The Benefits of Providing Telebehavioral Health for Inpatient Care
INTERDEPENDENCY OF MENTAL AND PHYSICAL WELL-BEING

The rise of behavioral health disorders in the US population has been well-documented\(^1\). One in five Americans suffers from a mental illness and close to half of the US population will experience at least one mental illness during their lifetime\(^2\). On the other end of the spectrum, lifestyle changes over the past few decades have resulted in an increase in chronic health conditions such as heart disease, diabetes and obesity demanding high healthcare expenditures\(^3,4\). Complicating the healthcare landscape further is the comorbid appearance of mental and physical illnesses driving up healthcare costs even more as this co-morbidity is particularly difficult to treat and manage\(^5\). The link between illnesses of the mind and body is strongly assumed to be bidirectional\(^6\). Suffering from one serious chronic mental condition increases the risk of developing a medical condition and the converse is also true. More than two thirds of people with a formal diagnosis of a mental illness have at least one general physical disorder, and 29% of people with a physical disorder have a comorbid mental health condition\(^6\). While the mechanism of the interaction is not yet fully understood, it nevertheless suggests that the optimal medical care for a patient should involve both mental and physical health.

MENTAL HEALTH IN NON-PSYCHIATRIC INPATIENTS

It is not surprising then, that there is mounting evidence in the medical literature for the high prevalence of psychiatric and behavioral health illnesses in hospitalized patients\(^7\). About one in four patients admitted to the hospital from the emergency department has a concurrent psychiatric disorder. A review of more than 30,000 admissions in a California hospital found that 33%--35% had psychiatric disorders. Other studies put the number at 40% or more\(^8,7\). Most common disorders were substance misuse, mood and cognitive disorders\(^9\).
In general, the presence of a mental illness may likely impact the quality of care for a medical inpatient. For example, hospitalization of a patient with schizophrenia for a medical procedure may exacerbate his/her mental illness which may delay or complicate the treatment. Or, someone with a diagnosis of depression who undergoes a surgery may not be capable of following the important and often rigorous post-surgery recovery plan. On the other hand, hospitalization and surgery itself may lead to mental health problems causing anxiety and emotional stress about the outcome of a surgery or treatment, for example, heart, bariatric or cancer surgery, worries about the medical costs and pain and discomfort following surgery.

**LINK BETWEEN BEHAVIORAL HEALTH AND POST-SURGICAL COMPLICATIONS**

A study analyzing data gathered from a small cohort of surgical patients (n=109) documented that surgical patients were more than four times more likely to develop psychiatric disorders such as post-traumatic stress disorder (PTSD) and major depressive disorders. These high rates of PTSD and depression are seen in patients without prior documented diagnosis of a mental health disorder and are thought to be triggered by the surgery itself. Postoperative psychiatric complications, as the study suggests, are common and can have significant impact on recovery and the long-term outcome of the procedure.

Pain perception is variable and multifactorial and is an area of intense research. It is becoming increasingly clear that there is a correlation between sustained pain and depression. Complicating matter is that patients with depression are more likely to suffer from chronic pain and patients with chronic pain are more likely to develop depression. An obvious consequence of surgical procedures is post-operative pain. Certain illnesses and procedures have a higher likelihood of precipitating a postoperative depression. These include: heart surgery, gastric bypass surgery, brain surgery, hip replacement, hysterectomy, cancer resection, mastectomy and plastic surgery.

The vast majority (85%) of patients with chronic pain suffer severe depression which results in a poorer prognosis when compared to patients with chronic pain alone. While the pathophysiological mechanism of the association between chronic physical pain and depression is not well known, it has, however, been shown that sensory pathways of physical pain share the same brain regions involved in mood management. Behavioral health issues consequently complicate the medical care of patients and vice versa.

Although it is well-reported that depression is an adverse event following many different surgical procedures and can increase duration of inpatient hospitalization, most facilities do not adequately address this issue. This may partly be due to resource constraints. For example, there may be an insufficient number of psychiatrists and counselors in the inpatient post-surgical setting to adequately staff these patients. It is not practical to provide pre- and post-surgical psychiatric services to the number of patients who may suffer post-procedure depression. Another issue may be the lack of awareness of a patient’s behavioral health condition by the primary surgical provider who could order inpatient psychiatric consultation. Indeed, a study evaluating the feasibility and effectiveness of proactive psychiatric consultations has shown that proactive psychiatric consultations reduce hospital stay. In the latter study, all admissions in a defined time period underwent a psychiatric evaluation, received immediate consultation when needed and were closely followed during their stay. Compared to control groups, who were under the standard consultation-as-usual model, the intervention group had a significant decrease in mean length of stay (LOS) and hence more saved days even in the short 5-week intervention period. A projected annualized cost-benefit analysis estimated a minimum ratio of benefit to cost of four.
Comorbid mental health conditions were associated with an additional 31,729 hospital days & $90 million in hospital costs

**IMPACT OF UNTREATED MENTAL ILLNESS ON INPATIENT CARE SERVICES**

Overall, besides the impact on patients themselves, unaddressed behavioral health in patients hospitalized for a physical illness in adults as well as in pediatric patient populations has been shown to lead to an increase in the following—often interacting—parameters that affect hospitals:

1) **LENGTH OF STAY (LOS)**

LOS is seen as a quality benchmark for hospitals and reduced LOS is often a measure of good medical care especially in the context of today’s value-based care. Above average LOS points to complications of inpatient care and treatment. It is also in the financial interest of hospitals to release patients as soon as possible. However, to prevent poor patient outcomes with a premature discharge, hospitals face substantial fines and a decrease of reimbursement should the patient be re-hospitalized within 30 days. This is due to the fact that Medicare pays hospitals a fixed price per admission diagnosis (Medicare’s prospective payment system (PPS))\(^1^7\),\(^1^8\). Numerous studies have shown an increased LOS in patients with comorbid medical-psychiatric conditions when compared to patients without comorbidities\(^1^9\). The range of the mean of LOS varies from study to study and depends on the comorbid condition. In a meta-analysis patients with a comorbid depression had an increased mean LOS of 4.4 days compared to patients without depression\(^1^9\).

A retrospective study of pediatric patients (3- to 20-year-old patients) hospitalized for common medical and surgical conditions revealed that a comorbid mental health condition was associated with a LOS increase of 9% for medical hospitalizations and a 17% increase for surgical hospitalizations\(^2^0\). The analysis of the data further exposed that comorbid mental health conditions were associated with an additional 31,729 hospital days and $90 million in hospital costs\(^2^0\).

2) **MEDICAL COSTS**

Postoperative infections are a major source of surgery complications causing an increase in morbidity and mortality ensuing a lengthy hospital stay and increased hospital costs, not to mention the potential failure of the procedure itself and a likely re-hospitalization\(^2^1\). Depressed patients may not effectively participate in their treatment plan of wound care or compliance with antibiotics during postoperative recovery.
Depression has been clearly associated with the dysregulation of the immune system but it is far from clear how this interaction happens and what comes first22,23. The link with the immune system seems not to be specific to depression alone but many more psychiatric conditions, such as schizophrenia, obsessive compulsive disorder and mania, show elevated levels of inflammation perpetuating the medical condition24. In addition, decreased or dysregulated immunity may increase the risk of postoperative infections and possibly foster cancer growth in patients with malignant tumors25. Studies have indeed revealed an increased rate of infections following surgeries in patients with depression making the treatment of the mental health condition warranted.

3) RE-HOSPITALIZATION
The Hospital Readmissions Reduction Program (HRRP), part of the Affordable Care Act, is a Medicare value-based purchasing program that reduces payments to hospitals that show an increased rate of readmissions. It is setup to improve the quality of care for patients by linking payment to the quality of care at the respective hospital18. Impaired post-surgical recovery and increased susceptibility to infection among patients with behavioral health conditions may increase morbidity and the risk of re-hospitalization, leading to increased costs and reduced reimbursements to the hospital23.

CONCLUSION
Psychiatric and behavioral disorders, either already present prior to surgery or triggered post-surgery, pose a significant challenge to the speedy and efficient recovery of patients. Untreated depression, highly prevalent before or after major surgeries, is correlated with increased rate of post-operative pain, infection and, hence, poorer outcomes. This can often lead to longer LOS and increased costs to the hospital. Most psychiatric and behavioral disorders are treatable and manageable. Numerous scientific investigations on the topic of surgery and mental health conclude that an assessment of a surgery candidate’s mental health should be routine to identify risk factors, to develop preventive measures to help improve surgical outcomes and to properly prepare patients for the procedure25. The mental health assessment would be an invaluable tool for decision-making on the timing of the surgery and for the optimal mental preparation of the patient for the possibly life-altering procedure.

The American Heart Association strongly recommends screening tests for depressive symptoms in coronary heart disease patients to identify who may need further treatment, as depression is linked to worse prognosis for these patients26.
Similarly, hospitalized medical patients with diagnosed mental health conditions also need special attention when it comes to their medication management, as newly prescribed medication may negatively interfere with already prescribed ones which would require a reevaluation by a psychiatrist to ensure the most effective combination.

**TELEBEHAVIORAL HEALTH SERVICES AS A SOLUTION TO SHORTAGES OF IN-PERSON CONSULTATIONS**

Reviews and meta-analysis studies looking at comparisons between telepsychiatry and in-person psychiatry found no significant difference between these two modes of care delivery including satisfaction rates concluding that telepsychiatry is well-positioned to augment or replace in-person psychiatry in certain research and clinical situations over time\(^2^7\). Telepsychiatry has now been around for decades and video-conferencing-based diagnoses are reliable and clinical outcomes from this type of intervention are comparable to in-person treatment across diverse population groups and diagnostic conditions\(^2^8,^2^9\). Telepsychiatry has been particularly useful in increasing access to mental health services in mental health professional shortage areas such as in rural areas, non-academic hospitals, and smaller community hospitals. A study found that telemedicine was very suitable to various clinical settings to provide consultation-liaison (CL) psychiatric services to hospitals without on-site psychiatry resources\(^3^0\). In many instances patients preferred video consultations, which could be provided faster, instead of waiting for a psychiatrist to arrive at the hospital.

Telebehavioral health services are easy to setup as they do not require large upfront investments. Experienced telehealth companies such as MindCare Solutions can offer “plug and play” telebehavioral health solutions to complement the onsite healthcare services of their clients.
The Benefits of Providing Telebehavioral Health for Inpatient Care

MindCare Solutions is a Nashville, TN based leading provider of high quality telepsychiatry and telebehavioral health services, established in 2013. Their services include access to behavioral health clinicians, clinical information exchange, coordinated treatment planning and problem solving, and increased communication between primary care and behavioral health providers across a range of ambulatory care settings including inpatient care units, specialty clinics, emergency departments and correctional facilities.

MindCare partners with healthcare organizations to deliver best-in-class, end-to-end telebehavioral health services that combine evidence-based care pathways, advanced technology, and high-quality providers. MindCare is well-equipped to address even the most challenging patients by connecting mental health and medical care to treat the whole person. They complement onsite clinic medical staff with a collaborative, evidence-based behavioral model of care delivered remotely through telehealth. MindCare embraces an integrated approach to care that combines physical health with behavioral health to yield better health outcomes while reducing overall healthcare costs for employers.

MindCare’s employed staff of mental health professionals includes board certified psychiatrists, advanced nurse practitioners and behavioral health professionals who have extensive experience collaborating with other specialists to treat medically complex patients such as those with multiple chronic conditions. They can deal with a broad range of mental illness, from depression, anxiety and stress to addiction disorders, psychotic disorders, bipolar disorder, and substance misuse. They provide:

- Behavioral health screening and assessments
- Psychiatric consultation and treatment
- Psychotropic medication management
- Therapeutic counseling

MindCare provides block scheduling access for their clients using licensed and credentialed providers and consultants including psychiatrists, advanced practice nurses, and therapists. MindCare can deliver initial assessments, follow-ups and treatment plans for patients as needed and allowed by the state. In addition, MindCare documents and delivers patient information back to the client in a timely manner.

“Our round-the-clock telepsychiatry team is staffed by board certified psychiatrists and behavioral health specialists and is fully credentialed, certified, and conversed in standard operating procedures within hospital inpatient departments. Our solution offers timely access to behavioral health clinicians, clinical information exchange, and coordinated treatment planning and problem solving for even the most complex patients. Supporting inpatient units with a comprehensive range of behavioral health services is increasingly being seen as an important component of reducing readmissions and overall healthcare costs caused by co-morbid mental health issues or mismanagement of chronic illnesses. We aim to fit seamlessly with your operational workflow and work collaboratively with your team to deliver the best quality care to your patients.”

David Weiss, MD
Chief Medical Officer
MindCare
MindCare distinguishes itself from other providers in the following three key areas:

1. **QUALITY OF SERVICES**
   
   MindCare’s current roster includes more than 40 high-quality behavioral health providers that are credentialed, trained and evaluated on its systems, delivery model, and values leading to quality patient interactions and outcomes. Leadership oversight and clinical direction is provided by a Chief Medical Officer working in collaboration with Regional Medical Directors and a Director of Clinical Services. Quality assurance processes include daily review of Encounter Reports, weekly chart reviews, semi-annual peer reviews, and ongoing provider training. A recent survey of its customers and patients has shown a high degree of satisfaction (>95%) resulting in high retention rates. This can be credited not only to the quality of the professionals but also the ease of-use of the telehealth platform. In addition, MindCare works collaboratively with the client to customize its technology platform and integrate the client’s specific requirements and workflow to ensure seamless care delivery.

2. **RELIABILITY OF SERVICES**
   
   The nature of mental health makes the need for behavioral health services often unpredictable. Since the behavioral health professionals providing services through MindCare’s telehealth platform are employed by the company, it ensures a consistent and timely access to services for customers and their patients. Mutually agreed block scheduling via MindCare’s innovative HUB platform allows for consistency of service, streamlined communication and coordination between provider and onsite clinic, and secure sharing of medical records and other documentation pertinent to the patient. In addition to employee clinics, MindCare provides telebehavioral health services to hospitals, emergency departments, long-term care facilities, correctional facilities and other ambulatory care settings, highlighting its experience and flexibility in offering behavioral health services in diverse care settings.

3. **SCALABILITY OF SERVICES**
   
   MindCare is already operating in 13 states with providers licensed in 30 states. It is actively partnering with academic medical centers to recruit highly skilled professionals to expand its base of mental health providers across the country. The process for provider credentialing and accreditation has been effectively streamlined, ensuring rapid recruitment and onboarding of new staff. Because there are few geographical and logistical limitations to telemedicine, MindCare can provide access to much needed care wherever the patients are and whenever the care is most needed.

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