act. Preference was given to systematic reviews and randomized control trials. Full articles were obtained for all included studies. Based on the full text, articles that still fulfilled the inclusion criteria were included in the review.

A number of trends were identified within the body of literature on somatic symptom disorders. First, research has been conducted predominantly within primary care settings or among general population samples. Second, the majority of research on somatoform disorders has been conducted outside the United States. Third, there have been ongoing challenges and controversies associated with the transition from the DSM-IV to DSM 5 diagnostic criteria.

Fourth, there has been considerable debate over the value of determining whether somatic symptoms are medically unexplained. Fifth, studies have consistently found a high level of impairment associated with somatic symptom disorders. Finally, there are many validated assessment tools designed to identify somatic symptom disorders, although few have been validated for DSM 5 criteria.

Gaps in literature

The literature review revealed some significant gaps that indicate a need for further research. There is not currently any widely-distributed research on the prevalence, diagnosis, or management of SSD in integrated care settings. Similar studies (such as the Improving Mood—Promoting Access to Collaborative Treatment (IMPACT) study conducted at the University of Washington) have examined the treatment of mental health conditions in collaborative care settings, but these projects were carried out within primary care settings, and they focused on a specific disorder (depression) and population (older adults) (University of Washington, n.d.). Another significant problem that underlies the lack of research is that somatoform diagnoses are assigned infrequently in the US, whereas they are relatively common in European countries.

More research is needed on the validity and reliability of tools to screen and diagnose somatization disorders according to the DSM 5 criteria. It is understandable that there are currently only a few studies completed (given that the diagnostic criteria are relatively new and have not had a chance to be adopted in practice). As the DSM 5 becomes more widely adopted in practice, hopefully additional studies will be conducted and existing studies will be replicated.

Other relevant sources of evidence

The only clinical practice guideline for treating somatic symptom disorders is from Germany (Schaefert et al., 2012). Greenburg's article on Somatization on the UpToDate website

(2014) summarizes the DSM 5 revisions and provides recommendations for diagnosis and treatment based on current evidence. UpToDate is an evidence-based, peer reviewed, clinical decision support resource that is updated regularly. There are no current Cochrane reviews on somatic disorders, and the American Psychiatric Association (APA) does not provide any assessment or treatment guidelines.

Relation of the literature to the clinical problem

While the current literature does not address somatization in the context of reverse integration settings, there is enough research drawn from other practice settings to demonstrate that there may be significant value in elevating it to a focus of clinical attention. The German clinical practice guideline recommends early biopsychosocial diagnostic assessment to identify non-specific, functional, and somatoform bodily complaints (Schaefert et al., 2012). There is evidence that assessment as a stand-alone intervention (without further psychotherapy) has therapeutic benefits for somatization (Sumathipala, 2007). In addition, Gierk et al. (2014) states that using self-report somatic symptom scales can increase patient confidence that providers are applying serious effort to the management of their problems. The current research indicates that there are assessment tools with acceptable validity and reliability according to the DSM 5 criteria. The multimodal, multidisciplinary treatment approach used by integrated care clinics places them in an excellent position to identify and address somatization disorders.

The following list summarizes the literature recommendations for selecting a tool to assess somatization disorders in research and clinical practice:

- The Somatic Symptom Scale-8 (SSS-8) quantifies the burden of somatic symptoms; it has been validated for the DSM 5 somatic symptom disorder diagnostic criteria (Gierk et al., 2014)

- The Whiteley Index-7 (WI-7) is validated and useful for evaluating the anxiety that accompanies somatic concerns. It is recommended by the APA for measuring Criterion B in SSD (Voigt et al., 2012). The Whiteley Index-5 (WI-5), a shortened version, is also validated; a score of 4 or above is correlated with high health anxiety (Lee, Creed, Ma, & McLeung, 2015).
- When important assessment items are not included in a diagnostic tool, they should be added on to the assessment (for example, to assess the criteria suggested by Voigt et al. (2013) to increase construct validity and specificity for SSD).

Summary of proposed project

The project attempted to screen all new enrollees in a reverse integration program for the presence of somatization disorders. By implementing this screening, the program hoped to identify the extent of the problem in their setting as well as to implement assessment as an evidence-based intervention.

Setting

This project was conducted at a microsystem situated within a large, community-based mental health and addiction organization in the Pacific Northwest. The integrated healthcare program provides health and wellness services as well as primary medical care; it is available to all clients who have insurance and who do not otherwise have a primary care provider, at no additional cost to clients. The program is intended to improve physical and mental health outcomes and reduce emergency department utilization by encouraging participants to become active in their own health and wellness and to learn strategies to become and stay healthier.

Organizational readiness to change

The project was implemented at a critical time for the community mental health

organization as they entered a new phase of planning for the sustainability of existing integrated care programs and the development of new programs. Over the course of the project, the microsystem experienced both an influx of new staff and the loss of many key staff who had been with the program since its inception. These changes presented an opportunity to implement procedural changes and to re-shape the program culture.

Anticipated barriers, facilitators, and challenges

There were organizational and systemic factors that influenced this project's chances for success. Some facilitating factors included the fact that the grant that funded the program already required examination of participant outcomes and extensive data collection; the allocation of a DNP student as a project resource; the organization's commitment to supporting integration; and having multiple new staff.

Barriers to implementation included the new staff's learning curve and potential to feel overworked, competition from other high-priority and/or time-consuming initiatives, perceived bias against labeling clients as "hypochondriacs", coordination of the behavioral and physical health teams for unified care delivery, and inconsistent participation by clients over time.

Participants/population

The integrated healthcare program was equipped to serve up to 350 participants; during the pilot project timeframe, there was an average of 91 active participants at any given time. The population was comprised of people who have mental illness and addictions. The majority of program participants had a variety of acute and chronic health conditions, including many "high utilizers" with complex chronic conditions (such as pain, hypertension, and poorly-managed diabetes). They ranged in age from 18 to over 70 and were primarily low income; approximately 60% were female and 40% male. As a population, they had a high risk for chronic co-morbidities

and a reduced lifespan, so providing quality preventative care was essential.

The project participants included new clients who enrolled in the integrated healthcare program. The project did not attempt to recruit existing or non-engaged program participants.

Protection of participants

The project did not expose participants to any new risks that were not already part of care as usual. Protected patient data was kept secure in electronic medical record (EMR) systems. Data collection and storage was done in accordance with existing processes which account for maintenance of client confidentiality and protection of personal health information. Any data collected for evaluation was stored in a protected spreadsheet; unique patient identifiers were not tied to protected health information or personally identifying information. The project was reviewed and approved by the Oregon Health & Science University (OHSU) Institutional Review Board (IRB) on November 17, 2015 and determined exempt and not human research. It was also reviewed by the organization's internal quality management department.

Implementation procedures

Registered Nurses (RNs) employed by the organization administered a screening for somatization as a component of the mandatory nursing assessment for new participants. The screening was created specifically for this project and was comprised of four main components: 1) The APA DSM-5 Self-Rated Level 1 Cross-Cutting Symptom Measure—Adult for somatic symptoms (2013); 2) The SSS-8 (a validated tool for DSM 5 SSD); 3) The Whiteley-5 index; and 4) Additional questions that evaluated criteria B and C for DSM 5 Somatic Symptom Disorder. The "Somatic Symptom and Related Disorder Screening Tool" can be found in Appendix A, and the criteria used for scoring can be found in Appendix B. Hard copies of the completed questionnaire were scanned into each patient's EMR.

Measures and outcomes

The project measured the percentage of newly-enrolled participants who underwent screening for somatization; this measure determines prevalence in this particular clinical setting. It also measured the percentage of clients screened who were identified to have a high symptom load and/or high level of health anxiety (i.e., "with SSD"); this identifies patients who would likely benefit from being assigned to a somatic management clinical pathway.

Data collection sources, processes, and procedures

This project collected data on how many newly-enrolled participants were screened (with a goal of 100%). It also collected raw scores for each participant on screening questions. The data collection specific to this project was integrated into current enrollment procedures, followed existing processes, and used existing technology. Excel formulas were used for high-level, rudimentary data analysis.

At the end of the project, data was examined by the DNP student to determine the actual rate of screening, the prevalence of somatization disorders in this particular clinical setting, and relationships between somatization and co-occurring diagnosis found in this patient population.

Use of information systems and technology

All members of the integrated healthcare program team were experienced with using the EMR systems and Microsoft programs such as Excel for documentation and data collection. Individual staff were trained as necessary to use unfamiliar features of electronic resources and information systems. Information systems were used in accordance with organizational policies.

Implementation of the project

The project attempted to collect data on all new program participants from November 18, 2015 through May 13, 2016. During that time, 36 patients enrolled in the program and of those,

23 patients were screened for somatization (64% completed screening). This fell short of the goal of 100% screening. RNs who administered the screening were informally polled to identify barriers that contributed to the lower-than-anticipated screening rates; they identified the following: 1) Insufficient time allotted for the complete nursing assessment and additional screening. 2) Patient mental health conditions (i.e., psychosis, affective instability, poor memory and concentration) that did not allow for a succinct, linear standard nursing assessment (and thus that did not allow time for the additional screening). 3) Patient multiple physical health concerns that likewise filled the entire time allotted for the standard nursing assessment. 4) Lack of participation by some of the program's RNs (perhaps due to lack of buy-in and/or knowledge that the screening was to be incorporated into the standard assessment). 5) Nurse discomfort with using the screening tool (both with lack of flow in the screening tool itself and with perceived patient discomfort).

After each screening was complete, the DNP student scored the results, entered the de-identified raw scores and patient's mental health and physical health diagnosis into the Excel spreadsheet, and scanned the hard copy of the screening into the patient's EMR.

At the end of the data collection period, the DNP student analyzed the data to determine prevalence of somatization in this reverse integration setting. Additionally, the data was reviewed to identify any potential issues with the screening tool and to explore relationships between mental and physical health diagnosis and somatization. Results are summarized in Appendix C.

Outcomes in relation to literature

Of those screened for somatization in this reverse integration setting, 57% (n=13) endorsed meeting the DSM 5 criteria for Somatic Symptom Disorder. This is significantly higher

than the prevalence of less than 19% projected in the DSM 5 (American Psychiatric Association, 2013), as well as higher than the 20-30% in primary care found by Koh (2013); it is much more consistent with the prevalence of high symptom load found in mental health settings by Minsky et al. (2011).

Of those who met criteria for SSD in this setting, the most prevalent co-occurring mental health disorders were depressive disorders (62%), post-traumatic stress disorder (54%), substance use disorders (38%), psychotic disorders (38%), and bipolar disorder (15%). Somewhat surprisingly, none of those who met criteria also had an anxiety diagnosis (other than social anxiety disorder) (see Table 2in Appendix C).

Among those who met criteria for SSD in this setting, the most prevalent co-occurring medical diagnosis were pain (77%), headaches (46%), breathing-related disorders (38%), gastrointestinal disorders (38%), diabetes (31%), skin conditions (23%), and cardiac issues (23%). The average number of medical diagnosis for those who did not meet criteria for SSD was 2.0; those who did meet criteria experienced an average of 3.5 medical diagnosis (a 75% increase) (see Table 3 in Appendix C).

Regarding the screening tool; the two questions from the APA level 1 cross-cutting found that 54% of those positive for SSD were likely to endorse both criteria, while 80% of those who did not have SSD did not endorse either criteria (see Table 1 in Appendix C).

Regarding symptom burden, those who were positive for SSD were more likely to endorse a high or very high number of symptoms (69% vs 10%) and were less likely to endorse an absent or low number of symptoms (0% vs 60%). Both groups endorsed a high percentage of clients experiencing symptoms for longer than six months (100% vs 60%).

The Whiteley-5 did not seem to be a good indicator of health anxiety in this population;

only 1 patient scored 4 or greater (8% vs 0%). However, on the questions evaluating Criteria B.3 (intrusiveness of worries about health), those with SSD were more likely to endorse worry (92% vs 30%). For criteria A, those with SSD were also much more likely to endorse distress and disruption caused by symptoms (69% vs 10%).

Practice-related implications, recommendations, and conclusions

The project confirmed that a relatively high number of patients in this reverse integration setting experience somatic symptom disorders. It also confirmed that those with somatization experience both a higher mental health and physical health burden which may benefit from a focused treatment approach that provides coordinated, interdisciplinary, integrated care specifically targeted to the management of somatic symptom disorders.

Ideally, the program would implement screening for all integrated healthcare program participants; this aligns with the program's mandate to provide the best evidence-based care to all enrollees. The identified barriers to screening should be evaluated and addressed in order to improve future screening rates. There is a risk associated with the approach of only screening new program participants in that it may allow existing patients with avoidant-type health anxiety to fall through the cracks.

While outside the scope of this DNP project, the recommended next step will be that those who were assessed to have high symptom burden and/or health anxiety would be assigned to a symptom management panel. Treatment of those assigned to this panel would be directed according to a newly-created clinical pathway and evidence-based protocol for managing somatization. Components of this pathway may include staff training, access to evidence-based tools and resources, and focused care coordination.

In the future, data could be analyzed to determine whether the changes brought about by

this project led to a quantifiable reduction in health anxiety, reduction in the number and severity of symptoms, the relative medical costs for treating participants with somatization, and whether future interventions lead to a reduction in treatment costs. Also, it is recommended that the somatization screening process and data be evaluated at least semi-annually by the integrated care team to evaluate whether the screening is effective and informative enough to warrant continuation, to review the practicality and sustainability of the processes being used, and to examine the value of continued screenings.

Summary

There is little doubt that somatization is a significant problem in integrated healthcare centers that impacts patients, providers, and systems. This DNP project was able to quantify the prevalence of the problem within a particular reverse integration setting and implement assessment as an evidence-based intervention. The data collected as part of the project can assist with quantifying the impact of somatization as well as the effect of future interventions.

Consistent and valid assessment is important to understand the impact of somatization disorders on patients and to plan their treatment. Once somatization is identified, reverse integration care settings are well-positioned to provide holistic, evidence-based, multidisciplinary interventions. Assessment and diagnosis of somatization disorders among these patients is needed to improve their health and quality of life outcomes, decrease treatment and indirect costs, and create sustainable integrated healthcare delivery systems.

According to Kroenke and Rosmalen (2006), “Integrating medical and psychiatric care is essential to the patient-centered and cost-effective care of symptoms” (p. 622). The literature suggests that there may be substantial value in identifying patients with somatization in reverse integration settings. This project can serve as a springboard for future interventions to educate

interdisciplinary providers about somatization disorders, follow clinical practice guidelines and best evidence-based practices, and provide interdisciplinary care planning.

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Appendix A

Somatic Symptom and Related Disorder Screening Tool

Client #: _____ Date _____

During the past **TWO WEEKS**, how much have you been bothered by the following problems (on a scale of 0-4)?						
	Not at all, never (0)	A little bit, less than 1-2 days (1)	Somewhat, several days (2)	Quite a bit, more than half days (3)	Very much, nearly every day (4)	**Score**
1. *Unexplained* aches and pains (In your head, back, joints, abdomen, legs, etc.?)?						
2. Feeling like your illnesses aren't being taken seriously enough?						
During the past **SEVEN (7)** days, how many days have you been bothered by the following problems?						
3. Stomach or bowel problems						
4. Back pain						
5. Pain in your arms, legs, or joints						
6. Headaches						
7. Chest pain or shortness of breath						
8. Dizziness						
9. Feeling tired or having low energy						
10. Trouble sleeping						
SUM of scores, items 3-10						

	Less than 1 month (0) ☐	**1-5 months** (1) ☐	**More than 6 months** (2) ☐	
11. How long have these physical symptoms bothered you?				

	Yes (1)	**No (0)**	**Score**
12. Do you think there is something seriously wrong with your body?			
13. Do you worry a lot about your health?			
14. Is it hard for you to believe the doctors when they tell you there is nothing to worry about?			
15. Do you often worry about the possibility that you have a serious illness?			
16. If a disease is brought to your attention (on TV, the internet, radio, the newspapers, or by someone you know), do you worry about getting it yourself?			
SUM of scores, items 12-16			
17. Do you feel like you spend a lot of time and energy dealing with your symptoms?			
18. Do worries about your health keep you from taking care of your daily tasks?			
SUM of scores, items 17-18			
19. Do your symptoms cause you significant distress or significantly disrupt your daily life?			

Adapted from:
DSM 5 Self-Rated Level 1 Cross-Cutting Symptom Measure, Adult (APA, 2013) (open access)
SSS-8 (Gierke, 2014) (open access)
Whiteley Index 5 (WI-5) (Lee et al, 2015) (open access)
DSM 5 diagnostic criteria for Somatic Symptom Disorder (APA, 2013) (open access)

Appendix B

Somatic Symptom and Related Disorder Screening Tool

SCORING

Questions 1 & 2 screen for the presence of somatic symptoms and related distress. A score of 2 or higher indicates need for further assessment. (Based on DSM 5 Level 1 cross-cutting tool for somatization.)

Questions 3-10: Add raw scores to determine somatic symptom burden. (Based on SSS-8; this establishes Criteria A of Somatic Symptom Disorder)

- 0-3 = no/minimal somatic symptom burden
- 4-7 = low somatic symptom burden
- 8-11 = medium somatic symptom burden
- 12-15 = high somatic symptom burden
- 16-32 = very high somatic symptom burden

Question 11: More than 6 months establishes Criterion C of Somatic Symptom Disorder.

Questions 12-16: Add raw scores to determine severity of health anxiety. (Based on Whiteley Index-5; this establishes Criterion B of Somatic Symptom Disorder). A score of 4 or greater indicates high health anxiety (Lee, 2015).

Question 12, 15: Criteria B.1

Questions 13, 14, 15, 16: Criteria B.2

Question 17, 18: Criteria B.3

Question 19: Criteria A

Question	Allowable values	Cut-off for positive	What it evaluates
1	0-4	2	Screening - anxiety
2	0-4	2	Screening - sx
3 through 10	0-32	12	Criteria A, sx burden
11	0-2	2	Criteria C
12 through 16	0-5	4	Criteria B.1, B.2
17 through 18	0-2	1	Criteria B.3
19	0-1	1	Criteria A

Using the results

- If client screens positive for any criteria, refer the client to the clinical pathway for somatic symptom management (SSM). These clients will be tracked in a spreadsheet that is linked to the current OPHI Enrollment- Master spreadsheet on the OPHI shared drive, with additional columns to track whether initial screening has occurred (Y/N), and whether client is flagged to be in the SSM panel.
- Each client's completed screening form will be scanned into their chart in the Cascadia EMR.
- Each client in the panel will have a care plan that identifies their individual plan and progress in the SSM clinical pathway.

Appendix C

Criteria	With SSD (N=13)		Without SSD (N=10)	
	N	%	N	%
APA Level 1 cross-cutting				
Positive for both criteria	7	54%	0	0%
Positive for one criteria	3	23%	2	20%
Negative for both criteria	3	23%	8	80%
Symptom burden				
None or low (0-7)	0	0%	6	60%
Medium (8-11)	4	31%	3	30%
High or very high (12-32)	9	69%	1	10%
Health anxiety				
Whiteley Index-5 (WI-5) (Assesses DSM 5 criteria B1, B2)	1	8%	0	0%
DSM 5 criteria B3 (worries)	12	92%	3	30%
Other DSM 5 criteria				
DSM 5 Criteria A (distress)	9	69%	1	10%
DSM 5 Criteria C (sx for >6 months)	13	100%	6	60%
APA = American Psychiatric Association; DSM = Diagnostic and Statistical Manual; WI = Whiteley Index; sx = symptoms.				

Table 1. Data from the Clinical Population for the Somatic Symptom and Related Disorder Screening Tool

Co-occurring mental health disorders	With SSD (N=13)		Without SSD (N=10)	
	N	%	N	%
Depressive disorder (including MDD, Unspecified DD, Dysthymic DO)	8	62%	5	50%
Post-Traumatic Stress Disorder (PTSD)	7	54%	3	30%
Substance Use Disorders	5	38%	2	20%
Psychotic Disorders (Incl. Substance-induced psychotic DO, Unspecified schizophrenia spectrum and other psychotic disorders, Schizoaffective DO)	5	38%	2	20%
Bipolar disorder	2	15%	3	30%
Anxiety disorders (Incl. unspecified anxiety do, GAD)	0	0%	1	10%
ADHD	1	8%	0	0%
Panic disorder	0	0%	2	20%
Agoraphobia	0	0%	1	10%
Social anxiety disorder	2	15%	1	10%
Borderline personality disorder	0	0%	1	10%
Gender dysphoria	0	0%	2	20%
Autism spectrum disorder	1	8%	1	10%
Other (i.e., Intellectual developmental disorder, Avoidant personality disorder, OCD)	0	0%	3	30%
MDD = Major depressive disorder; DD = depressive disorder; DO = disorder; GAD = generalized anxiety disorder; ADHD = attention-deficit hyperactivity disorder; OCD = obsessive-compulsive disorder				

Table 2. Co-occurring mental health disorders

Co-occurring physical issues	With SSD (N=13)		Without SSD (N=10)	
	N	%	N	%
Pain	10	77%	1	10%
Headaches	6	46%	1	10%
Breathing disorders (incl. COPD, asthma, shortness of breath)	5	38%	1	10%
Gastrointestinal issues	5	38%	3	30%
Diabetes	4	31%	1	10%
Cardiac issues	3	23%	0	0%
Skin conditions	3	23%	1	10%
Dyslipidemia/hyperlipidemia	2	15%	2	20%
Hypertension	2	15%	1	10%
Hepatitis	1	8%	1	10%
Allergies (rhinitis/seasonal)	1	8%	2	20%
Sleep apnea	1	8%	0	0%
Hypothyroid	1	8%	0	0%
Obesity	0	0%	2	20%
Other autoimmune conditions (gout, osteoarthritis)	2	15%	0	0%
Genitourinary issues	1	8%	1	10%
Neuropathy	1	8%	0	0%
Other conditions (i.e., head trauma, other general symptoms, fainting)	3	23%	0	0%
COPD = chronic obstructive pulmonary disease				

Table 3. Co-occurring physical health issues