

DNP Portfolio Executive Summary  
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This portfolio will demonstrate my attainment of the competencies for the doctorate in nursing practice (DNP). The DNP focuses on expert, ethical advanced nursing utilizing evidence-based practice.

People with severe mental illness have been my population focus throughout the DNP program. As a Clinical Nurse Specialist for 28 years and a nurse practitioner for 16 years, I have been dedicated to the care of this underprivileged, stigmatized and underserved population. Individual patient care has been rewarding but after many years and settings, I was looking to impact the system by focusing on change on a larger scale, while continuing to provide ethical, evidence-based care to individuals. Over the years, I have had many innovative ideas, but was unsure how to provide the leadership for change.

As I proceeded through the coursework, I expanded my knowledge base, keeping my population of focus in mind. I analyzed an ethical issue unique to mental health that had long puzzled me. Although the outcome, after ethical analysis was similar to what was done in practice, I could articulate the factors influencing the decision. The ethical model I learned will provide the foundation for resolving future ethical dilemmas. Prior to the information and technology course, I was skeptical of electronic medical records (EMR) as they seemed too cumbersome. With an understanding of the benefit of EMR to patient care, I have been able to incorporate them more easily into my practice. My clinical inquiry project benefited from having an EMR system and led to changes in recording laboratory work.

This pattern was repeated throughout the DNP program with each course I took: Health Systems Organization and Change, Health Disparities, Health Policy, and Health Care Economics and Finance. Each course provided new thinking in providing quality care to my population of focus. Now as I look at a system, I imagine change and I know how I can facilitate that change. These courses presented new content and I was motivated to learn more. After discussing systems structures and finance with agency clinical directors, for an assignment, I found that I was included in agency issues beyond individual patient care. I was asked to supervise the agency's RN at my site and direct her in several practice improvement projects, including my own. This in turn led to developing a residency placement for 5 months at the Addictions and Mental Health Division (DMAP) of the state Department Human Services.

In this residency, I worked with the former DMAP director who was newly appointed to direct efforts promoting integration of addictions, mental health and primary care for the Department of Human Services. I was appointed to chair a subcommittee on clinical training to promote integration. We will develop a training plan for statewide implementation. The residency at DMAP has also led to my involvement in rural health and Native American health issues.

All of these experiences and courses were interwoven with my clinical inquiry project on integrating mental and physical health care for people with severe mental illness. The statistics on morbidity and mortality in people with major mental illness concerned me and cardiovascular disease was the leading cause of death. Metabolic syndrome is a precursor to cardiovascular disease and is common in people with mental illness. I was able to utilize my mental health and family nurse practitioner skills in combination with organizational change theory and cost effectiveness analysis to develop a practice improvement program to screen for metabolic syndrome in the mental health setting. This program influenced my involvement in state efforts to integrate care for this disadvantaged population in both rural and urban settings. Through this DNP program, I have not only learned, but I have been challenged, but the true beneficiaries are patients suffering with mental illness.

Running Head: METABOLIC SYNDROME IN THE MENTALLY ILL

Evaluation of a Screening Program for Metabolic Syndrome  
in an Outpatient Mental Health Clinic  
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Over the last decade, life expectancy of the mentally ill has declined. Researchers estimate that people with severe mental illness, such as schizophrenia and bipolar disorder, live 25 years less than the national average (Colton & Manderscheid, 2006).

Over one fourth of American adults suffer mental health and/or substance abuse problems in a given year, affecting one in five families. Six percent of these adults suffer from severe mental illness [SMI] (Kessler, Berglund, Demler, Jin, & Walters, 2005; National Institute of Mental Illness, [NIMH], n.d.; President's New Freedom Commission, 2003). Of people with SMI in the US, 35% have at least one undiagnosed medical disorder (Wulsin, Soellner, & Pincus, 2006). Metabolic syndrome is a collection of risk factors for coronary artery disease which includes: hypertension, diabetes, dyslipidemia and obesity (McCarron & Keenan, 2007). Metabolic syndrome is reported in 30 to 42% of people with SMI, compared to only 24% of adults nationwide (McEvoy et al., 2005; Suppes, McElroy & Hirschfeld, 2007).

Difficulty negotiating two systems of care contributes to poor physical health care for the severely mentally ill population and has led to recommendations to provide physical health care in mental health settings (Parks, Svendsen, Singer, & Foti, 2006). Preventable or treatable conditions such as metabolic syndrome, cardiovascular disease, diabetes, and lifestyle issues such as smoking and obesity, contribute to the increase in morbidity and mortality among the SMI (Chavetz, White, Collins-Bride, Nickens, & Cooper, 2006; Miller, Paschall, & Svendsen, 2006). Citrome and Yeomans (2005) found that guidelines for monitoring physical health in mental health settings are underutilized, a finding that suggests a change in practice is needed.

The setting for the proposed project is a private, non-profit mental health agency. Most of the clients are impoverished and underserved, one fourth of whom are minority. The agency serves over 12,000 people, approximately 1000 of whom are enrolled in case management for SMI (D. Allison, personal communication, September, 2008). A pilot project, to improve the coordination of primary care

and mental health is underway. The project goals focus on providing basic health screening, health education, and coordination of care within the mental health setting (J. Hrmco, personal communication, May 23, 2008).

Efforts to screen patients at risk for metabolic syndrome have been of limited success due to provider time limitations and reimbursement concerns (D. Allison, personal communication, June 5, 2008). Psychiatric/mental health nurse practitioners (PMHNPs) are well positioned to reverse this lack of success. Yet time and financial constraints affect PMHNP practice as well. Incorporating a registered nurse (RN) into the mental health treatment team expands the ability of the team to screen for physical health problems, refer for care, and coordinate care between mental health and primary care. The DNP provides leadership and clinical expertise to evaluate best practices and guide practice improvement.

Screening for metabolic syndrome in the SMI population could significantly improve health. Early detection and treatment of metabolic syndrome can prevent cardiovascular disease, the most common cause of death in the SMI population (Suppes et al., 2007). The purpose of this clinical project is to implement a screening program for metabolic syndrome for the SMI population at one site of the mental health agency. A proposal to evaluate the screening outcomes is included with this project.

The specific clinical inquiry questions are:

- #1 How does the prevalence of metabolic syndrome, in a mentally ill population in a community mental health clinic, compare to national statistics on metabolic syndrome in the SMI?
- #2 Does an RN screening program for metabolic syndrome increase the detection of metabolic syndrome in a mentally ill population in a community mental health clinic?
- #3 Does a screening and referral program for metabolic syndrome result in an improvement in measures of metabolic syndrome?

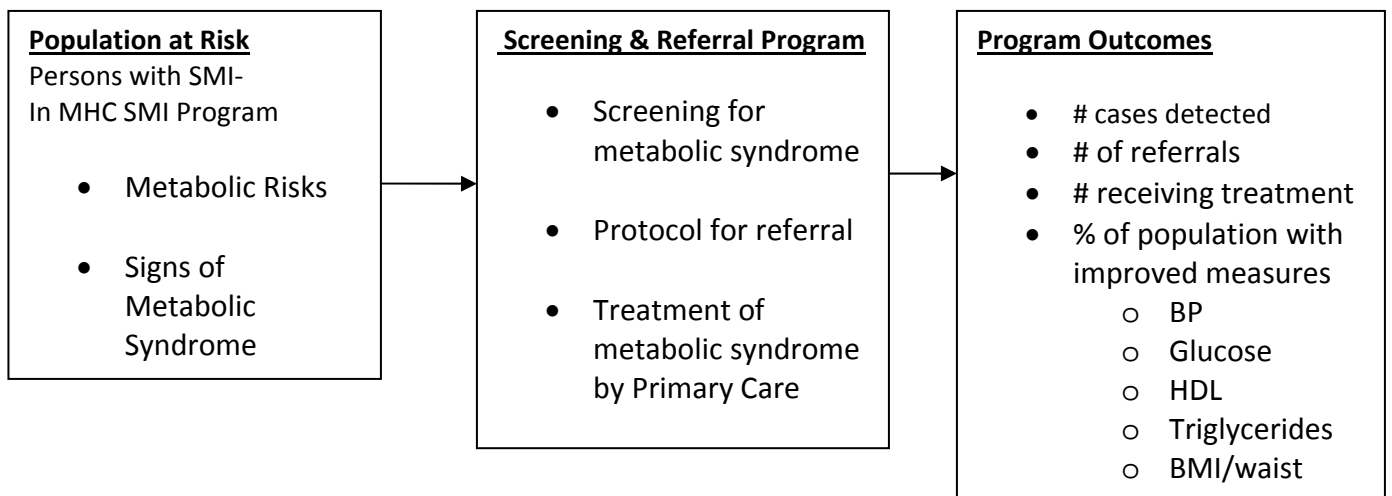
#### Conceptual Framework

A conceptual model is presented that provides a framework for an outpatient screening and

referral program for metabolic syndrome in an at risk population of people with severe mental illness. Outcomes address detection and referral of metabolic syndrome for treatment and improved patient health indicators. The project will also evaluate the initial outcomes of the clinic's screening program.

The components of this conceptual model are: 1) the population at risk, 2) the screening and referral program and 3) program outcomes aimed at improving the health of the population at risk.

The following is a model showing the relationships among concepts:



*Figure 1.* Evaluating quality of care for seriously mentally ill (SMI) adults at risk for metabolic syndrome.

This project is focused on the adult the population diagnosed with severe mental illness at an outpatient mental health clinic. Severe mental illness (SMI) refers to the major mental illnesses such as schizophrenia, schizoaffective disorder, bipolar disorder, major depression and severe anxiety disorders. It includes impairment of functioning and a chronic trajectory (Schinnar, Rothbard, Kanter, & Jung, 1990). The population is at risk for metabolic syndrome due to medications prescribed for SMI such as antipsychotics, lithium and anticonvulsants and/or lifestyle risks common to this population (Suppes et al., 2007). Participants in the screening are patients in the SMI case management program at one site of the mental health agency who meet the criteria for risk. Risk is conceptualized as being on a medication known to contribute to metabolic syndrome or having metabolic syndrome or one of its components.

Appendix A presents diagnostic criteria, screening guidelines for patients on medications, and referral criteria.

Psychiatrists and PMHNPs (psychiatric providers) complete comprehensive psychiatric evaluations on each patient. Information about medical illnesses, hospitalizations, surgeries, a review of systems and medication use is included. The PMHNP may diagnose only mental illness, but has a rich background in health assessment and pathophysiology. In this screening project, psychiatric providers refer patients at risk for to the RN for a health screening, which includes assessment for metabolic syndrome using the parameters identified in Appendix A.

Using national screening guidelines for metabolic syndrome (Sernyak, 2007), patients meeting the criteria for metabolic syndrome are referred for treatment, preferably to the person's primary care provider. Screening results that do not meet the criteria for metabolic syndrome, but have some abnormalities are flagged for review by the psychiatric provider. The RN coordinates care with the primary care provider (PCP) and reports treatment results to the patient's psychiatric provider. The center's electronic records system is used for within-clinic communication. Specific referral forms are used to communicate with the PCP.

Program evaluation is concerned with specific program and population based patient outcomes. Program outcomes regarding number of referrals made, referrals completed by patients and treatment received, reflect the utility of the screening program and may lead to the discovery of barriers to receiving treatment that are currently unknown. Program outcomes documenting improved health indicators in the population, reflect the effectiveness of early detection and referral on health status.

#### Review of the Literature

The literature documenting the decreased life expectancy in people with SMI is reviewed. Metabolic syndrome as a precursor to cardiovascular disease, the most common cause of morbidity in people with SMI, is reviewed as it pertains to mental health practice. Issues affecting the physical health

of people with SMI are examined from a societal, health care system, and provider perspective.

Guidelines and recommendations for incorporating physical screening into psychiatric practice are discussed with barriers to implementation. Finally, practice models for integrating physical and mental health care for the mentally ill will be reviewed, with a focus on models that incorporate physical health care in a mental health setting.

#### *Morbidity and Mortality in People with Severe Mental Illness*

A 2006 study by Miller et al. examined state death records in 608 patients at a state mental hospital from 1998 to 2002. Causes of death, medical comorbidities, years of potential life lost (YPLL) and mortality ratios were calculated. Death from cardiovascular disease resulted in an average YPLL of 32.0. The most prevalent comorbidities were obesity and hypertension. Colton and Manderscheid (2006) reviewed the mortality statistics databases in eight states from 1997 to 2000 for public mental health clients. They found that in all eight states, public mental health clients had a higher relative risk of death than the rest of the state population, dying at an earlier age, with more years of potential life lost (average 13 to 30 years) than people without SMI. Heart disease was the leading cause of death in both groups, as it is nationally. Each study concluded with recommendations to improve the interface between mental health and primary care (Colton & Manderscheid; Miller et al.).

#### *Metabolic Syndrome and Cardiovascular Disease in People with Severe Mental Illness*

In a review of current literature on cardiovascular disease in patients with schizophrenia, Hennekens (2007) reports that relative risk of death from cardiovascular disease is 1.5 compared to the non-schizophrenic population, citing obesity, dyslipidemia, hypertension, insulin resistance and cigarette smoking as major risk factors. Patients with schizophrenia have a much higher rate of obesity, cigarette smoking, diabetes and hypertension as noted in the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) trial (McEvoy et al. 2005). The CATIE trial collected data from 1,460 patients with

schizophrenia at 50 sites across the U.S. (Chwastiak et al. 2006). In analyzing the data from the CATIE trial, McEvoy et al. found the prevalence of metabolic syndrome to be 40 to 43%.

McEvoy et al. used the data from the CATIE trial and compared it to the third National Health and Nutrition Examination Survey (NHANES III) to show that males in the CATIE trial were 138% more likely to have metabolic syndrome than males in the NHANES study. Women in the CATIE study were 251% more likely to have metabolic syndrome. Nasrallah, Meyer, and Goff (2006) also noted that the CATIE trial data reported that patients with schizophrenia had limited access to physical health care and often received suboptimal care. In a review of the literature, Newcomer (2006) identified similar findings in patients with bipolar disorder, even when not on antipsychotic medications. The increased risk came from weight gain associated with lithium and mood stabilizers.

#### *Societal and Health System Issues*

Reasons for the increase in morbidity and mortality in the SMI population are varied. In a systematic review of the literature, Druss and von Esenwein (2006) found that modifiable risk factors such as substance abuse, smoking, poor nutrition, lack of exercise, unsafe sexual practices and residence in homeless shelters and group care facilities contributed to increased morbidity. Additionally poverty, unemployment and a high rate of incarceration increase vulnerability (Parks et al., 2006).

Poor quality of medical care and /or lack of access to medical care contribute to the increase in risk (Miller, Druss, Dombrowski, & Rosenheck, 2003; Sullivan, Han, Moore, & Kotrla, 2006; Weiss et al., 2006). Miller et al. surveyed 59 randomly selected patients at a community mental health center about access to primary care and perceived barriers to care. They found that even in patients with a regular source of primary care, barriers prevented them from accessing it. Perceived barriers to appropriate care were that medical providers were not well informed about psychiatric medications and did not pursue mental health issues. Sixty three percent of patients could not name their primary care provider,



and 40% said their mental health and primary care providers did not coordinate care. Salsberry, Chipps, and Kennedy (2005) found that people with mental illness received a lower level of preventive care.

In a qualitative study by Lester and Tritter (2005), mental health patients avoided primary care because of shame (stigma), or perceived lack of acceptance in settings other than mental health. Further, the symptoms of the illness caused suspicion of others, fear of being in public and sensory overstimulation resulting in avoidance of diagnosis and treatment of physical problems. The study participants also identified that they needed to minimize their mental health symptoms and yet maximize their physical symptoms to get seen in primary care, and particularly struggled to “make it through the waiting room.”

#### *Mental Health System and Provider Issues*

A barrier to seeking treatment of physical problems, identified by mental health patients was that their mental health provider did not ask about medical issues (Miller et al., 2003). Suppes et al. (2007) conducted a survey of 500 psychiatrists to assess their knowledge of metabolic syndrome and practices regarding it. The researchers found that 94% viewed it as a significant health risk for their patients and that 76% had diagnosed it in their patients. A significant number monitored weight (78%), glucose (69%) and lipids (61%). Interventions included switching to a different medication based on recommendations from the CATIE study and referral to primary care.

Practice guidelines for monitoring patients on antipsychotic medications were developed in 2004 by a consensus group of the American Diabetes Association, the American Psychiatric Association, the American Association of Clinical Endocrinologists and the North American Association for the Study of Obesity (American Diabetes Association, 2004). Baseline monitoring was recommended, and a monitoring protocol was developed. Goff et al. (2005) developed comprehensive guidelines that include screening for health problems and recommendations for preventive care.

Problems that mental health clinics may encounter in trying to meet the expectations of the guidelines and evidence-based practice are: practitioner knowledge and comfort with “medical procedures,” time to perform additional screening and lack of funding or payment for these services in the mental health setting (Druss, 2007; Parks, 2007). A study of preventive services provided at psychiatric visits determined that in the 3,198 visits reviewed, preventive services were provided at 11% of the visits. Preventive services were more likely to occur for patients with SMI when a patient had a chronic physical illness, when nursing care was available, when living in rural areas and when visits were longer (Daumit, Crum, Guallar, & Ford, 2002). Besides lack of knowledge, time and funding, Sernyak (2007) cites resistance to change, unclear division of roles, poor communication systems and lack of start-up funds for establishing an embedded medical program, as barriers to implementing monitoring in a mental health clinic. These barriers must be addressed in order to meet professional standards that basic screening be completed in all mental health practices (Druss; Goethe, Szarek, Caley & Woolley, 2007; Goff, 2007; Marder et al., 2004). Several studies identify nurses as vital to overcoming these barriers (Daumit et al.; Goff; Vreeland, 2007).

No literature was found on the development of a screening program within a mental health clinic. The literature on integration of mental health and primary care has focused predominately on the addition of a mental health provider in a primary care setting (Druss, 2007). Although there are current recommendations to designate the mental health clinic as the primary health home for the SMI population with referral to primary care, no literature was found regarding designing or evaluating a physical health screening program within a mental health center (Parks et al., 2006).

### *Integration Models*

Druss (2007) identifies four integrated models to provide medical care to the seriously mentally ill: a) training psychiatrists and PMHNPs to diagnose and care for certain medical conditions, b) medical consultation with a primary care provider on site, c) a collaborative care model with a multidisciplinary

team approach, such as the Chronic Care Model, and d) facilitated referral between mental health and primary care as a case management model. A systematic review of the literature (Druss & von Esenwein, 2006) showed few studies to address these models. Of the six studies found, four focused on populations with addictive disorders and two on patients with serious mental illness.

Rubin, Littenberg, Ross, Wehry, and Jones (2005) looked at the addition of a medical practitioner to an inpatient psychiatry setting. The study was a randomized control trial (RCT) with one group using an onsite internist for medical care and the other using care as usual (medical care by consultation). The study demonstrated significant improvement in process of care for the internist treated group as measured by a 17 question rating scale. A measure of resource use (billables and length of stay) found no difference between the groups.

In a study by Druss, Rohrbaugh, Levinson, & Rosenheck (2001), completed at a VA hospital, a group of outpatients with mental illness, treated by primary care at the mental health site, had more primary care visits and received more preventive interventions than the control group, treated at two different clinic sites for mental health and primary care. The participants in integrated care also had significant improvement in health as measured by the physical component score on the 36-item Short-Form Health Survey. There was no difference in mental health symptoms or costs between groups.

#### *Nursing Literature*

Nursing is not well represented in the integration literature. Three articles by nurses were found on the topic. Howard, El-Mallakh, Rayens and Clark (2007) measured self-reported medical problem frequency, overall health, and health-related quality of life in a retrospective, cross-sectional descriptive study of Medicaid mental health clients. Health was reported as poor or fair in 83% of the population of 787 adults. The findings for the sample with bipolar disorder and schizophrenia did not identify heart disease, metabolic syndrome or its components in the top four most prevalent diseases

Hypertension was third on the list for people with schizophrenia. It is difficult to compare these findings to others since this study used patient's perceived health versus diagnosed conditions.

In two articles, advanced practice nurses reported on patient education programs aimed at reducing modifiable risk factors such as smoking, diabetes and obesity in people with mental illness (Littrell, Hilligoss, Kirschner, Petty, & Johnson, 2003; Vreeland, 2007). The results of these intervention programs are impressive and important for improving treatment of physical conditions in the seriously mentally ill population.

The literature supports that there is an increase in physical illness and decreased lifespan in the SMI population. System, provider and patient issues contribute to this problem. Guidelines have been developed to address basic health screening that should take place in a mental health setting, but barriers exist to full implementation. A program to change the standard model of care, focusing on metabolic syndrome, is a positive step toward combating metabolic syndrome, a major contributor to the health crisis. The evaluation of this program will add to the body of literature needed to improve health in this vulnerable population. Remington (2006) in an editorial in the *American Journal of Psychiatry* states that "new programs may be required to achieve such a goal" (p. 1133). He goes on to state that guidelines have now been issued to help, but "unfortunately, this knowledge has not yet been translated into clinical practice" (p. 1133).

This project extends current research to the evaluation of a new model of care, screening within a mental health clinic and focuses on the positive contribution nursing can make. Druss (2007) and Parks (2007) noted that the time to perform the additional screening that the guidelines require and funding as barriers to implementation. The evaluation of this program of RN screening within a mental health setting would begin to address both of those barriers. Working as a team RNs, PMHNPs and psychiatrists could systematically implement the guidelines. A future cost analysis of the program may support continued funding of such efforts and expand the program's reach.

*Agency Practice Improvement Project*

The practice improvement project that was the subject of this evaluation took place at one clinic of a multisite mental health agency. The project was comprised of a screening for metabolic syndrome followed by referral for treatment to a primary care provider (PCP) for those found to be metabolic syndrome positive. The clinical staff included two psychiatrists, one psych/mental health nurse practitioner (PMHNP), 3-6 case managers and one RN. The agency's clinical and medical directors were concerned about the physical health of the SMI population and had received a one year practice improvement project (PIP) grant from the county health department. At one site, high users of state Medicaid medical funds were assisted by an RN to find a PCP for their ongoing medical needs. The RN also provided basic health education and referral.

The metabolic syndrome screening practice improvement project dovetailed with the agency's mission to improve the physical health of the SMI population. Implementation of the clinic's metabolic screening program involved the psychiatric providers, the RN in collaboration with the case managers, who worked with the patients on a weekly or biweekly basis. During the clinic's weekly clinical staff meetings, patient referrals and relevant findings were discussed.

One of the challenges to project implementation was that this mental health agency uses a medical case management model, with no RNs. The RN position was temporary and funded in part by the PIP grant. Another challenge was patient referral for screening. Due to the large caseload for the psychiatric providers, patients often were not seen more than every two to three months unless there was a problem. It was decided that the case managers would help facilitate initial screening by directing the patient to the RN after a case management appointment. Another challenge was coordinating laboratory work with the patient's primary care provider. One pharmacy that came to the clinic weekly to draw blood for clozapine screening, offered to perform 6 courtesy blood draws on that day and send to their laboratory for analysis. This was helpful for patients who did not want to go to another clinic.

### *Screening Population*

Adult patients in the SMI case management program at the clinic site and have risk factors for metabolic syndrome or already have a diagnosis of metabolic syndrome, were the population for screening. Patients referred for treatment to the PCP met at least three of the 5 criteria for metabolic syndrome, which are necessary for diagnosis (Sernyak, 2007). Initially patients with a co-occurring diagnosis of either mental retardation/developmental disability (MR/DD) or a primary diagnosis of substance abuse were not screened. Patients with mental retardation/ developmental disability diagnoses are seen infrequently at the clinic, in some cases only every 3 months. More frequent visits to the clinic would put undue stress on patients and caregivers. Substance abuse, when it is the primary disorder, significantly increases physical health risk beyond those of metabolic syndrome and may complicate the diagnostic process and treatment. These groups will receive standard care from their psychiatric provider as would anyone objecting to being screened by the RN.

### *Screening Procedure*

All patients in the agency received routine care which includes evaluating patients at risk for metabolic syndrome. The participants in the RN screening program were to be screened at baseline and 12 weeks. Patients found to meet the criteria for metabolic syndrome at any time during the program were referred for treatment to their PCP. Those without a PCP were referred to various PCP offices known to be accepting patients. For patients who were referred to a PCP and treated with medication for hypertension, diabetes or dyslipidemia, baseline measurements would be compared to measurements three months after treatment began (see Appendix A for screening criteria and protocol).

Psychiatric providers received a complete list of all patients currently registered in the SMI program and determined that all needed to be screened as the majority were on medications known to cause weight gain or other metabolic complications. The next step was to identify the patient's next

scheduled appointment to see if it fell within the evaluation project timeline in order to get baseline measurements on as many patients as possible. The appointment could be with a psychiatric provider, case manager or the RN and that clinician would direct the patient to the RN office directly after the appointment. The RN reviewed each psychiatric provider's daily schedule and marked those needing to be screened so they could be directed to the RN at the end of the appointment. Typically, the day before, reminder phone calls are made to each scheduled patient. Additionally, this was done with laboratory draws to remind the patient of the appointment.

Once the patient was referred to her office, the RN followed a procedure to inform the patient and collect information. The RN explained metabolic syndrome, the screening process and provided a patient information sheet, which included the following: the reason for the screening, what metabolic syndrome is, what the screening entails and that their psychiatric provider has approved them to participate, if they choose. If they chose not to be screened by the RN at that time, they would continue to get usual care from their provider. The RN obtained demographic data, blood pressure, height, weight and waist circumference and arranged for lab work. The fasting procedure for lab work was explained and reinforced with a written reminder. Patient education forms are included in Appendix B. A release of information was obtained in order to communicate with the PCP, track PCP treatment for those patients referred to primary care and to obtain laboratory values. When a patient needed to be rescreened, at 12 weeks, they were to be notified by a phone call, or by his/her case manager or psychiatric provider at a concurrent appointment.

All clinical screening data was recorded in the patient medical record by the RN (see Appendix D). The agency uses an electronic medical record on a secure server, the agency intranet.

### *Screening Measures*

Metabolic syndrome is diagnosed if three of five criteria are present (Goff & Newcomer, 2007). The screening measures are: blood pressure, blood glucose, triglycerides, high density lipoproteins

(HDL), and waist circumference/ body mass index (BMI). Based on national guidelines, baseline measurements were taken on each participant. According to guidelines, BMI is recalculated at 4 and 8 weeks and at 12 weeks biologic measures are again collected. Thereafter BMI is obtained quarterly and all other measures annually if metabolic syndrome is not present. Otherwise, if positive for metabolic syndrome, BMI is calculated monthly and other measures of metabolic syndrome are obtained quarterly.

#### *Measures of BP, height, weight, BMI and waist circumference*

The non-invasive biomeasures were BP, waist circumference and BMI. All three measures were obtained by the RN. The RN was instructed on proper technique. Blood pressure was measured using one BP machine that was calibrated at the start of the study. The RN reviewed proper BP technique including arm positioning, proper cuff size and auscultation sounds to record. As it was suspected that a number of participants may be obese, a regular and large arm cuff was available take BP measurements. A tape measure was used for waist circumference and the method for measuring was just above the upper lateral border of the iliac crest, with the tape measure horizontal to the floor. It was to be snug, but not tight and the measurement taken at normal respiration. One calibrated scale was used for weight and height. Patient removed shoes prior to measurement. A BMI was determined using a calculator based on the participant's height and weight measurement.

#### *Laboratory measures*

Laboratory specimens were drawn when the patient is 12 hours fasting: blood glucose and a lipid panel. Certified laboratories of the patient's choice were utilized. One laboratory was available to draw lab specimens at the clinic on Tuesdays if the patient preferred. Patients with recent lab work (3 months) at their PCP office could request to use those results.

Quality assurance measures included pretesting the forms for ease of use and the patient information sheet for clarity. RN training for screening and data collection was completed. Equipment



was calibrated for accuracy at the beginning of the project and the RN and DNP student will practiced taking measures of BP, height, weight, waist circumference and using the BMI calculator. The program and procedure to be followed were explained to the clinicians.

A careful accounting of RN time on the project was performed using a log. This will help to demonstrate the benefit gained related to cost of the RN position. This information can be used for decision making about how to best utilize RN time if the program is to expand to other sites. If the data allows for it, cost effectiveness data could be computed and shared with the agency's stakeholders and county officials interested in the project.

## Methodology

### *Evaluation Protocol*

This practice improvement evaluation used a single group design to evaluate a mental health clinic practice improvement plan (PIP) utilizing an RN to screen for metabolic syndrome in a population of mentally ill adults at risk. Using chart review, the descriptive findings were compared to cases documented prior to the improved screening program and to national statistics on a comparable population. For those identified with metabolic syndrome, a single group prospective design was planned to compare biologic measures of metabolic syndrome in the group at baseline and twelve weeks after referral for treatment to primary care. This was not completed during the evaluation time period due to delays in initiating the screening process. Variables and study design are in Appendix C.

This evaluation approach answers the clinical questions of how the clinic's rate of metabolic syndrome compared to the national rate and if an RN screening program improves detection over usual care. Further evaluation is planned to determine if detection and referral for primary care treatment improves medical status as evidenced by measures of blood pressure, blood glucose, BMI/waist circumference, triglycerides and HDL as recorded in the medical record.

Evaluation using a comparison group design was not chosen as all patients at the clinic meeting criteria for inclusion were at risk for metabolic syndrome and its sequelae. Ethically, screening for metabolic syndrome is essential for quality patient care and must be available to all patients.

### *Study Questions*

#1 How does the prevalence of metabolic syndrome, in a mentally ill population in a community mental health clinic, compare to national statistics on metabolic syndrome in the SMI?

#2 Does an RN screening program for metabolic syndrome increase the detection of metabolic syndrome in a mentally ill population in a community mental health clinic?

#3 Does a screening and referral program for metabolic syndrome result in an improvement in measures of metabolic syndrome as recorded in the medical record?

### *Setting*

This evaluation project took place at one site of a multi-site private non-profit mental health clinic. This site was chosen due to the large population of patients with severe mental illness and the presence of the RN screening program at the clinic site.

### *Sample*

The evaluation data sample included all adult patients with SMI who were screened within the three month time period during the evaluation project. Sample size was dependent on patients, meeting eligibility criteria, who came in to the clinic and were screened during the data collection period. The clinic has a client base of SMI patients numbering approximately 425. Those meeting criteria for SMI without co-occurring disorders of MR/DD or primary substance abuse number approximately 300. The agency goal was to screen all at risk patients. The purpose of this program evaluation was to answer the above study questions.

*Evaluation Procedure*

This clinical inquiry project evaluated an improved clinic procedure to screen patients at risk for metabolic syndrome according to national guidelines. Data were collected during a 4 month period.

Data collected from the chart and the patient by the RN, described clinical characteristics of the population studied at entry into the screening project (Appendix E). These characteristics were gender, age, marital status, income, education, race/ethnicity, current smoking status and current psychiatric medications. After screening, the rate of metabolic syndrome in the sample was determined and compared to national statistics for the SMI population. Nationally, metabolic syndrome occurs in 30 to 42 percent of people with SMI (Suppes, McElroy & Hirschfeld, 2007).

The RN used the electronic records at the clinic to determine the number of patients with a primary diagnosis of severe mental illness. Diagnoses and additional patient characteristics such as age, gender, and income are contained in the electronic record. Those with a diagnosis of metabolic syndrome (MS) were noted to compare to numbers found after screening. Those patients with a concurrent MR/DD diagnosis or primary substance abuse diagnosis were removed from the list. The RN entered data on patient descriptive characteristics and biologic measures at baseline and recorded them on the two agency approved data collection forms using a code number for each record (Appendix E). The RN retained the list of patient names and code numbers and will destroy it when data analysis is complete.

Coded data and forms for analysis were kept in a secure locked location at the agency. Data analysis was performed on a computer supplied by the investigator. No data entered on the computer was identified. Data was analyzed using SPSS on the investigator's computer. The computer was transported securely from the agency only to the student investigator's home and university where the student met with faculty and statisticians. The university IRB approved the evaluation protocol.

### *Analytic methods*

Question #1 compared the rate of metabolic syndrome found in the sample population with the national statistic for metabolic syndrome in people with SMI. National statistics have a range of 30% to 42%. The design was a single group, post-test comparison to a benchmark and concerns the categorical variable of metabolic syndrome (MS) being present or not present. A binomial test was performed comparing rate of MS in the sample population to the national benchmark of 0.35.

For question #2, the number of patients already diagnosed with metabolic syndrome at the start of the practice improvement project was compared to the number of patients identified after the RN screening. A binomial test compared pre and post screening rates and is displayed in a table with percentages (see Table 2 in results section).

Question #3 was planned as a single group pretest/post test design with both categorical and continuous variables. The first variable, presence of metabolic syndrome post treatment by the PCP is categorical (present or not present) and rates at baseline and 12 week data will be compared. The continuous variables: systolic pressure, diastolic pressure, blood glucose, triglycerides, HDL, waist circumference and BMI will be analyzed with paired t-tests. Mean scores and standard deviations will be presented in a table with mean difference between pre and post measures analyzed for significance at the p.05 level. Current plans are to complete this analysis as the next step in this evaluation.

Descriptive statistics for demographic variables are displayed in a frequency distribution table (Appendix F, TableF1). These data identify trends in characteristics of patients identified with metabolic syndrome and its components. Range, means and group differences between the total sample and the MS positive group are reported for the continuous variables (Appendix F, Table F2).

### *Projected Cost Savings of Screening Program*

The major cost for the screening program is the salary of the RN. The salary is partially paid by a county PIP grant to improve physical health in the SMI population. This study could demonstrate the

cost benefits of using an RN to supplement the work of the psychiatric providers, who struggle to provide the best care given time constraints related to productivity and reimbursement. Equipment such as a scale, tape measure and BP machine and cuffs were a onetime cost and continue to be used at the clinic. Laboratory measures are routinely ordered by the psychiatric provider and the same process occurred during the RN screening program. The required laboratory work was covered by the patients' insurance or else was not obtained.

On a larger scale, there are initial costs to the health care insurers if the study causes more disease to be detected. However, the benefits of early treatment will outweigh the long-term costs associated with diabetes and cardiovascular disease.

Costs related to the evaluation of this PIP were the RN time to perform chart review, and the investigator's time to analyze the data and compile the evaluation report. Statistical consultation was provided by the investigator's university.

#### *Protection of human subjects/ethics*

This project evaluated a practice improvement to routine care delivery. Usual care continued for all patients at the clinic, with the patients with SMI at risk for metabolic syndrome receiving a provider-directed RN screening and referral. All clinical information collected for data analysis came from the patients' medical record or the patient. It was collected by the RN and entered on coded data forms.

Data collection and protection procedures have already been addressed in the data collection procedure section of this paper. Coded data were grouped to evaluate the effectiveness of the RN screening program. The evaluation results present descriptive grouped data with no individual information identified. At the local level, the agency involved in the data collection will be mentioned by name only by agreement of the agency.

#### *Plan for dissemination to key stakeholders*

The executive summary, of findings and recommendations from this clinical inquiry project will

be disseminated to the agency where the project took place. Preliminary findings have been presented to medical and clinical staff of the agency. Stakeholders at the County Health Department and the state Department of Human Services have expressed interest in the study results and recommendations and will be provided with the executive summary. The investigator will be available to present the findings if requested. Finally, dissemination at the national level will take place through conference presentations and journal publication of findings. The final report and local presentation will take place within 2 months of termination of the project.

*Timeline for evaluation:*

<p>10/1/2008                  Proposal, IRB,                  Plan &amp; test forms:                  SPSS variables</p>	<p>11/15  <u>After IRB approval:</u>                  Retrieve data                  Monthly reports                  Enter data                  Verify data</p>	<p>3/15-31                  Finish data analysis                  &amp;                  Interpret findings</p>	<p>April                  Write final                  report</p>	<p>May 4, 2008                  Submit final results                  Results to agency                  Prepare presentation</p>
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## References

- American Diabetes Association, American Psychiatric Association, American Association of Clinical Endocrinologists, North American Association for the Study of Obesity. (2004). Consensus Development Conference on antipsychotic drugs and obesity and diabetes. *Diabetes Care*, *27*, 596-601.
- Chavetz, L., White, M., Collins-Bride, G., Nickens, J., & Cooper, B. (2006). Predictors of physical functioning among adults with severe mental illness. *Psychiatric Services*, *57*(2), 225-231.
- Chwastiak, L., Rosenheck, R., McEvoy, J., Keefe, R., Swartz, M., & Lieberman, J. (2006). Interrelationships of psychiatric symptom severity, medical comorbidity, and functioning in schizophrenia. *Psychiatric Services*, *57*(8), 1102-1109.
- Citrome, L. & Yeomans. (2005). Do guidelines for severe mental illness promote physical well-being? *Journal of Psychopharmacology*, *19*(Suppl.6), 102-109.
- Colton, C. & Manderscheid, R. (2006). Congruencies in increased mortality rates, years of potential life lost, and causes of death among public mental health clients in eight states. *Preventing Chronic Disease: Public Health Research, Practice, and Policy*, *3*(2), 1-14. Retrieved February 16, 2008, from [http:// www.cdc.gov/pcd/issues/2006/apr/05\\_0180.htm](http://www.cdc.gov/pcd/issues/2006/apr/05_0180.htm)
- Daumit, G., Crum, R., Guallar, E., & Ford, D. (2002). Receipt of preventive medical services at psychiatric visits by patients with severe mental illness. *Psychiatric Services*, *53*(7), 884-887.
- Druss, B. (2007) Improving medical care for persons with serious mental illness: Challenges and solutions. *Journal of Clinical Psychiatry*, *68*(Suppl. 4), 40-44.
- Druss, B., Rohrbaugh, R., Levinson, C., & Rosenheck, R. (2001). Integrated medical care for patients with serious psychiatric illness. *Archives of General Psychiatry*, *58*, 861-868.

- Druss, B. & von Esenwein, S. (2006). Improving general medical care for persons with mental and addictive disorders: Systematic review. *General Hospital Psychiatry, 28*, 145-153.
- Goethe, J., Szarek, B., Caley, C., & Woolley, S. (2007). Signs and symptoms associated with the metabolic syndrome in psychiatric inpatients receiving antipsychotics: A retrospective chart review. *Journal of Clinical Psychiatry, 68*(1), 22-28.
- Goff, D. (2007). Integrating general health care in private community psychiatry practice. *Journal of Clinical Psychiatry, 68*(Suppl. 4), 49-54.
- Goff, D. & Newcomer, J. (2007). Integrating general health care in private and public psychiatry. *Physicians Postgraduate Press*. Podcast retrieved February 29, 2008, from [http://www.medfair.com/content/cme/lectures/eview/mentalhealth/goff\\_transcript/](http://www.medfair.com/content/cme/lectures/eview/mentalhealth/goff_transcript/)
- Hennekens, C. (2007). Increasing global burden of cardiovascular disease in general populations and patients with schizophrenia. *Journal of Clinical Psychiatry, 68*(Suppl. 4), 4-7.
- Howard, P., El-Mallakh, P., Rayens, M., & Clark, J., (2007). Comorbid medical illnesses and perceived general health among adult recipients of Medicaid mental health services. *Issues in Mental Health, 28*, 255-274.
- Kessler, R., Bergland, P., Demler, O., Jin, R. & Walters, E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the national comorbidity survey replication. *Archives of General Psychiatry, 62*, 593-602.
- Lester, H. & Tritter, J. (2005). "Listen to my madness": Understanding the experience of people with serious mental illness. *Sociology of Health & Illness, 27*(5), 649-669.



- Littrell, K., Hiiligoss, N., Kirschner, C., Petty, R., & Johnson, C. (2003). The effects of an educational intervention on antipsychotic-induced weight gain. *Journal of Nursing Scholarship, 35*, 237-241.
- Marder, S., Essock, S., Miller, A., Buchanan, R., Casey, D., Davis, J., et al. (2004). Physical health monitoring of patients with schizophrenia. *American Journal of Psychiatry, 161*(8), 1334-1349.
- McCarron, R., & Keenan, C. (2007). The metabolic syndrome. In R. Bermudes, P. Keck, & S. McElroy (Eds.), *Managing metabolic abnormalities in the psychiatrically ill* (pp.25-54). Washington, D.C.: American Psychiatric Publishing.
- McEvoy, J., Meyer, J., Goff, D., Nasrallah, H., Davis, S., Sullivan, L., et al. (2005). Prevalence of the metabolic syndrome in patients with schizophrenia: Baseline results from the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) schizophrenia trial and comparison with national estimates from NHANES III. *Schizophrenia Research, 80*, 19-32.
- Miller, C., Druss, B., Dombrowski, E., & Rosenheck, R. (2003). Barriers to primary medical care among patients at a community mental health center. *Psychiatric Services, 54*(8), 1158-1160
- Miller, B., Paschall, C., & Svendsen, D. (2006). Mortality and medical co-morbidity among patients with serious mental illness. *Psychiatric Services, 57*(10), 1482-1487.
- Nasrallah, H., Meyer, J., Goff, D., McEvoy, J., Davis, S., Stroup, S., et al. (2006). Low rates of treatment for hypertension, dyslipidemia and diabetes in schizophrenia: Data from the CATIE schizophrenia trial sample at baseline. *Schizophrenia Research, 86*, 15-22.
- National Institute of Mental Health [NIMH]. (n.d.) Statistics: Impact of mental illness on society. Retrieved, February 3, 2008, from <http://www.nimh.nih.gov/health/statistics/index.shtml>

- Newcomer, J. (2006). Medical risks in patients with bipolar disorder and schizophrenia. *Journal of Clinical Psychiatry*, 67(Suppl. 9), 25-30.
- Parks, J. (2007). Implementing practice guidelines: Lessons from public mental health settings. *Journal of Clinical Psychiatry*, 68(Suppl. 4), 45-48.
- Parks, J., Svendsen, D., Singer, P., & Foti, M. (2006). Morbidity and mortality in people with serious mental illness. NASMHPD. Retrieved April 8, 2008, from [http://www.nasmhpd.org/general\\_files/publications/med\\_directors\\_pubs/Technical%20Report%20on%20Morbidity%20and%20Mortality%20-%20Final%2011-06.pdf](http://www.nasmhpd.org/general_files/publications/med_directors_pubs/Technical%20Report%20on%20Morbidity%20and%20Mortality%20-%20Final%2011-06.pdf)
- President's New Freedom Commission on Mental Health. (2003). *Achieving the Promise: Transforming Mental Health Care in America. Final Report*. DHHS Pub. No. SMA-03-3832. Rockville, MD. Retrieved April 12, 2008, from <http://www.mentalhealthcommission.gov/reports/FinalReport/FullReport.htm>
- Remington, G. (2006). Schizophrenia, antipsychotics, and the metabolic syndrome: Is there a silver lining? *American Journal of Psychiatry*, 163, 1132-1134.
- Rubin, A., Littenberg, B., Ross, R., Wehry, S., & Jones, M. (2005). Effects on processes and costs of care associated with the addition of an internist to an inpatient psychiatry team. *Psychiatric Services*, 56(4), 463-467.
- Salsberry, P., Chipps, E., & Kennedy, C. (2005). Use of general medical services among Medicaid patients with severe and persistent mental illness. *Psychiatric Services*, 56(4), 458-462.
- Schinnar, A., Rothbard, A., Kanter, R., & Jung, Y. (1990). An empirical literature review of definitions of severe and persistent mental illness. *American Journal of Psychiatry*, 147(12), 1602-1608.

- Sernyak, M. (2007). Implementation of monitoring and management guidelines for second-generation antipsychotics. *Journal of Clinical Psychiatry, 68*(Suppl. 4), 14-18.
- Sullivan, G., Han, X., Moore, S. & Kortrla, K. (2006). Disparities in hospitalization for diabetes among persons with and without co-occurring mental disorders. *Psychiatric Services, 57*(8), 1126-1131.
- Suppes, T., McElroy, S., & Hirschfeld, R. (2007). Awareness of metabolic concerns and perceived impact of pharmacotherapy in patients with bipolar disorder: A survey of 500 US psychiatrists. *Psychopharmacology Bulletin, 40*(2), 22-37.
- Vreeland, B. (2007). Bridging the gap between mental and physical health: A multidisciplinary approach. *Journal of Clinical Psychiatry, 68*(Suppl. 4), 26-33.
- Weiss, A., Henderson, D., Weilburg, J., Goff, D., Meigs, J., Cagliero, E., et al. (2006). Treatment of cardiac risk factors among patients with schizophrenia and diabetes. *Psychiatric Services, 57*(8), 1145-1152.
- Wulsin, L. Soellner, W., & Pincus, H. (2006). Models of integrated care. *Medical Clinics of North America, 90*, 647-677.

## Appendix A

## Screening Criteria

Table A1

*Screening Criteria for Metabolic Syndrome*

Clinical Measure	Referral criteria*	Comments for interventions
Blood pressure	≥130/85	
Blood glucose	Fasting ≥ 110 mg/dL	Teach sx of DKA. Switch med if worsening FBG.
Triglycerides	≥150mg/dL	Switch med if worsening
HDL	<40 mg/dL male <50 mg/dL female	Switch med if worsening
BMI Waist circumference	>40 males >35 females	Intervene if BMI increase 1 unit patient is overweight 25-29.9 or obese ≥30

\*Three criteria must be met for the diagnosis of metabolic syndrome

(Goff, 2007; Goff & Newcomer, 2007; Sernyak, 2007)

Table A2

*Monitoring Protocol for Patients at Risk for Metabolic Syndrome*

Parameter	Baseline	4 weeks	8 weeks	12 weeks	Quarterly	Annually	Every 5 years
History	X					X	
Weight/BMI	X	X	X	X	X		
Waist circum	X					X	
Fasting plasma glucose	X			X		X	
Blood pressure	X			X		X	
Fasting lipids	X			X		X	X

(Goff & Newcomer, 2007)

## Appendix B

### Metabolic Syndrome Screening Forms for Patient and PCP

#### **What is metabolic syndrome?**

Metabolic syndrome is not a disease itself, but a collection of several physical problems that when they occur together, are called metabolic syndrome.

These problems are: obesity/overweight, high blood pressure, high triglycerides (“fat” in the blood), a low amount of “good” cholesterol and high blood sugar. If you have at least three of these problems, you are considered to have metabolic syndrome.

#### **Who is at risk?**

Psychiatric medications (antipsychotics, mood stabilizers) can contribute to having the disorders. Another factor is the lack of exercise and poor eating habits. Because of the connection with psychiatric medicines, it is best for mental health practitioners to screen all of their patients on a regular basis.

#### **What can I do to help?**

Any time your primary care providers does lab tests, ask him or her to send the results to our clinic to review. This helps us to stay aware of your health status.

Tell your mental health physician or nurse practitioner if you are having health problems or are on any new medicines and who your provider is. You can sign a release of information so we can talk to your provider and coordinate your care.

Eat healthy food every day and reduce your portion size. Avoid in between meal snacks.  
Exercise every day for 30 minutes (walking counts!)  
Get a good night’s sleep!

#### **So what is this screening?**

The screening is a way for us to check your health on a regular basis. It is exactly what your provider does, but this way we make sure it is done on a regular basis and can spot problems more easily.

The nurse will take your blood pressure, get your height and weight and measure your waist. Then she will schedule lab work for you either at your primary care clinic or our clinic (on Tuesdays). If you do not have a primary care provider, she may be able to help you find one.

Before the lab work, you must not eat or drink anything but water after 12 midnight the night before. After the lab draws your blood, you can resume your usual activities.

#### **How will I find out the results?**

Your provider here at the clinic will keep you informed about everything we learn from the screening.

#### **What if I don’t want to be screened?**

Your mental health physician or nurse practitioner will explain to you the importance of being screened for metabolic syndrome. Like anything your provider prescribes, you always have the choice not to follow his or her advice. Your provider will still continue to care for your mental health needs.



## HOW TO GET YOUR LAB WORK

If you need to be FASTING for your lab work:

1. Do not eat or drink anything but water after midnight the night before.
2. You may take your medication with water.
3. Coffee is ok as long as you use no cream or sugar.
4. After the lab work you can eat and drink normally.

If you are getting a BLOOD LEVEL of your medication:

1. Take your bedtime medicine, but not your morning medication
2. There should be about 10-12 hours between when you last took your medicine and your morning lab work
3. After the lab work you may take your medicine if the RN says it's ok.

If you are getting FASTING lab work AND a medication BLOOD LEVEL:

1. Do not eat or drink anything except water after midnight the night before.
2. Take your bedtime medications as long as it is 10-12 hours before the lab work.
3. Do not take your morning medication.
4. Bring your morning pills with you and if you are hungry, bring a snack.
5. You can take your pills and eat afterwards if the RN says it's ok.

REMEMBER:

- Take your bedtime medicines at \_\_\_\_\_ o'clock with water.
- Don't eat or drink after midnight.
- Don't take your morning \_\_\_\_\_.
- Bring your pill and a snack with you in the morning.

Re:

Date:

Dear Primary Care Provider:

\_\_\_\_\_ is screening for metabolic syndrome in all of our clients at the \_\_\_\_\_ site. This is based on recent studies that show a decrease in life expectancy in the mentally ill of up to 25 years. We are using the consensus guidelines developed by the American Diabetes Association, American Psychiatric Association, American Association of clinical Endocrinologists and the North American Association for the Study of Obesity (2004) for our screening criteria.

If the person has three of the following 5 components of metabolic syndrome, we are referring him/her to the primary care providers for evaluation and treatment.

Component of Metabolic Syndrome	Referral criteria	This patient
Hypertension	Systolic $\geq 130$ <u>or</u> Diastolic $\geq 85$	
Obesity	BMI $\geq 25$ <u>or</u> Waist circumference M $> 40$ F $> 35$	
Hypertriglyceridemia	$\geq 150$	
Low HDL	M $< 40$ F $< 50$	
Hyperglycemia	$\geq 110$	

If the person already has documented hypertension, diabetes, hypertriglyceridemia or low HDL, we will not retest, but consider that component positive.

We are requesting that you inform us of any treatments related to this referral so we can coordinate the best integrated treatment for our clients. We will continue our screening program and inform you of any changes as appropriate for care. A release of information is attached that includes our phone, fax number and address. Thank you for attention to this matter of concern to our mutual client.

Sincerely,

Jon Betlinski, MD

Margaret Scharf, PMHNP

## Appendix C

## Variables and Study Design

Table C1

*Variables to be Measured with Referral Criteria*

<b>Variable</b>	<b>Measurement</b>	
Metabolic syndrome (MS): detection	# detected	
referral	# referred	
treatment	# in treatment	
		<b>Referral criteria*</b>
*Systolic BP	BP, calibrated machine, arm positioning, cuff size	≥130
*Diastolic BP		≥ 85
*Blood glucose	Fasting lab	≥110 mg/dL
*HDL	Fasting lab	male<40, female<50
*Triglycerides	Fasting lab	≥150 mg/dL
*Waist circumference	Tape measurement: Above iliac crest, horizontal to floor.	male>40, female >35
*BMI	Weight/height BMI calculator	1 unit increase or BMI ≥ 25
Metabolic syndrome	Present with 3 or more*	
Time measurements		



Table C2

*Variables, Measures and Attributes*

Variable	Measure	Measurement	
<b>Question #1</b>			
Metabolic syndrome (MS): detection	DV categorical nominal	Yes/no (# detected)	
<b>Question #2</b>			<b>Referral criteria*</b>
*Systolic BP	DV continuous interval	BP, calibrated machine, arm positioning, cuff size	≥130
*Diastolic BP	DV continuous interval		≥ 85
*Blood glucose	DV continuous interval	Fasting lab	≥110 mg/dL
*HDL	DV continuous interval	Fasting lab	male<40, female<50
*Triglycerides	DV continuous interval	Fasting lab	≥150 mg/dL
*Waist circumference	DV continuous interval	Tape measurement: Above iliac crest, horizontal to floor.	male>40, female >35
*BMI	DV continuous interval	Weight/height BMI calculator	1 unit increase or BMI ≥ 25
Metabolic syndrome	DV categorical nominal	Present yes/no	
Time measurements	IV	Baseline & 12 weeks	

## Attributes:

Age  
Gender  
Marital status  
Race/ethnicity  
Income  
Education  
Current smoker?  
Current psych meds

Table C3

*Study Design*

#1 How does the prevalence of metabolic syndrome, in a mentally ill population in a community mental health clinic, compare to national statistics on metabolic syndrome in the SMI?

Design: (prospective)  $X \quad Y$  [where  $Y_B$  represents the national benchmark]  
 $Y_B$

#2 Does an RN screening program for metabolic syndrome increase the detection of metabolic syndrome in a mentally ill population in a community mental health clinic?

Design: (retrospective/prospective) rates prescreening and post screening  $Y \quad X \quad Y$

#3 Does a screening and referral program for metabolic syndrome result in an improvement in measures of metabolic syndrome?

Design: (prospective)  $Y \quad X \quad Y$

Appendix D

Agency Metabolic Screening Form

**Metabolic Screening Form**

Patient: \_\_\_\_\_ Psychiatric provider: \_\_\_\_\_ ID# \_\_\_\_\_

PCP: name, address, phone number (add to list of PCPs):

Date initiated \_\_\_\_\_ 12 week date: \_\_\_\_\_

*	BP systolic		≥130		
	BP diastolic		≥85		
	Height (in)				
	Weight (lb)				
*	BMI		≥25		
	waist		>40 m >35 f		
	Date refer to lab: Lab & phone #: Explain fasting to pt: Y N Date results:            12 weeks date:			Date refer to lab: Lab & phone #: Explain fasting to pt: Y N Date results:	
*	FB glucose		≥110		
*	Triglycerides		≥150		
*	HDL		<40 m < 50 f		
	Metabolic syndrome? Y N Notify MD/NP? Y N    Labs to MD/NP? Y N		3 of 5*	Metabolic syndrome? Y N Notify MD/NP? Y N    Labs to MD/NP? Y N	
	Referral to PCP? Y N ROI? Y N    Info sent? Y N Date appt:		Comments: Psych med changes since initial screen?		
	Date PCP report received: Report to MD/NP: Y N		Date PCP report received: Report to MD/NP: Y N		

Appendix E

Evaluation: Data Collection Forms

**Data Collection Form/Patient information**

Date: \_\_\_\_\_

Subject ID#: \_\_\_\_\_

Diagnosis: Axis I \_\_\_\_\_ Axis III \_\_\_\_\_

Age: \_\_\_\_\_

Sex:            male            female

Marital Status:    single            married            divorced            separated            widowed

Race/Ethnicity:

Non-Hispanic or Latino    Hispanic or Latino

Black or African American

Asian

Native Hawaiian or Pacific Islander

Native Indian or Alaska Native

Income: \_\_\_\_\_

Education:    less than HS    HS degree    beyond HS    college degree

Current smoker?    Yes    No

Psychiatric medications taking now and dose:

Initials data collector: \_\_\_\_\_

**Data Form: Metabolic syndrome values:**

Subject ID # \_\_\_\_\_

Date of first screening: \_\_\_\_\_ Is this data from: **Baseline** or **12 week FU (circle one)**

Systolic pressure \_\_\_\_\_

Diastolic pressure \_\_\_\_\_

Waist circumference \_\_\_\_\_ inches

Height \_\_\_\_\_ inches

Weight \_\_\_\_\_ lbs.

BMI \_\_\_\_\_

Fasting glucose \_\_\_\_\_

Fasting triglycerides \_\_\_\_\_

Fasting HDL \_\_\_\_\_

**FOR 12 WEEK FOLLOW-UP:**

Psychiatric med change since baseline? Yes No

List medication change: \_\_\_\_\_

Initials data collector: \_\_\_\_\_

Running Head: CLINICAL REPORT ON METABOLIC SYNDROME SCREENING

Clinical Inquiry Report:

Results of an Evaluation of a Metabolic Syndrome Screening Program

In an Outpatient Mental Health Clinic

Margaret Rhoads Scharf, MS, PMHNP, FNP

May 4, 2009

Evaluation of a Screening Program for Metabolic Syndrome  
In an Outpatient Mental Health Clinic  
Margaret Rhoads Scharf, PMHNP, FNP  
Doctor of Nursing Practice Candidate, OHSU School of Nursing

Estimates show a reduced life expectancy of 25 years for people with major mental illness (Colton & Manderscheid, 2006). Metabolic syndrome (MS) is reported in 30 to 42% of adults with mental illness compared to 24% of the general population. Early detection and treatment may prevent cardiovascular disease, the most common cause of death (Suppes, McElroy, & Hirschfeld, 2007). Best practices in psychiatry call for screening all patients at risk for metabolic syndrome. However, time and productivity expectations prevent providers from fully implementing the guidelines (Miller, Druss, Dombrowski, & Rosenheck, 2003).

This practice improvement project evaluated a metabolic syndrome screening program in a community mental health clinic. Two questions were asked: 1) how does the clinic rate of MS in adults with SMI compare to the national average among a comparable population and 2) does an RN screening program identify more MS cases than an individual provider approach to diagnosis? A total of 286 at risk patients with a primary diagnosis of major mental illness were eligible to be screened. Those found to be MS positive were referred to primary care providers for treatment. An evaluation of the project was completed after a 3 month screening period.

One hundred patients were screened, with 55% of the sample found to have MS. Seventeen were referred to a primary care provider for treatment. Before the screening program, using record review, 6% of the eligible population was identified as MS positive. After the screening, 55% of the sample was identified as MS positive. T-tests identified significant differences between the two groups (with and without MS). Abnormal waist circumference and elevated BMI were present in most of the MS positive patients. These two relevant measures can easily be obtained in the mental health clinic. Obtaining laboratory tests was the most difficult and time consuming part of the project. Reasons for not obtaining these tests varied from patient issues to difficulty communicating with the primary care office (PCP) and need further attention to improve patient care. A cost effectiveness analysis of the screening program will be performed.

## Results

### *Sample*

To be included in the screening program, the patient needed a primary diagnosis of severe mental illness (SMI) and needed to be considered at risk for metabolic syndrome. Because the clinic served only people with severe mental illness and the majority of the patients were on medications that increased the risk of developing metabolic syndrome, a decision was made by the medical director to screen all patients. There were 303 possible patients identified after the initial records review by the clinic RN. A total of 263 patients were eligible for inclusion in the screening. The project timeline was to evaluate the data collected from November 27, 2008 to March 30, 2009. A total of 100 patients were screened by the deadline. Patients continue to be screened at the clinic but could not be included in this analysis.

The patient data were collected using two written data sheets completed by the RN for the investigator to analyze (Appendix E). Each patient's data was associated with a number code and the key to the code was kept by the RN in a secure, locked location at the agency. The university IRB approved the data collection and analysis procedures used in the evaluation of the screening program.

Fourteen patients had incomplete data and were not included in the evaluation project. These patients had begun the screening process, but had not completed enough of the screening to make a determination of metabolic syndrome (MS) status. There were incomplete data on 11 patients due to lack of insurance coverage for the laboratory measures, failure to obtain the laboratory measures, or inability to receive the laboratory results from the primary care clinic. However, determination of metabolic syndrome status was possible. Of the 47 patients who were determined to be positive for metabolic syndrome, 22 were considered "in remission." "In remission" was defined as having at least 3 components of metabolic syndrome, but at least one of the positive components was controlled by medication.



Table 1

*Summary of Reason for Incomplete Data in the Metabolic Screening Program*

Reason for Incomplete Data	<i>n</i>
No insurance for lab work	3
Patient refused or did not get lab work	16
PCP did not fax lab work/wrong labs	2
Patient lost to follow-up	2

*Findings*

The first clinical inquiry question compared the prevalence of metabolic syndrome in the sample population to the national average in a comparable population. The benchmark used for analysis was 35% which was selected based on rates in the literature from 30 to 42% for people with SMI treated in outpatient mental health settings (Suppes, McElroy & Hirschfeld, 2007). Metabolic syndrome was present in 55% ( $n = 47$ ) of the clinic sample.

The second clinical inquiry question compared the number of patients identified with metabolic syndrome before implementation of the RN screening program to the number identified after its implementation. From the RN's review of records prior to the screening program, one patient was identified with metabolic syndrome and 14 more met the criteria based on diagnoses in the record. However, none of these 14 was diagnosed with metabolic syndrome. Prior to the screening program, only 6% ( $n = 15$ ) of the 263 clinic patients eligible for screening were diagnosed with MS. After implementation of the screening program, 55% or 47 of 86 patients on whom a determination could be made were determined to meet the criteria for metabolic syndrome.

Table 2

*Patients Diagnosed with Metabolic Syndrome Before and After RN Screening Program*

	Metabolic Syndrome Diagnosis	Data in Record Suggestive of MS	% positive
Before RN screening program (n = 263)	1	14	6%
After RN screening program (n = 86)	47	n/a	55%

The third inquiry question compared patients' baseline measures with their measures three months after PCP treatment was begun for patients with MS. In the clinic sample, 47 patients were determined to have metabolic syndrome. Of those, 18 were referred to a PCP and 2 refused follow up care. By the end of the evaluation timeline for the project, 9 had seen the PCP, were treated, and follow-up records were received. However, post follow-up data at 3 months were unavailable due to delays implementing the screening process due to IRB approval delays. Of the 47 MS positive patients, 22 were under treatment for at least one component (in remission if less than 3 components were currently positive), 2 refused treatment, 11 were referred to their PCP, and 9 who did not have a PCP were provided with a PCP referral.

Those in remission, who were under treatment for one component and were found to have additional positive components, were informed and a letter was prepared for their PCP. Of the 9 provided with a referral to a PCP, none followed through with an appointment.

Table 3

*Disposition of MS Positive Patients (n= 42)*

Disposition	n (%)
Already under treatment for component	23 (49)
Refused PCP treatment	2 (4.5)
Referred to own PCP and treated	11 (23)
Needed PCP referral	9 (19)
Moved from area/to another clinic	2 (4.5)

Descriptive analysis using SPSS revealed that age ranged from 20 to 72 years of age ( $M = 48$ ,  $SD = 12.16$ ). The sample was evenly divided between male and female. The majority of patients were Caucasian, non-Hispanic. Most patients (75%) were single, divorced, or separated. The modal income range (category) was \$601-1000 per month reflecting clinic eligibility criteria for lower income. The majority of the sample had a high school education or beyond (85%). Sixty percent were smokers although the RN reported that many stated they wanted to quit. Appendix F, Tables 1 displays these data.

The range and mean value for each of the continuous metabolic syndrome variables in the total sample, the sample diagnosed with metabolic syndrome (MS positive), and the remaining patients not diagnosed with MS (MS negative) can be found in Appendix F, Table 2. T-tests to evaluate the differences between the MS positive and the MS negative groups are provided in the same table. T-tests of biomeasures between the MS positive and the MS negative groups revealed significant differences between groups on all variables except age.

Metabolic syndrome variables were recoded as positive or negative for each subject and the number and percent of the total sample and the MS positive patients meeting each screening criteria were calculated. Among the MS positive patients, more than 70% met all of the following criteria: abnormal waist circumference, BMI, HDL, and triglycerides. Furthermore, 100% of MS positive women met the criterion for abnormal waist measurement. Of the total sample, more than 70% met the BMI criterion and 84% of women met the criterion for waist circumference. Appendix G displays these data, and Figure 1 displays the percent of MS positive patients who met each of the MS criteria.

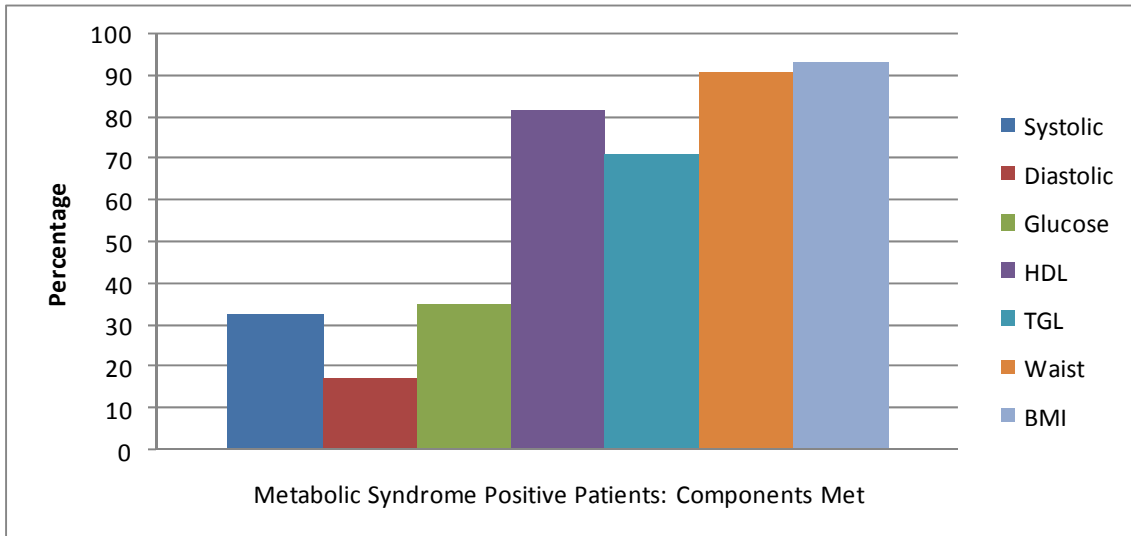


Figure 1. Percent of MS positive patients having each screening component of the syndrome

Figure 2 displays the number of MS components met by the total sample. Moreover, 20% of the total sample met the criteria for two or more components, demonstrating significant risk for metabolic syndrome.

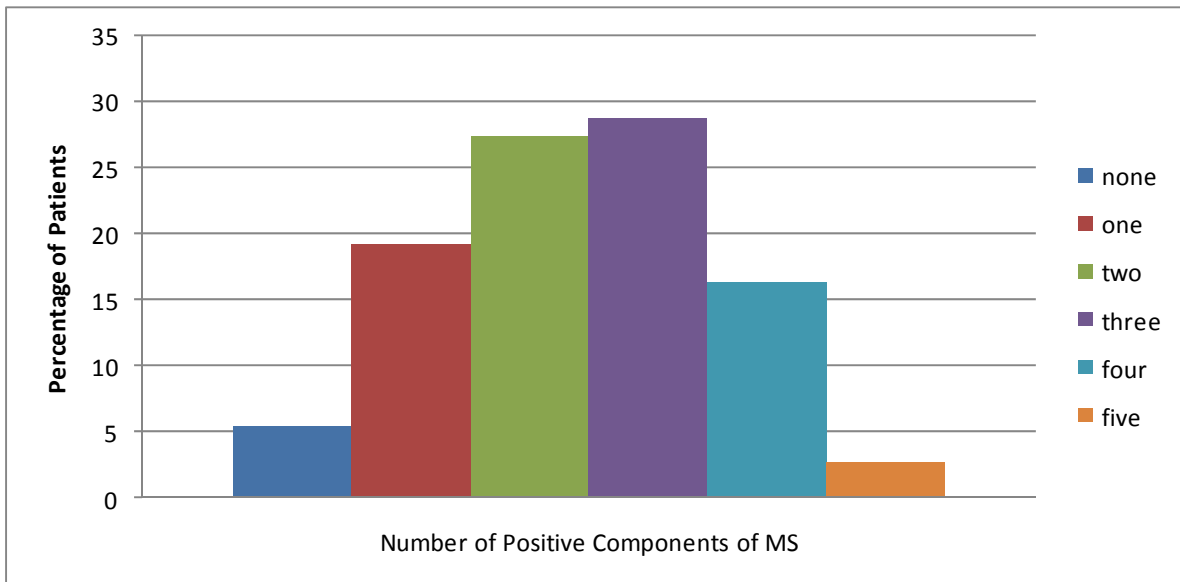


Figure 2. Number of MS criteria met by the total sample

*Financial Considerations*

The results of this project could have a significant impact on the cost of health care. Two issues are evident. First, treating the illnesses, once they are identified in this population through a systematic screening program, must be considered. MS is, in part, related to the treatment of the mental illness but evidence indicates that weight gain and obesity were concerns in patients with schizophrenia even before the advent of treatment with second generation antipsychotics (Ganguli, 2007). Second, the costs of treating the long term consequences of diabetes, hypertension, dyslipidemias, and cardiovascular disease escalate dramatically when there is no early case finding or preventive measures. Early case finding and prevention do have a cost but, in the long run, they prevent morbidity and mortality, and improve quality of life.

On an agency level, screening requires time and money. MS screening in people with SMI is consistent with the agency's vision to provide quality, evidence-based care, while containing costs. One finding was that the RN time used to perform the screening could be reimbursed as RN case management. On the other hand, much of the follow-up associated with each screening to obtain laboratory work and coordinate with the PCP was not billable. The screening itself took approximately 15 minutes initially; however, review of records and follow-up was time intensive despite in-agency electronic records. A more complete cost benefit analysis is planned as the next step using the time log completed by the RN. Follow-up time could be reduced with more easily available laboratory access and improved communication with PCPs.

*Situational Analysis*

The metabolic syndrome screening program and evaluation project proceeded well, mostly because of strong agency support. Support from the agency medical and clinical directors, clinic psychiatric providers, the clinic RN, and the case managers was essential throughout the process. When the idea for the project was presented, the agency administration

fully supported the investigator's plan and the use of the RN at the clinical site to conduct the screening was crucial to the success of the project. The agency, agreed to pilot utilizing RN services to systematically screen for MS in place of the less systematic individual psychiatric provider screening being done at that time. This investigator suggested ways in which an RN could bill for services and the agency continued to explore reimbursement issues throughout the project. The RN kept a log of her time on the parts of the project, providing the investigator data to perform a cost effectiveness analysis once the project was completed. The results for the agency have exceeded expectations and have demonstrated the benefit of RN screening services to the agency, providers, and patients.

#### *Outcomes*

The preliminary results of the screening program have been presented to the psychiatric providers. Discussion ensued as to how the agency could utilize the findings to improve care for the patients in the agency. It was acknowledged that using an RN to work with the psychiatric providers was beneficial. Furthermore, there were preliminary data to demonstrate that it could be cost effective. Already the electronic record has been updated to allow laboratory results to be entered on one page in the record, which was not possible previously. The agency is considering changes in collecting laboratory tests to improve obtaining timely results and to increase the number of patients who follow through with laboratory work. The state Addictions and Mental Health Division integration assistant has requested the project results to consider in formulating an ongoing plan to integrate mental health and primary care statewide.

#### Discussion

#### *Context*

The findings are supported by the literature reviewed in the project protocol. The prevalence rate of 55% for MS was found in the mental health clinic which exceeds the national rates of 30 to 42% (Suppes et al, 2007). The reasons for this high prevalence are not clear.

Because the agency recently assumed the operation of the clinic, the findings are based primarily on another agency's practice. The transfer of care from one agency to another made record review difficult. The records were scanned as one document which made it hard to pinpoint sought after information in the old records. Thus, 6% is a conservative estimate for those identified with MS prior to implementation of the screening program, as some cases may have been missed due to difficulty reviewing past records. The psychiatric providers who assumed the care of this large panel of patients had little time to influence prescribing practices. Their main concern was to keep the current patient population as stable as possible until all had been seen by a new provider.

### *Interpretation*

The findings indicate that this agency exceeds the national prevalence rate for metabolic syndrome in a population with major mental illness. Additionally, an RN screening program was able to significantly increase the identification of patients determined to be MS positive. This lends support to utilizing an RN to assist in implementing the MS screening guidelines. Patients in a community mental health clinic have significant physical health challenges that may only be recognized during visits to the mental health clinic where they are likely to be the most comfortable and visit the most frequently. Clearly, the additional tasks of physical health screening and monitoring are made difficult in community psychiatry by a number of factors, including but not limited to time and productivity requirements for providers. It makes sense to utilize each team member to the fullest capacity and scope of practice to provide the most comprehensive services for the patients.

Of interest is that 85% of these clinic patients have at least a high school education. Only 8% are married, a reflection of the social issues that can be so devastating to persons with a major mental illness.

A concern arising from the findings is the number of patients who already have two of the MS components. They are in need of prevention and health promotion activities to prevent them from developing yet another MS component. While three components were designated as the criteria for a diagnosis of MS, the effects are synergistic rather than merely summative. Having two of the components of MS signals the need for preventive intervention. The component we are most aware of in the mental health setting is obesity. We now have the results of studies (McEvoy, Meyer, Goff et al., 2005; Sernyak, 2007; Suppes et al. 2007) to guide prescribing of medications less likely to cause weight gain and dyslipidemias. However, it is not always feasible to avoid prescribing medications that increase MS risk, and other interventions may be necessary.

There is also a need for change in policy at the local and state level that allows providers to take the time to counsel patients about healthy practices and be reimbursed appropriately. Having separate reimbursement regulations for interventions by physical health providers and mental health providers does not promote health for vulnerable patients nor foster evidence based practice.

### *Limitations*

The agency directors and staff at the clinic site for this project were very supportive of the efforts to implement a practice improvement program. The evaluation of this program is timely, as current state health care reform legislation requires agencies to improve integration of mental health and primary care delivery. Financial considerations make it difficult to take on any project that will increase costs, so the findings need to be considered in relation to the agency's budget.

Detecting metabolic syndrome in remission was difficult. Patients often were unaware of their medical diagnoses and could not confirm the diagnosis in the record of, for example, dyslipidemia or hypertension. When the diagnosis of dyslipidemia was present with no



supporting documentation, it was not possible to say whether it was HDL or triglycerides that were abnormal.

### *Conclusions*

As a result of a presentation of the findings to the psychiatric providers at the agency, a dialogue is underway as an agency to improve detection and referral across clinic sites. Team collaboration that includes therapists and case managers in this way further extends holistic care to the population of people with major mental health challenges. The case manager's contact is often the most frequent and they are an important source of information and referral for patients. Obesity is one diagnosis that easily can be made by having a scale and tape measure in each office. While weight is monitored as a response to medication, more specific interventions will need to be made to counsel patients on nutrition, exercise, and weight reduction. A booklet is planned with teaching materials available for brief systematic intervention by the psychiatric providers to supplement the work of the case managers and PCP. Ideally, the presence of a RN, even part time, at each site to screen for health problems and provide health prevention and promotion interventions could improve best practice standards and expand the reach of health interventions in the mental health agency.

This report on the results of a screening designed, implemented, and evaluated by the DNP investigator is a testament to the value of the doctorate in nursing practice. The DNP, viewing health care from a broader perspective of systems, policy, context and scopes of practice promotes better outcomes and better care for patients.

## References

- Colton, C. & Manderscheid, R. (2006). Congruencies in increased mortality rates, years of potential life lost, and causes of death among public mental health clients in eight states. *Preventing Chronic Disease: Public Health Research, Practice, and Policy*, 3(2), 1-14. Retrieved February 16, 2008, from [http://www.cdc.gov/pcd/issues/2006/apr/05\\_0180.htm](http://www.cdc.gov/pcd/issues/2006/apr/05_0180.htm)
- Ganguli, R. (2007). Behavioral therapy for weight loss in patients with schizophrenia. *Journal of Clinical Psychiatry*, 68(Suppl. 4), 19-25.
- McEvoy, J., Meyer, J., Goff, D., Nasrallah, H., Davis, S., Sullivan, L., et al. (2005). Prevalence of the metabolic syndrome in patients with schizophrenia: Baseline results from the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) schizophrenia trial and comparison with national estimates from NHANES III. *Schizophrenia Research*, 80, 19-32.
- Miller, C., Druss, B., Dombrowski, E., & Rosenheck, R. (2003). Barriers to primary medical care among patients at a community mental health center. *Psychiatric Services*, 54(8), 1158-1160
- Suppes, T., McElroy, S., & Hirschfeld, R. (2007). Awareness of metabolic concerns and perceived impact of pharmacotherapy in patients with bipolar disorder: A survey of 500 US psychiatrists. *Psychopharmacology Bulletin*, 40(2), 22-37.

Appendix E

Evaluation: Data Collection Forms

**Data Collection Form/Patient information**

Date: \_\_\_\_\_

Subject ID#: \_\_\_\_\_

Diagnosis: Axis I \_\_\_\_\_ Axis III \_\_\_\_\_

Age: \_\_\_\_\_

Sex:          male          female

Marital Status:    single          married          divorced          separated          widowed

Race/Ethnicity:

    Non-Hispanic or Latino    Hispanic or Latino

    Black or African American

    Asian

    Native Hawaiian or Pacific Islander

    Native Indian or Alaska Native

Income: \_\_\_\_\_

Education:    less than HS    HS degree    beyond HS    college degree

Current smoker?    Yes    No

Psychiatric medications taking now and dose:

Initials data collector: \_\_\_\_\_

**Data Form: Metabolic syndrome values:**

Subject ID # \_\_\_\_\_

Date of first screening: \_\_\_\_\_ Is this data from: **Baseline** or **12 week FU** (circle one)

Systolic pressure \_\_\_\_\_

Diastolic pressure \_\_\_\_\_

Waist circumference \_\_\_\_\_ inches

Height \_\_\_\_\_ inches

Weight \_\_\_\_\_ lbs.

BMI \_\_\_\_\_

Fasting glucose \_\_\_\_\_

Fasting triglycerides \_\_\_\_\_

Fasting HDL \_\_\_\_\_

**FOR 12 WEEK FOLLOW-UP:**

Psychiatric med change since baseline? Yes No

List medication change: \_\_\_\_\_

Initials data collector: \_\_\_\_\_

## Appendix F

## Population Descriptive Data

Table F1

*Characteristics of the Sample*

Characteristic	Total Sample <i>n</i> (%)	MS positive <i>n</i> (%)
Gender		
Male	41 (48)	22 (47.8)
Female	45 (52)	24 (52.2)
Marital Status		
Single	53 (63)	29 (64.4)
Married	8 (9.5)	3 (6.7)
Divorced	19 (22.6)	11 (24.4)
Separated	3 (3.6)	1 (2.2)
Widowed	1 (1.2)	1 (2.2)
Income/month (\$)		
0-500	10 (11.6)	7 (15.2)
501-600	20 (23.3)	10 (21.7)
601-1000	49 (57)	25 (54.3)
1001-1500	7 (4.7)	4 (8.7)
Education		
Less than HS	13 (15.1)	8 (17.4)
HS (or GED)	47 (54.7)	25 (54.3)
Beyond HS	22 (25.6)	11 (23.9)
College	4 (4.7)	2 (4.3)
Ethnicity		
Non-Hispanic/ non-Latino	76 (88.4)	40 (87)
Hispanic/ Latino	6 (7.0)	3 (6.5)
Black/African American	3 (3.5)	2 (4.3)
Asian	1 (1.2)	1 (2.2)
Smoking Status		
Current smoker	52 (60.5)	27 (58.7)
Not current smoker	34 (39.5)	19 (41.3)
Psychiatric Diagnosis		
Schizophrenia	21 (24.4)	9 (19.6)
Schizoaffective disorder	24 (27.9)	13 (28.3)
Bipolar	20 (23.3)	11 (23.9)
Major Depression	16 (18.6)	10 (21.7)
Other	5 (5.8)	3 (6.5)

Table F2  
*Variable Range, Means and MS Positive/Negative Group Differences*

Variable	Range	Total Sample <i>M (SD)</i>	MS Positive <i>m (sd)</i>	MS Negative <i>m (sd)</i>	<i>t</i> – test results*
Age	20-72	47.59 (12.16)	49.85 (12.28)	45.41 (11.48)	<i>t</i> (83) = -1.71  <i>p</i> = .09
Systolic	84-158	119.27 (15.2)	123.96 (15.89)	113.26 (12.22)	<i>t</i> (82) = -3.4  <i>p</i> = .001
Diastolic	60-110	73.81 (10.15)	76.91 (10.41)	69.95 (8.62)	<i>t</i> (82) = -3.3  <i>p</i> = .001
glucose	51-273	103.91 (36.57)	115.93 (45.33)	89.95 (12.81)	<i>t</i> (78) = -3.4  <i>p</i> = .001
HDL	25-85	45.69 (15.24)	39.56 (11.81)	52.34 (15.89)	<i>t</i> (73) = 3.97  <i>p</i> = .000
TGL	56-511	186.39 (107.5)	227.39 (115.79)	144.27 (79.85)	<i>t</i> (73) = -3.6  <i>p</i> = .001
waist	29-60	42.74 (7.2)	46.48 (5.43)	38.49 (6.7)	<i>t</i> (83) = -6.07  <i>p</i> = .000
BMI	18-53	31.62 (8.43)	34.97 (8.09)	27.95 (7.14)	<i>t</i> (83) = -4.2  <i>p</i> = .000

\**p* < .05

## Appendix G

## Entire Sample and MS Positive Meeting Screening Component (Abnormal)

Screening Component	Total Sample ( <i>N</i> = 86) <i>n</i> (%)	MS positive ( <i>n</i> = 46) <i>n</i> (%)
Systolic	19 (22.4)	15 (32.6)
Diastolic	12 (14.1)	8 (17.4)
Glucose	16 (20.0)	15 (34.9)
HDL		
Males	21 (58.3)	16 (84.2)
Females	23 (59.0)	15 (78.9)
Triglycerides	39 (52.0)	27 (71.1)
Waist Circumference		
Male	22 (53.7)	18 (81.8)
Female	38 (84.4)	24 (100.0)
BMI	64 (74.4)	43 (93.5)

### Acknowledgements

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I would like to thank Professors Anne Rosenfeld, PhD, RN, CNS and Elena Siegel, PhD, RN for their unwavering encouragement and Dena Hassouneh, PhD, RN for her passionate global health perspective. My cohort of 10 “DNP pioneers” from this first class at OHSU School of Nursing are also to be credited for my success in this endeavor.

My family was behind me all the way but I must give a special thanks to my father, John Rhoads, MD, always a support, who at age 90 eagerly read my report, from beginning to end and responded with characteristic praise.





Margaret Rhoads Scharf, MS, PMHNP, FNP,  
DNP candidate May 19, 2009

# DNP Population Focus

- Population with major mental illness
- Goal for DNP: Improve physical health of the population



## **Evaluation of a Screening Program for Metabolic Syndrome in an Outpatient Mental Health Clinic**

Margaret Rhoads Scharf, MS, PMHNP, FNP  
DNP Candidate

# Introduction

- Life expectancy in people with severe mental illness (SMI) is 25 years less than the national average.
- 35% of the population with SMI have an undiagnosed medical disorder
- In people with SMI, 30-42% have metabolic syndrome compared to 24% of adults nationwide

# Background

- Metabolic syndrome (MS) is one of the preventable causes of increased morbidity and mortality in people with SMI.
- Risk factors for MS are: age, female, current smoking, family history of CVD or diabetes, physical inactivity, hypertension, hyperlipidemia, CVD, DM, obesity, gestational diabetes
- Use of antipsychotic, anticonvulsant and antidepressants increases the risk of MS.

# Background

- Societal Issues
- Health Care System
- Mental Health Issues
- Integration Models
- Gaps in the Literature

# Purpose

- Design and implement a physical health practice improvement project (PIP) in the mental health agency

**RN screening program for metabolic syndrome** with referral for treatment of those with the diagnosis

- Evaluate the RN screening program

# Agency Questions

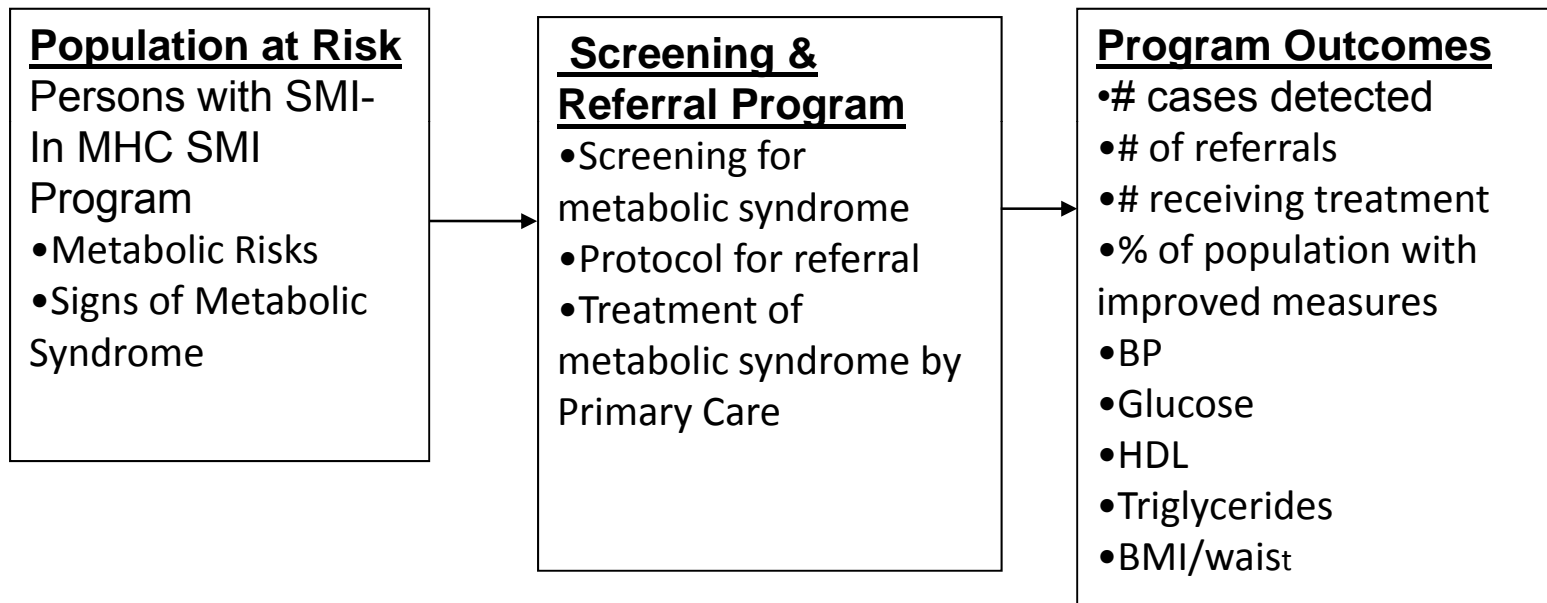
How prevalent is this for the agency?

Is the agency detecting more with the RN screening program than with usual care?

Does identifying metabolic syndrome and making referrals to primary care improve the physical health of the SMI population?



# Conceptual Framework



# Clinical Inquiry Questions

- #1 How does the incidence of metabolic syndrome, in a mentally ill population in a CMHC, compare to national statistics on metabolic syndrome in the SMI?
- #2 Does an RN screening program for metabolic syndrome increase the detection of metabolic syndrome in a mentally ill population in a CMHC?
- #3 Does a RN screening and referral program for metabolic syndrome result in an improvement in measures of metabolic syndrome?

# Setting and Sample

- One site of a multi-site private non-profit mental health clinic
- Eligible: Adult patients with SMI at mental health clinic with risk factors for metabolic syndrome
- Excluded: diagnosed with Mental Retardation/ Developmental Delay or primary substance abuse issues

# Variables & measures

- Metabolic syndrome present

Categorical (yes/no)

Measure for MS is having 3 of the 5 criteria

- Hypertension  $\geq 130/85$
- Hyperglycemia  $\geq 110\text{mg/dL}$
- Hypertriglyceridemia  $\geq 150\text{ mg/dL}$
- Low HDL  $<40\text{-male}$      $<50\text{-female}$
- Waist circumference  $>40\text{-male}$      $>35\text{-female}$
- BMI  $\geq 25$

# Projected Costs

- RN salary
- Equipment for biomeasures
- Cost to insurers if more disease detected

# Clinic Screening Procedure

- Electronic Medical Record: retrieved list of clinic patients meeting criteria  
Exclusions: MR/DD or Substance Abuse
- Medical diagnoses and current treatment
- Psychiatric providers approve for screening (entire group)

# Patient Referral Process

- Plan
  - Enroll patients at “next appointment”
- Actual procedure
  - Involve all clinicians with “instant screen”

# RN Screening Process

- Information about metabolic syndrome given patients
- Explanation of screening process
- Release of information to PCP
- Measures
- Arrange for labs
- Follow up



# Evaluation Protocol for patient record review:

Before RN screening program, document

- # cases of MS detected prior to RN screening
- psychiatric and medical diagnoses
- patient attributes
- current medications

After screening program, record

- # cases of MS detected
- # patient PCP referrals
- # completed PCP referrals

OHSU IRB approval for evaluation project

# Evaluation sample

- Clinic SMI client base potential pool N=425
- After exclusion of MR/DD, the SMI patients eligible for screening, N= 303

## Results: Sample Size

- 263 patients eligible for screening
- 100 patients screened by project timeline
- 14 not included, could not determine MS status n=86
- 11 of the 86 had incomplete data, but determination of MS status could be made

# Results: Sample

- Reasons for Incomplete data
  - no insurance for labs
  - patient refused
  - PCP issue
  - patient lost to follow up
  - MS status only recorded by RN

# Results: Findings

- Agency prevalence = 55%
- National benchmark = 35%
- Before RN screening: MS diagnosis = 6%
- Unable to complete 12 week comparison

# Results: Findings

- 47 patients with metabolic syndrome
- 23 under treatment for at least one component of MS, referred if new component
- 20 “new cases” referred to PCP
  - 11 referred to own PCP
  - 9 had no PCP and received PCP referral
- 2 refused treatment
- 2 moved or changed clinics

# Results: sample characteristics

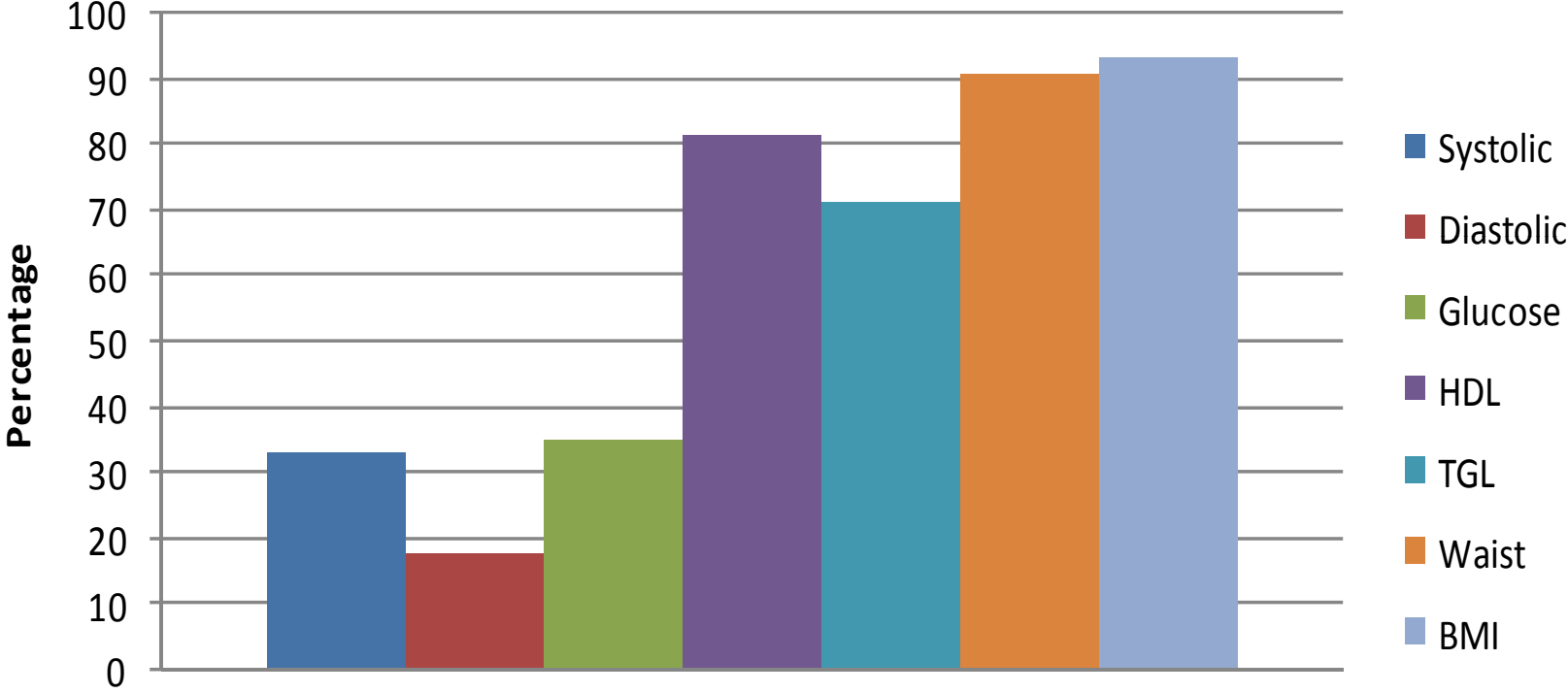
- Age range 20-72 yrs; M=48 (SD 12.16)
- Gender
- Race/ethnicity
- Marital status
- Income
- Education
- Smoking status

# Variable Range, Means and MS positive/Negative group difference

Variable	Range	Total Group Mean	MS Positive Mean	MS pos/neg t-test
Systolic	84-158	119 (12.6)	124 (15.9)	.001
Diastolic	60-110	74 (15.2)	77 (10.4)	.001
Glucose	51-273	103 (10.2)	116 (115.9)	.001
HDL	25-85	46 (15.2)	40 (11.8)	.000
TGL	56-511	186 (107.5)	227 (115.8)	.001
Waist	29-60	43 (7.2)	46 (5.4)	.000
BMI	18-53	32 (8.43)	35 (8.1)	.000

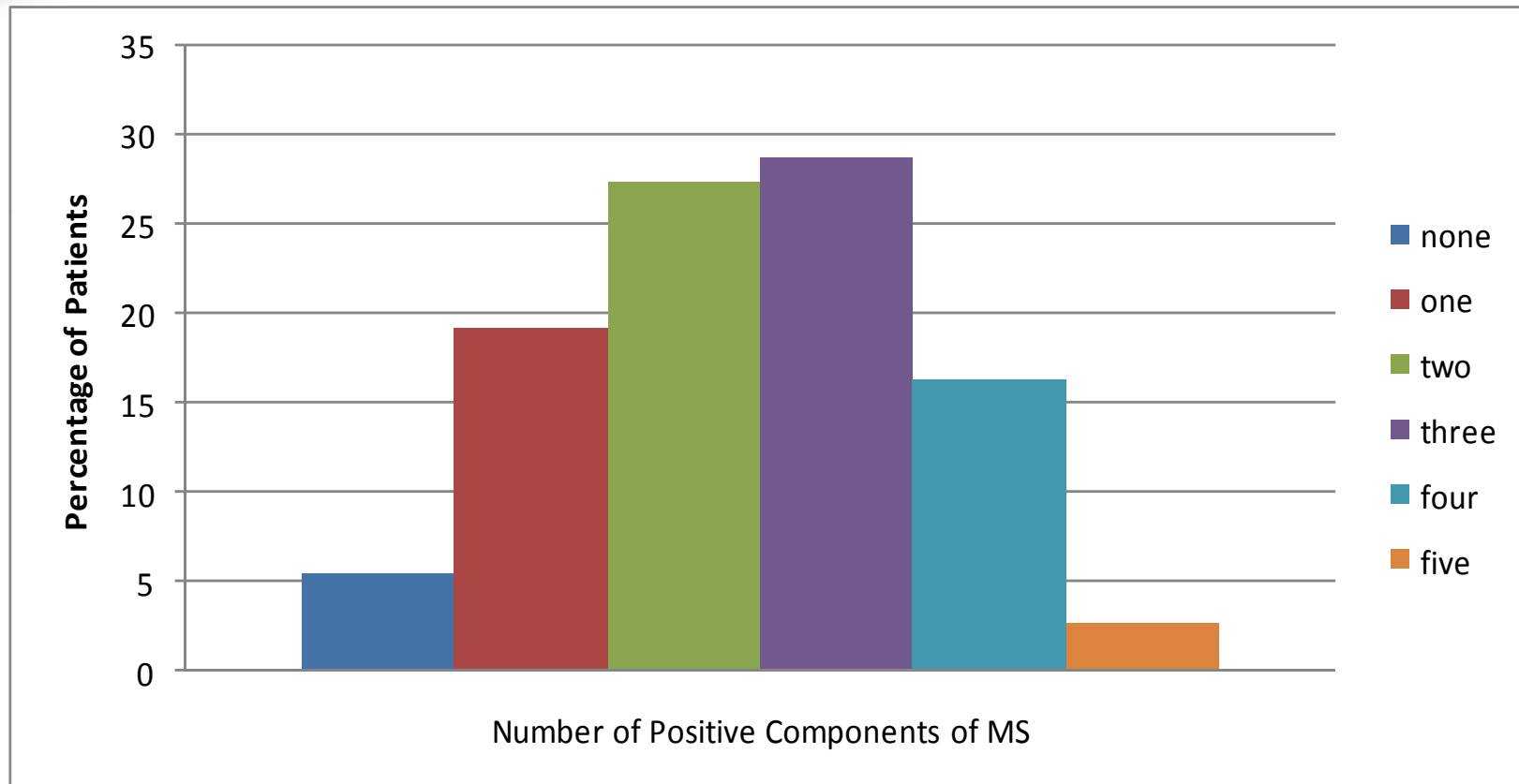


# Percent of MS positive patients having each screening component of the syndrome



Metabolic Syndrome Positive Patients: Components Met

# Number of MS criteria met by the total sample



# Results: Context

- Financial
  - immediate
  - long term
- Situational
  - agency support
  - RN utilization

# Dissemination to stakeholders

- Clinicians at clinic site (case managers)
- Medical Staff agency wide (MD, NP)
- OHP report
- Agency for SAMSHA grant
- Oregon Dept. of Health Services core committee and medical director

# Outcomes

- Agency changes in prescribing
- Agency changes in use of RN
- Lab results page in EMR
- Laboratory collection site
- Clinic FNP proposal to SAMSHA
- State integration project

# Discussion: Interpretation

- Clinic rate above national average
- RN screening increased cases found
- Population issues
  - Social stressors
  - Majority educated
  - Need for preventive care
  - Obesity significant problem

# Discussion: Limitations

- Assessing records for presence of MS
- Reliance on patient recall
- Incomplete data
- Reflects this clinic site of agency
- Clinic change in ownership
- Role with PIP and evaluation

# Conclusion

- Team work essential
- Psychiatric providers can check weight/waist circumference/BP if equipment available
- Obesity intervention materials
- Health promotion materials
- RN increases “reach” of interventions, can provide many patient services within scope of practice
- Evidence to support the cost of having RN services at the agency.
- Mental health center as “health home”



# DNP: The Road Traveled, The Road Ahead

- Accomplishments
- Plan
- Reflections

# Questions



## Appendix A

## Screening Criteria

Table A1

*Screening Criteria for Metabolic Syndrome*

Clinical Measure	Referral criteria*	Comments for interventions
Blood pressure	≥130/85	
Blood glucose	Fasting ≥ 110 mg/dL	Teach sx of DKA. Switch med if worsening FBG.
Triglycerides	≥150mg/dL	Switch med if worsening
HDL	<40 mg/dL male <50 mg/dL female	Switch med if worsening
BMI Waist circumference	>40 males >35 females	Intervene if BMI increase 1 unit patient is overweight 25-29.9 or obese ≥30

\*Three criteria must be met for the diagnosis of metabolic syndrome

(Goff, 2007; Goff & Newcomer, 2007; Sernyak, 2007)

Table A2

*Monitoring Protocol for Patients at Risk for Metabolic Syndrome*

Parameter	Baseline	4 weeks	8 weeks	12 weeks	Quarterly	Annually	Every 5 years
History	X					X	
Weight/BMI	X	X	X	X	X		
Waist circum	X					X	
Fasting plasma glucose	X			X		X	
Blood pressure	X			X		X	
Fasting lipids	X			X		X	X

(Goff & Newcomer, 2007)

## Appendix B

### Metabolic Syndrome Screening Forms for Patient and PCP

#### **What is metabolic syndrome?**

Metabolic syndrome is not a disease itself, but a collection of several physical problems that when they occur together, are called metabolic syndrome.

These problems are: obesity/overweight, high blood pressure, high triglycerides (“fat” in the blood), a low amount of “good” cholesterol and high blood sugar. If you have at least three of these problems, you are considered to have metabolic syndrome.

#### **Who is at risk?**

Psychiatric medications (antipsychotics, mood stabilizers) can contribute to having the disorders. Another factor is the lack of exercise and poor eating habits. Because of the connection with psychiatric medicines, it is best for mental health practitioners to screen all of their patients on a regular basis.

#### **What can I do to help?**

Any time your primary care providers does lab tests, ask him or her to send the results to our clinic to review. This helps us to stay aware of your health status.

Tell your mental health physician or nurse practitioner if you are having health problems or are on any new medicines and who your provider is. You can sign a release of information so we can talk to your provider and coordinate your care.

Eat healthy food every day and reduce your portion size. Avoid in between meal snacks.

Exercise every day for 30 minutes (walking counts!)

Get a good night’s sleep!

#### **So what is this screening?**

The screening is a way for us to check your health on a regular basis. It is exactly what your provider does, but this way we make sure it is done on a regular basis and can spot problems more easily.

The nurse will take your blood pressure, get your height and weight and measure your waist. Then she will schedule lab work for you either at your primary care clinic or our clinic (on Tuesdays). If you do not have a primary care provider, she may be able to help you find one.

Before the lab work, you must not eat or drink anything but water after 12 midnight the night before.

After the lab draws your blood, you can resume your usual activities.

#### **How will I find out the results?**

Your provider here at the clinic will keep you informed about everything we learn from the screening.

#### **What if I don’t want to be screened?**

Your mental health physician or nurse practitioner will explain to you the importance of being screened for metabolic syndrome. Like anything your provider prescribes, you always have the choice not to follow his or her advice. Your provider will still continue to care for your mental health needs.



## HOW TO GET YOUR LAB WORK

If you need to be FASTING for your lab work:

1. Do not eat or drink anything but water after midnight the night before.
2. You may take your medication with water.
3. Coffee is ok as long as you use no cream or sugar.
4. After the lab work you can eat and drink normally.

If you are getting a BLOOD LEVEL of your medication:

1. Take your bedtime medicine, but not your morning medication
2. There should be about 10-12 hours between when you last took your medicine and your morning lab work
3. After the lab work you may take your medicine if the RN says it's ok.

If you are getting FASTING lab work AND a medication BLOOD LEVEL:

1. Do not eat or drink anything except water after midnight the night before.
2. Take your bedtime medications as long as it is 10-12 hours before the lab work.
3. Do not take your morning medication.
4. Bring your morning pills with you and if you are hungry, bring a snack.
5. You can take your pills and eat afterwards if the RN says it's ok.

REMEMBER:

- Take your bedtime medicines at \_\_\_\_\_ o'clock with water.
- Don't eat or drink after midnight.
- Don't take your morning \_\_\_\_\_.
- Bring your pill and a snack with you in the morning.

Re:

Date:

Dear Primary Care Provider:

\_\_\_\_\_ is screening for metabolic syndrome in all of our clients at the \_\_\_\_\_ site. This is based on recent studies that show a decrease in life expectancy in the mentally ill of up to 25 years. We are using the consensus guidelines developed by the American Diabetes Association, American Psychiatric Association, American Association of clinical Endocrinologists and the North American Association for the Study of Obesity (2004) for our screening criteria.

If the person has three of the following 5 components of metabolic syndrome, we are referring him/her to the primary care providers for evaluation and treatment.

Component of Metabolic Syndrome	Referral criteria	This patient
Hypertension	Systolic $\geq 130$ <u>or</u> Diastolic $\geq 85$	
Obesity	BMI $\geq 25$ <u>or</u> Waist circumference M $> 40$ F $> 35$	
Hypertriglyceridemia	$\geq 150$	
Low HDL	M $< 40$ F $< 50$	
Hyperglycemia	$\geq 110$	

If the person already has documented hypertension, diabetes, hypertriglyceridemia or low HDL, we will not retest, but consider that component positive.

We are requesting that you inform us of any treatments related to this referral so we can coordinate the best integrated treatment for our clients. We will continue our screening program and inform you of any changes as appropriate for care. A release of information is attached that includes our phone, fax number and address. Thank you for attention to this matter of concern to our mutual client.

Sincerely,

Jon Betlinski, MD

Margaret Scharf, PMHNP

## Appendix C

## Variables and Study Design

Table C1

*Variables to be Measured with Referral Criteria*

<b>Variable</b>	<b>Measurement</b>	
Metabolic syndrome (MS): detection	# detected	
referral	# referred	
treatment	# in treatment	
		<b>Referral criteria*</b>
*Systolic BP	BP, calibrated machine, arm positioning, cuff size	≥130
*Diastolic BP		≥ 85
*Blood glucose	Fasting lab	≥110 mg/dL
*HDL	Fasting lab	male<40, female<50
*Triglycerides	Fasting lab	≥150 mg/dL
*Waist circumference	Tape measurement: Above iliac crest, horizontal to floor.	male>40, female >35
*BMI	Weight/height BMI calculator	1 unit increase or BMI ≥ 25
Metabolic syndrome	Present with 3 or more*	
Time measurements		

Table C2

*Variables, Measures and Attributes*

Variable	Measure	Measurement	
<b>Question #1</b>			
Metabolic syndrome (MS): detection	DV categorical nominal	Yes/no (# detected)	
<b>Question #2</b>			<b>Referral criteria*</b>
*Systolic BP	DV continuous interval	BP, calibrated machine, arm positioning, cuff size	≥130
*Diastolic BP	DV continuous interval		≥ 85
*Blood glucose	DV continuous interval	Fasting lab	≥110 mg/dL
*HDL	DV continuous interval	Fasting lab	male<40, female<50
*Triglycerides	DV continuous interval	Fasting lab	≥150 mg/dL
*Waist circumference	DV continuous interval	Tape measurement: Above iliac crest, horizontal to floor.	male>40, female >35
*BMI	DV continuous interval	Weight/height BMI calculator	1 unit increase or BMI ≥ 25
Metabolic syndrome	DV categorical nominal	Present yes/no	
Time measurements	IV	Baseline & 12 weeks	

## Attributes:

Age  
Gender  
Marital status  
Race/ethnicity  
Income  
Education  
Current smoker?  
Current psych meds



Table C3

*Study Design*

#1 How does the prevalence of metabolic syndrome, in a mentally ill population in a community mental health clinic, compare to national statistics on metabolic syndrome in the SMI?

Design: (prospective)  $X \quad Y$  [where  $Y_B$  represents the national benchmark]  
 $Y_B$

#2 Does an RN screening program for metabolic syndrome increase the detection of metabolic syndrome in a mentally ill population in a community mental health clinic?

Design: (retrospective/prospective) rates prescreening and post screening  $Y \quad X \quad Y$

#3 Does a screening and referral program for metabolic syndrome result in an improvement in measures of metabolic syndrome?

Design: (prospective)  $Y \quad X \quad Y$

Appendix D

Agency Metabolic Screening Form

**Metabolic Screening Form**

Patient: \_\_\_\_\_ Psychiatric provider: \_\_\_\_\_ ID# \_\_\_\_\_

PCP: name, address, phone number (add to list of PCPs):

Date initiated \_\_\_\_\_ 12 week date: \_\_\_\_\_

*	BP systolic		≥130		
	BP diastolic		≥85		
	Height (in)				
	Weight (lb)				
*	BMI		≥25		
	waist		>40 m >35 f		
	Date refer to lab: Lab & phone #: Explain fasting to pt: Y N Date results:                      12 weeks date:			Date refer to lab: Lab & phone #: Explain fasting to pt: Y N Date results:	
*	FB glucose		≥110		
*	Triglycerides		≥150		
*	HDL		<40 m < 50 f		
	Metabolic syndrome? Y N Notify MD/NP? Y N      Labs to MD/NP? Y N		3 of 5*	Metabolic syndrome? Y N Notify MD/NP? Y N      Labs to MD/NP? Y N	
	Referral to PCP? Y N ROI? Y N      Info sent? Y N Date appt:		Comments: Psych med changes since initial screen?		
	Date PCP report received: Report to MD/NP: Y N		Date PCP report received: Report to MD/NP: Y N		

Appendix E

Evaluation: Data Collection Forms

**Data Collection Form/Patient information**

Date: \_\_\_\_\_

Subject ID#: \_\_\_\_\_

Diagnosis: Axis I \_\_\_\_\_ Axis III \_\_\_\_\_

Age: \_\_\_\_\_

Sex:            male            female

Marital Status:    single            married            divorced            separated            widowed

Race/Ethnicity:

Non-Hispanic or Latino    Hispanic or Latino

Black or African American

Asian

Native Hawaiian or Pacific Islander

Native Indian or Alaska Native

Income: \_\_\_\_\_

Education:    less than HS    HS degree    beyond HS    college degree

Current smoker?    Yes    No

Psychiatric medications taking now and dose:

Initials data collector: \_\_\_\_\_

**Data Form: Metabolic syndrome values:**

Subject ID # \_\_\_\_\_

Date of first screening: \_\_\_\_\_ Is this data from: **Baseline** or **12 week FU (circle one)**

Systolic pressure \_\_\_\_\_

Diastolic pressure \_\_\_\_\_

Waist circumference \_\_\_\_\_ inches

Height \_\_\_\_\_ inches

Weight \_\_\_\_\_ lbs.

BMI \_\_\_\_\_

Fasting glucose \_\_\_\_\_

Fasting triglycerides \_\_\_\_\_

Fasting HDL \_\_\_\_\_

**FOR 12 WEEK FOLLOW-UP:**

Psychiatric med change since baseline? Yes No

List medication change: \_\_\_\_\_

Initials data collector: \_\_\_\_\_

## Appendix F

## Population Descriptive Data

Table F1

*Characteristics of the Sample*

Characteristic	Total Sample <i>n</i> (%)	MS positive <i>n</i> (%)
Gender		
Male	41 (48)	22 (47.8)
Female	45 (52)	24 (52.2)
Marital Status		
Single	53 (63)	29 (64.4)
Married	8 (9.5)	3 (6.7)
Divorced	19 (22.6)	11 (24.4)
Separated	3 (3.6)	1 (2.2)
Widowed	1 (1.2)	1 (2.2)
Income/month (\$)		
0-500	10 (11.6)	7 (15.2)
501-600	20 (23.3)	10 (21.7)
601-1000	49 (57)	25 (54.3)
1001-1500	7 (4.7)	4 (8.7)
Education		
Less than HS	13 (15.1)	8 (17.4)
HS (or GED)	47 (54.7)	25 (54.3)
Beyond HS	22 (25.6)	11 (23.9)
College	4 (4.7)	2 (4.3)
Ethnicity		
Non-Hispanic/ non-Latino	76 (88.4)	40 (87)
Hispanic/ Latino	6 (7.0)	3 (6.5)
Black/African American	3 (3.5)	2 (4.3)
Asian	1 (1.2)	1 (2.2)
Smoking Status		
Current smoker	52 (60.5)	27 (58.7)
Not current smoker	34 (39.5)	19 (41.3)
Psychiatric Diagnosis		
Schizophrenia	21 (24.4)	9 (19.6)
Schizoaffective disorder	24 (27.9)	13 (28.3)
Bipolar	20 (23.3)	11 (23.9)
Major Depression	16 (18.6)	10 (21.7)
Other	5 (5.8)	3 (6.5)

Table F2

*Variable Range, Means and MS Positive/Negative Group Differences*

Variable	Range	Total Sample <i>M (SD)</i>	MS Positive <i>m (sd)</i>	MS Negative <i>m (sd)</i>	<i>t</i> – test results*
Age	20-72	47.59 (12.16)	49.85 (12.28)	45.41 (11.48)	<i>t</i> (83) = -1.71 <i>p</i> = .09
Systolic	84-158	119.27 (15.2)	123.96 (15.89)	113.26 (12.22)	<i>t</i> (82) = -3.4 <i>p</i> = .001
Diastolic	60-110	73.81 (10.15)	76.91 (10.41)	69.95 (8.62)	<i>t</i> (82) = -3.3 <i>p</i> = .001
glucose	51-273	103.91 (36.57)	115.93 (45.33)	89.95 (12.81)	<i>t</i> (78) = -3.4 <i>p</i> = .001
HDL	25-85	45.69 (15.24)	39.56 (11.81)	52.34 (15.89)	<i>t</i> (73) = 3.97 <i>p</i> = .000
TGL	56-511	186.39 (107.5)	227.39 (115.79)	144.27 (79.85)	<i>t</i> (73) = -3.6 <i>p</i> = .001
waist	29-60	42.74 (7.2)	46.48 (5.43)	38.49 (6.7)	<i>t</i> (83) = -6.07 <i>p</i> = .000
BMI	18-53	31.62 (8.43)	34.97 (8.09)	27.95 (7.14)	<i>t</i> (83) = -4.2 <i>p</i> = .000

\* *p* < .05

## Appendix G

*Entire Sample and MS Positive Meeting Screening Component (Abnormal)*

Screening Component	Total Sample (N = 86) n (%)	MS positive (n = 46) n (%)
Systolic	19 (22.4)	15 (32.6)
Diastolic	12 (14.1)	8 (17.4)
Glucose	16 (20.0)	15 (34.9)
HDL		
Males	21 (58.3)	16 (84.2)
Females	23 (59.0)	15 (78.9)
Triglycerides	39 (52.0)	27 (71.1)
Waist Circumference		
Male	22 (53.7)	18 (81.8)
Female	38 (84.4)	24 (100.0)
BMI	64 (74.4)	43 (93.5)

Running head: HEALTHY OREGON ACT AND MENTAL HEALTH

Policy Analysis: Oregon SB 329 Healthy Oregon Act  
and Mental Health Integration

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### Context of the Problem

Life expectancy is 25 years shorter in people with mental illness (Colton & Manderscheid, 2006; Parks, Svendsen, Singer, & Foti, 2006). Most of the increase in morbidity and mortality is from preventable or treatable conditions such as metabolic syndrome, cardiovascular disease, diabetes and lifestyle issues such as smoking and obesity (Chavetz, White, Collins-Bride, Nickens & Cooper, 2006; Miller, Paschall, & Svendsen, 2006; National Council for Community Behavioral Healthcare [NCCBH], 2007; Parks, Svendsen, Singer, & Foti, 2006; Robson & Gray, 2006 ). Risk is increased by the medications they must take for their illness and the underutilization of monitoring and treatment guidelines (Chawastiak et al., 2006; Citrome, Jaffe, Levine & Martello, 2006). A decade ago, life expectancy was only 10 to 15 years less than the population average in the United States (Parks, 2006). Furthermore, people treated in the public mental health system have a higher relative risk of death (National Council for Community Behavioral Healthcare [NCCBH], 2007). Wulsin, Soellner & Pincus, (2006) estimate that 35% of the SMI population has at least one undiagnosed medical disorder.

Every year, worldwide up to 30% of the population suffers from mental disease and it is estimated that 15% of global disease burden is due to mental disorders, more than all cancers (NIMH, n.d.). It is estimated that 57.7 million adults in the US suffer mental health or substance abuse problems in any given year, or 26.2% of the adult population. Six percent of these adults suffers from a serious mental illness (SMI) such as depression, bipolar disorder, anxiety disorders or schizophrenia (Kessler, Berglund, Demler, Jin, & Walters, 2005; Loftis & Salinsky, 2006). According to the Surgeon General's Report (1999) fifteen percent of US adults use mental health services during a

given year. The effect is widespread, with one in five American families having a relative with mental illness (National Alliance on Mental Illness, [NAMI] n.d.). Oregon estimates 5.9% of adults have a serious mental health problem, 2.8% of whom are considered SMI. Slightly more than a fifth of them are getting treatment (Oregon State Health Facts, n.d.).

In the US, without universal health care, much of the cost burden for mental illness and physical care of the mentally ill falls to Medicare and state Medicaid programs due to the large number of seriously mentally ill people unable to work or in poverty and either on Federal social security disability insurance (SSDI) or state Medicaid programs. Medicaid pays 36% of all public mental health spending (The President's New Freedom Commission, 2003). In some states such as Oregon the counties also take responsibility for mental health through the county public health department funded through the state, including Medicaid. Yet still, many of the mentally ill are not covered due to homelessness, poverty, incarceration, inability to pay for employer related health insurance or the workplace does not offer insurance (Folsom et al.,2005, Nikkel, 2008).

The cost of treating mental illness is high; additionally, there is both a social and economic cost. The World Health Organization (WHO) estimates the disability adjusted life years (DALY) of mental illness averaged worldwide as 28.5%, but 47% in the US. This estimate includes lost productivity, years lost to disability and the loss of role (such as mother, caretaker). The World Health Organization estimates that at least 45% of the SMI also have a comorbid physical health problem which increases the cost for this population's health care, more so if diseases are neglected (Colton & Manderscheid, 2006; Dickey, Normand, Weiss, Drake, & Azeni, 2002; NIMH, n.d.).

Why the disparity in mental health costs and services? The mental health system is split off from the traditional medicine in terms of systems of care and reimbursement. The President's New Freedom Commission (2003) describes the system as fragmented and in disarray. The states have been involved in the care of the mentally ill through the state hospital systems since the 1870's. This created a separate system of care from the community hospital (Grob, 1994). Due to the lack of a biologic basis for mental illness until recently, mental disease and its treatment often remained outside of the medical and scientific community in terms of respect and credibility. It goes to follow that when health insurance became the payer for health care, mental health was scrutinized. Without effective treatments, long-term care was the mode and that would be expensive. It was easier to let the states continue the care through the state system. In the 1980's era of managed care, mental disorders, without a biologic basis, often were excluded from coverage or lifetime dollar amounts were instituted. Even with mental health parity legislation, disallowing discrimination against payment for mental illness, true parity was not achieved because companies were still allowed to chose to offer mental health benefits or not. Capping "number of visits" (versus dollar amounts) or paying only for those disorders that were biologically based, continued to restrict access. Insurance companies lobby against total parity citing the enormous cost it would add to the individual premium when in fact it did not (Boyd, 2008; Grob, 1994). To cut costs, most states have reduced eligibility and benefits while increasing copays for care. Currently, many state programs "carve out" mental health care from physical care using managed care for treating mental illness. This creates two funding streams for mental health and physical care leaving the patient to navigate two complex systems.

The cost to health care of mental illness in the state of Oregon is \$218 million (Oregon State Health Facts, n.d.). Mental health cost (inpatient and outpatient) account for 12% of the budget for the Oregon Health Plan which insures the poor and needy (Oregon Health Commission, 2006). Substance abuse treatment adds another 1%. This does not factor in the cost of physical health care for this population who are often seen in emergency rooms and clinics when their health has deteriorated, needing expensive acute medical care.

Stigma is a strong force in the separation of mental illness from medical/physical illness. Stigma involves negative stereotypes and devaluation. People develop ideas about mental illness early in life based on family beliefs, personal experience, social norms and the media (Link, Struening, Neese-Todd, Asmussen, & Phelan, 2001; Sullivan, Han, Moore, & Kotrla, 2006). Shame combined with the lack of effective treatments long kept mental illness in the shadows. Numerous factors place the mentally ill at risk for higher morbidity and mortality. First, a higher rate of modifiable risk factors such as alcohol use, poor nutrition and obesity, lack of exercise, unsafe sexual behavior, IV drug use and residence in group care facilities such as homeless shelters or group homes impact health. Secondly, vulnerability is higher due to higher rates of homelessness, victimization, poverty, unemployment and incarceration (Parks et al., 2006).

Both stigma and lack of access to health care contribute to the poor health of people with mental illness. Stigma and lack of access to health care along with the symptoms of the illness itself are contributing factors to the poorer health of those with mental illness. Patient, provider and system issues influence treatment (Parks et al,

2006)). Treatment may be avoided due to shame, or perceived lack of acceptance in settings other than mental health. The symptoms of the illness may make the person suspicious of others or fearful of being in public and therefore treatment is avoided. Psychosis may distort the person's ability to detect health changes that need the attention of a primary care provider (Parks et al.). For these reasons perhaps treatment is sought too late. Providers may feel ill prepared to treat people with mental illness or feel negative towards the patient (stigma), or feel that they need, but have no, collaboration with a specialty mental health provider. The mentally ill are often unable to work due to illness and become impoverished, which affects access to health care due to having no payer source. Given the disjointed systems of care, the person may find it hard to navigate the system. Homelessness can affect getting state assistance as there may be a requirement for a permanent address to qualify. State programs can be very influential in who receives public health insurance and thus health care.

The incidence of mental illness is high, and the costs are high. With so much being spent on mental illness, the life expectancy in the mentally ill is decreased and many people are not being treated for co-morbid conditions. The opportunity for change is now, with political, economic and social factors coming together. Politically, this is a presidential election year and universal health care has been a hot topic. Each candidate has a health care plan and on a state level, Oregon is looking to create better health care for all Oregonians. As Oregon looks to implement a model of coverage for all Oregonians, it is important to ask why now? How is the political, social and economic environment at a point of effecting change?

Economically, the cost of not providing health care is thought to be a burden perhaps equal to what it would cost to provide universal coverage. Citizens of the United States and here in Oregon are a social force calling for better health care coverage for more citizens. The health care crisis affects not just the poor and unempowered, but working and middle class citizens in larger numbers. As we head into a recession and unemployment increases, health care benefits will be unavailable to more people. With one in 5 families having a member with mental illness, this care should not be left out as it has been in the past. Not treating mental health hurts communities as well through homelessness, increased substance abuse related crime and family disruption (Parks & Pollack, 2005).

Oregon has long advocated for health coverage. An early attempt was through the Oregon Health Plan in 1987 with the creation of a list of priority conditions and effective treatments for them (Health Services Commission, 2008). This plan failed to create coverage for all. Oregon governor Kulongoski is the driving force behind developing a plan for universal healthcare coverage in Oregon with SB 329 (74th Oregon Legislative Assembly, 2007) signed into law June 28, 2007. Its goal is to create a plan that would lower costs, improve quality and ensure that there is universal coverage for all Oregonians. The bill creates the Oregon Health Fund Board, comprised of 5 subcommittees charged with developing a plan to present to the governor by October 2008. The Health Services Delivery Committee will develop a plan that must contain health care costs by using the most effective and efficient models of health care delivery. Priority concepts are: wellness, prevention, early intervention, chronic disease

management and primary care models (Healthy Oregon Act, 2008; Oregon Health Fund Board, 2007, 2008).

An intense lobbying effort is underway by mental health stakeholders to help shape the mental health recommendations. Two of the issues being addressed by the stakeholders are preventive services and integration of behavioral health and primary care (The Behavioral Health Caucus, 2008). It is hoped that both will contribute to improving the physical health of those people afflicted with mental illness.

### Problem

Life expectancy for the mentally ill population in the United States is 25 years below the norm related to preventable and treatable physical conditions (Parks & Pollack, 2006). The treatment of mental and physical illness is fragmented into two separate care systems. There is a need for quality, cost effective health care to be provided to the population diagnosed with mental illness that will address issues affecting reduced life expectancy.

### Evidence

#### *Prevalence of Medical Problems*

Studies establish that there is an increased rate of physical illness in the mentally ill (Mitchell & Malone, 2006; Morriss & Mohammed, 2005; Robson & Gray, 2006; Salsberry et al, 2005). The predictions for prevalence of mental illness in the US population are that approximately 50% of Americans will experience a problem with mental health in their lifetimes (Kessler et al, 2005) and thus there is a potential crisis in the health of our population with multiple chronic illnesses in close to half the population. The mentally ill population has issues with access to primary care and over-

utilization of emergency services (Berren et al, 1999; Miller et al, 2003; Morriss & Mohammed, 2005). Miller et al. (2003) note the need for better coordination of care with primary care practitioners. Specific information to prevent or detect early changes that may lead to chronic illnesses such as diabetes, cardiac disease and obesity could be implemented in a mental health office either by education of patients or actual screening (Bushe et al, 2005; Morriss & Mohammed, 2005). Citrome and Yeomans (2005) evaluate guidelines on the best practices to detect problems with physical illness and health risks in the severely mentally ill, but suggest more specific, operationalized recommendation to help practitioners implement the guidelines.

### *Mental Health Treatment*

Mental health outpatient treatment can take place in both private and public settings. Public psychiatry treats the most severely mentally ill in community mental health centers that were initially mandated and funded by the federal government in 1963 by President Kennedy's Community Mental Health Centers Act. Over the years the funding source for the public mental health centers has come from Medicaid and other sources of state funding. The states bear the responsibility for funding and designing the system while following federal mandates for specific services. States with innovative plans may apply for Medicaid waivers from the federal government to offer services different from those in the mandates (Boyd, 2008). An example of this is the Oregon Health Plan (OHP) implemented in 1992 which uses a priority list of conditions that will be covered for the state's Medicaid recipients. It may vary from the federally mandated care, but must include at least the top 300 conditions. Fortunately, mental health fared reasonably well in the decisions made regarding covered conditions (D. Pollack, personal



communication, February 27, 2008). Unfortunately the creation of community mental health centers further reinforced the separation of mental and physical health care into two separate systems. In most of the world, mental health care takes place as a part of the overall health system (Knapp, McDaid, Mossialas, & Thornicroft, 2007). Health care is accessed through primary care or in a polyclinic with all services offered. Starfield writes that the degree of primary care in a health system is related to cost-effectiveness and efficiency (cited in Knapp et al., 2007). In the United States, even in large clinic practices, psychiatry is rarely included. Thus the person with mental illness must negotiate both systems for care.

Psychiatrists and psychiatric nurse practitioners provide medical-psychiatric care in the mental health setting. This includes psychiatric evaluation and prescribing treatment which may include medications and/or psychotherapy. Often the therapy is delegated to psychologists, psychiatric social workers, master's level counselors or nurse psychotherapists (usually in the psychiatric CNS role).

Psychiatrists have completed an internship of 4 months to one year in a medical specialty before they specialize in psychiatry with a 3 year or longer residency (Accreditation Council for Graduate Medical Education [ACGME], 2007). Psychiatric nurse practitioners (PMHNP) have completed nursing school and then specialize at the master's level. They are licensed to provide only mental health care and medications. They may provide the medical focused assessment and care that a registered nurse may provide but that includes no advanced medical scope of practice such as diagnosing medical illnesses. A complete psychiatric evaluation gathers information about medical illnesses, hospitalizations and surgeries and includes a complete review of systems and

medications. All nurse practitioners must take an advanced health assessment course and have a good foundation in health promotion; therefore the PMHNP can recognize abnormal findings and make referrals for medical care (ANCC n.d.; NONPF, n.d.).

The medical skill set of the psychiatric providers in mental health care do include assessment and evaluation for medical symptoms, but vary in the ability to diagnose or treat illness. Suspected medical illness would need to be referred to medicine, preferably the person's primary care provider.

#### *Primary care treatment*

Psychiatric symptoms such as: impaired reality testing, disorganized thoughts, impaired communication skills, impulsivity, paranoia, mood instability and decreased motivation significantly affect the person's ability to interact with a system that may not understand or feel prepared to manage the person's behavior (Park et al., 2006). In the Institute of Medicine's report on racial and ethnic disparities in health care (2003) mental health issues are included. Sources of potential disparity in care are lack of time, provider prejudice or bias, and patient mistrust or refusal. All of these may be applied to mental health care as a result of stigma and symptom presentation as noted above.

The World Health Organization promotes primary care as the first line in health care including mental health care especially for depression and anxiety (2004). They note that care is often unsatisfactory due to three interrelated factors: inappropriate recognition and management, low priority given to mental health by decision makers at all levels and inadequate resources available (WHO, 2004).

It is estimated that family physicians provide 20% of the mental health office visits in the US and that 50-70% of all primary care visits have a mental health

component (Graham, 2003; Mauer & Druss). The Institute of Medicine (2005) reports that primary care is often the point of first contact and that the use of primary care for mental health problems increased more than 150% from the early 1990's to 2003. Non psychiatrists prescribe the majority of psychotropic medication and yet the evidence shows that the care is often inconsistent with clinical practice guidelines (IOM, 2005).

Family practice physicians and nurse practitioners have behavioral medicine as part of their education, although the exact amount may vary. Family practice residencies include time in mental health practice. But the question remains as to if is it enough to feel confident to treat depression and anxiety. A campaign within the National Health Service in Britain focuses on improving the care for common mental health problems in primary care and has published the journal *Primary Care Mental Health* since 2005 (Arthur, 2005; Cohen, 2005; Friedli, 2005). Another study on providing continuing medical education for the general practitioner showed that changes occurred in knowledge and attitude, but not significantly to clinical practice (McCall, Clarke, & Rowley, 2004). Studies in the US have shown that depression can be treated equally well in primary care and psychiatry if procedures and guidelines are in place (Gaynes et al. 2007; Mauer, 2006a).

#### *Integration of mental health and primary care*

Integration between primary care and mental health is being called for by the World Health Organization as well as in federal and state health care agencies in the United States as the best way to improve the health and life expectancy of those with severe mental illness (IOM, 2004;WHO, n.d.). Primary care is already involved in the treatment of a significant part of all mental health concerns in the United States and the

mental health field is becoming more involved in the physical health concerns of mental health patients (Bushe, Haddad, Peveler, & Pendlebury, 2005; Citrome & Yeomans, 2005; Daumit, Crum, Guallar, & Ford, 2002; Holt, 2005; Leucht & Fountoulakis, 2006; Morriss & Mohammed, 2005; Young, 2005).

According to the National Council for Community Behavioral Healthcare (NCCBH), an important part of services is to assure that everyone is connected to primary care and that specific mechanisms are in place between primary care and mental health for the coordination of services (NCCBH, 2006). There are several facets to integration namely financial, structural and clinical practice integration. Clinical integration is the goal of the NCCBH, but they admit that it is not possible without financing mechanisms, structural relationships and a supportive infrastructure (Mauer, 2006b).

Oregon senate bill 329 calls for integration of services, but makes no specification as to what that would be. If integration is to take place between primary care and mental health in Oregon, it will need to be defined and operationalized by the Health Fund Board. In the literature, integration can refer to full integration in the same setting with one set of practitioners. A mixed version of integration sometimes called vertical integration is where primary care provides the health home and refers “vertically” to specialty providers (Magnussen, Ehiri, & Jolly, 2004). Alternately, psychiatry could be the health home for the severely mentally ill clients that it treats. Even if the system remains the same and separate, integration could occur through creating seamless referral and communication.

#### Constructing Alternatives

The first option for the Health Fund Board is to leave the public system serving mental health needs as it is. Nothing would be mandated and while integration would be encouraged, it would be voluntary. Best practices would be promoted which would create the expectation that evidence based practice and guidelines be used. Primary care as noted already sees a significant proportion of mental health issues and would continue to do so (Arthur, 2005; IOM, 2005). More complex problems would be referred to mental health clinics depending on insurance coverage, as they are now. Referrals could be more carefully monitored for follow up, but that would be up to the individual clinic and providers to decide the best practice. A universal form for referrals is being suggested by the Division of Mental Health (R. Nikkel, personal communication, March 16, 2008). Psychiatry is beginning to identify best practice as assessing for physical disorders, and this would focus attention on the medical needs of the mentally ill population whose first point of contact is mental health (Robson & Gray, 2006).

The second option is to provide incentives for integrating care. Higher reimbursement for primary care clinics or providers treating mental health problems could compensate for the added time spent with mental health clients (R. Nikkel, personal communication, March 16, 2008). Mechanisms to reimburse mental health providers in primary care practices have been in place since July 2007 to address having a mental health practitioner in a primary care location, often called a co-location or “cross-over” model (D. Pollack, personal communication, February, 28, 2008). The reverse of this crossover model, primary care screenings and treatment in a mental health setting could be similarly supported.

The current professional literature iterates psychiatrists' responsibility to screen patients for medical problems and care guidelines are available to assist with this (Bushe, Haddad, Peveler, & Pendlebury, 2005; Citrome & Yeomans, 2005; Daumit, Crum, Guallar, & Ford, 2002; Holt, 2005; Leucht & Fountoulakis, 2006; Morriss & Mohammed, 2005; Young, 2005). Patients could choose the setting of care rather than following a model prescribing "what patient where" (R. Nikkel, personal communication, March 25, 2008).

The third option is to mandate integration. Recently, the federal government mandated that mental health services must be reimbursed in federally qualified health centers (FQHC) and a similar arrangement could be made by requiring a minimum set of services and reimbursing for mental health services in primary care clinics for patients on OHP (Mauer & Druss, 2007). It would follow that patients on private insurance would benefit from these services and some have already agreed to reimburse (D. Pollack, personal communication, February 28, 2008). Clinics not providing mental health services would not be reimbursed for OHP patients. Mandated integration would cover common, not complex mental health conditions. Referrals would be available for complex, uncommon or treatment resistant cases. The mental health centers would continue to serve the most ill with specialty psychiatric care and therapy services.

The 4 Quadrants model of integrated care (Appendix A) places treatment for minor and common mental health problems in primary care offices designated the "Integrated Health Home" (Mauer, 2006a). Within this setting are primary care providers, nurses and other care managers. A mental health therapist could be onsite or on-call to

see those patients that need more time, diagnostic assessment and short term therapy.

When both physical and mental illness is high a collaborative treatment approach from both offices coordinated by nurses and care managers would be utilized.

#### Projecting Outcomes

Outcomes expected in the plan that is to be developed by the Health Fund Board are: improved patient access, cost effective, efficient and quality care (Oregon Health Fund Board, n.d.). The goal of integration of mental health into primary care is to reduce morbidity and mortality in those diagnosed with SMI by guaranteeing all has a primary care home, recommended screenings and preventive health care and careful treatment of comorbid conditions Parks & Pollack, 2005).

Two issues need to be addressed: detecting disease in the patient population and counseling regarding lifestyle issues that affect disease development and progression (screening, prevention and health promotion). In a dual system of care for mental and physical care, integration has been the recommended solution (Institute of Medicine, 2006; Mauer & Druss, 2007; Mental Health: A Report of the Surgeon General, 2000; Parks & Pollack, 2005; President's New Freedom Commission, 2003).

Option #1 to continue as at present with an enhanced referral process will provide physical health care to those who have a primary care provider. For those who have no insurance or are homeless or unable because of their illness to see a PCP, this may be restrictive. Things would change for those who do have a PCP, and a more seamless referral system (with checks and audits), could improve the detection and treatment of physical illness in that population. Access remains for those with insurance, and there is no cost change for the state.

In option #2, the state provides incentives for clinics providing integrated services. Incentives may be higher reimbursement for certain types of visits that take more time and are more complex, or they may be in the form of seed money for each type of clinic (primary care or mental health) to add personnel to provide additional services. The Department of Mental Health supports the co-location of services when feasible (DHS, 2007). Patients have a choice of where to obtain mental health services and providers have a choice as to whether or not their office can provide them. Each clinic would need to analyze the cost /benefit ratio for the clinic in time, space, administration and personnel. DHS recommends that financing this system come from a capitation system or newly available and applicable funding sources through Federal Financing Participation (FFP) for supporting integration. (2007). Risk is spread between the state and the provider clinics. Patients will have more choice but may still not access both systems for the same reasons they don't now.

In option #3 integration is mandated. Most specifically, patients will have an integrated health home whether it is in primary care or a mental health setting. Services will be provided in both settings, though limited, so referrals will continue. Focus is on getting care in the least intensive setting needed ((DHS, 2007). Patients with low mental health needs will have both physical and mental health needs met in the primary care setting. Primary care providers who do not feel that they are able to meet the needs of this population have several options: care managers, mental health professionals “on loan” or directly employed, and increased continuing education. In mental health settings, basic physical screenings would be required and guidelines are now being published to help psychiatry in this task. A case manager with medical skills such as an RN could



enhance this process so that time with the medical psychiatric provider is preserved.

Patients would receive at the very least a minimum of both physical and mental health care.

#### Evaluative Criteria

Each option will be evaluated by looking at relevance, progress toward goals, and efficiency of alternatives, effectiveness and impact on overall health as recommended by Collins (2005).

Relevance asks if the option is likely to increase access to medical care for disease detection, treatment, screening, and health promotion. The charge of the Health Fund Board is to include integration, so it is the policy priority. Option #1 is relevant to integration. Canada's Quebec province has implemented a system with enhanced referral and it is, in its early stages improving integration (Fleury & Mercier, 2003). This option will make progress if the seamless referral can be achieved. There is little cost except to make a form, follow up phone calls and perhaps designate a staff person to "audit" the process. If all goes according to plan, integration will occur and the health of the SMI with co-morbid conditions will receive needed medical health care. Those who choose not to access both systems will not receive integrated care.

With incentives for mental health/primary care integration, more settings may choose to integrate care thereby giving the mentally ill person access to both services if they attend a clinic offering both. It is expected that with incentives, more clinics will offer these services. The professional standards of both primary care and psychiatry are focusing on the need to integrate care and for practitioners current in their field and using best practices, some degree of integration would occur (IOM, 2001, 2006). Efficiency is

enhanced as the integrated care clinic is “one-stop shopping” for providers and patients. People who would not go to a mental health office due to stigma, would get their care “at home” in their primary care setting. Those who think of mental health as their health home would get basic physical health screening, yet still be referred when conditions arise that are more complex. Improved physical care may depend on negotiating a second system if problems are complex, but detection of physical illness would be enhanced. The question remains, will the incentives be enough to encourage an integrated practice?

This option is relevant to the problem; it is a partial step towards the goals as only some clinics may choose to integrate. The care provided in the integrated clinics would certainly be more efficient and with technical and informational support from the experts at the state level, would decrease the strain on clinics choosing it.

Option #3 is relevant to integration as it follows a model developed for integration. It has been used effectively in other demonstration projects (IOM, 2006; Mauer, 2006b; Mauer & Druss, 2007; Park & Pollack, 2005). Evaluations of progress have been positive and Mauer and Druss (2007) give outcome measures to use. Access occurs through either primary care or mental health depending on greatest need, but the model is flexible enough to change as patient need changes. Providers and systems will need an enormous amount of support and education to implement the model. There will be costs to coordinate, including how triage will occur to decide where a person should go for care, but it should reduce the use of costlier services (Parks & Pollack, 2005). As a state policy, there will have to be reimbursement flexibility for all providers involved. A greater number of personnel such as case managers may be needed as in option #2, and

this will need to be considered in funding this plan. It does meet the criteria for relevance, progress towards goals, effectiveness and impact. Efficiency will occur once all systems are in place and educated to the model.

### Weighing the Outcomes

The desired outcome of an integration policy as part of the Healthy Oregon Act is to improve the physical and mental health of Oregonians. Three options have been put forth: #1 maintaining the current system with better attention to communication and referral between primary care and mental health, #2 providing support and financial incentives towards integration or #3 mandating integration in primary care and mental health clinics.

What are the trade offs? In option one, the current system is maintained but “upgraded” causing much less disruption to providers in all settings. More attention will need to be given to tracking referrals by both settings. But, what happens when the person does not show up for the referral whether it be from psychiatry to primary care or from primary care to psychiatry? It would be imperative that a referral was made with a simultaneous release of information and what if this was refused? People will still slip through the cracks, though maybe not as many. Thus, less change for the system along with improvement in health for some would result.

Option two provides incentives to clinics and providers to integrate care. If done, patients will be able to get all their care in their integrated health home. Referrals would occur for complex conditions, but this happens in all options. Both primary care and mental health providers may have to upgrade their skills, but there is support in the literature for this to be a part of best practices for both groups (Citrome & Yeomans,

2005; Cohen, 2005). Patient choice is maintained and a much less cumbersome system for the state is developed. Along with incentives, the state could offer technical and educational support for implementing integration. Patients choosing an integrated practice will benefit from integration. Cost/risk is spread out to both state and clinic.

Mandated integration will achieve integrated care. Clinics will need to make significant changes as will the state Department of Human Services. Initial and ongoing education and support will help make it more efficient. Cost savings will be attained through capitation for services rather than fee for service. The use of more expensive specialty care will be reduced for common mental health concerns.

#### Policy Solution

Implementing incentives for integrated practice achieves at least partial integration while causing minimal financial burden on office practices as they can choose to integrate or not. Patients also get to choose where to get their care. It allows the SMI population to choose the mental health clinic as their health home. Both provider groups practice within acceptable professional standards using best practices. Evidence-based care becomes the standard.

It does not create a larger bureaucracy and provides quality care that both patients and professionals can feel comfortable with. Incentives for clinics will initially cost the state, but if care is capitated, costs may decrease as less expensive care is used. Providers will be able to generate revenue by billing mental or physical health encounters with reasonable reimbursement for added complexity. Support from experts at the state level will smooth the transition.

References

- Accreditation Council for Graduate Medical Education. (2007). ACGME Program Requirements for Graduate Medical Education in Psychiatry. July, 2007. Retrieved from [http://www.acgme.org/acWebsite/downloads/RRC\\_progReq/400pr07012007.pdf](http://www.acgme.org/acWebsite/downloads/RRC_progReq/400pr07012007.pdf)
- Arthur, A. (2006). Layered care: A proposal to develop better primary care mental health services. *Primary Care Mental Health, 3*, 103-109.
- The Behavioral Health Caucus. (2008). Joint Statement to the Oregon Health Fund Board. [Letter from the Coalition of Local Mental Health Officials and the Association of Oregon Community Mental Health Programs, January 2008].
- Berren, M., Santiago, J., Zent, M., & Carbone, B. (1999). Health care utilization by persons with severe and persistent mental illness. *Psychiatric Services, 50*(4), 559-561.
- Boyd, M. (2008). *Psychiatric nursing: Contemporary practice* (4<sup>th</sup> ed.). Philadelphia: Lippincott, Williams & Wilkins.
- Bushe, C., Haddad, P., Peveler, R., & Pendlebury, J. (2005). The role of lifestyle interventions and weight management in schizophrenia. *Journal of Psychopharmacology, 19*(6) Supplement, 28-35.
- Chavetz, L., White, M., Collins-Bride, G., Nickens, J., & Cooper, B. (2006). Predictors of physical functioning among adults with severe mental illness. *Psychiatric Services, 57*(2), 225-231.

- Chwastiak, L., Rosenheck, R., McEvoy, J., Keefe, R., Swartz, M., & Lieberman, J. (2006). Interrelationships of psychiatric symptom severity, medical comorbidity, and functioning in schizophrenia. *Psychiatric Services, 57*(8), 1102-1109.
- Citrome, L., Jaffe, A., Levine, J., Martello, D. (2006). Incidence, prevalence, and surveillance for diabetes in New York state psychiatric hospitals, 1997-2004. *Psychiatric Services, 57*(8), 1132-1139.
- Citrome, L. & Yeomans. (2005). Do guidelines for severe mental illness promote physical well-being? *Journal of Psychopharmacology, 19*(6) Supplement, 102-109.
- Cohen, A. (2005). A collaborative approach to primary mental health care. *Primary Care Mental Health, 3*, 3-4.
- Colton, C. & Manderscheid, R. (2006). Congruencies in increased mortality rates, years of potential life lost, and causes of death among public mental health clients in eight states. *Preventing Chronic Disease: Public Health Research, Practice, and Policy, 3*(2), 1-14. Retrieved from [http://www.cdc.gov/pcd/issues/2006/apr/05\\_0180.htm](http://www.cdc.gov/pcd/issues/2006/apr/05_0180.htm)
- Daumit, G., Crum, R., Guallar, E., & Ford, D. (2002). Receipt of preventive medical services at psychiatric visits by patients with severe mental illness. *Psychiatric Services, 53*(7), 884-87.
- Dickey, B., Normand, S., Weiss, R., Drake, R., & Azeni, H. (2002). Medical morbidity, mental illness, and substance use disorders. *Psychiatric Services, 53*(7), 861-867.
- Fleury, M., & Mercier, C. (2002). Integrated local networks as a model for organizing mental health services. *Human Sciences Press, 30*(1), 55-73.

- Freidli, L. (2005). Private minds in public bodies: the public mental health role of primary care. *Primary Care Mental Health*, 3, 41-6.
- Gaynes, B., Rush, A., Trivedi, M., Wisniewski, S., Balasubramani, G., Spencer, D. et al. (2007). Major depression symptoms in primary care and psychiatric care settings: A cross-sectional analysis. *Annals of Family Medicine*, 5(2), 126-134. Retrieved from <http://www.aafp.org/afp/20030401/graham.html>
- Graham Center One-Pager. (2008). Family physicians are an important source of mental health care. *American Family Physician*, 67(7). Retrieved from <http://www.aafp.org/afp/200>
- Grob, G. (1994). *The mad Among us: A history of the care of America's mentally ill*. Cambridge, Mass: Harvard University Press.
- Health Services Commission. (2008). *Current Prioritized List*. Retrieved from <http://www.oregon.gov/OHPPR/HSC/docs/03-07Summary.pdf>
- Healthy Oregon Act .*Fact Sheets on SB 329*.  
<http://www.hopeforahealthyoregon.com/supporters.php>
- Holt, R. (2005). Obesity—an epidemic of the twenty-first century: An update for psychiatrists. *Journal of Psychopharmacology*, 19(6), 6-15.
- Institute of Medicine. (2001) *Crossing the quality chasm*. Washington, D.C.: National Academies Press.
- Institute of Medicine. (2005). *Improving the quality of health care for mental and substance abuse conditions*. Washington, D. C.: National Academies Press.
- Institute of Medicine. (2003). *Unequal treatment: Confronting racial and ethnic disparities in health care*. Washington, D.C.: National Academies Press.

- Knapp, M., McDaid, D., Mossialos, E., & Thornicroft, G. (eds.) (2007). *Mental health policy and practice across Europe*. New York: Open University Press.
- Kessler, R., Bergland, P., Demler, O., Jin, R. & Walters, E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the national comorbidity survey replication. *Archives of General Psychiatry*, 62, 593-602.
- Leucht, S. & Fountoulakis, K. (2006). Improvement of the physical health of people with mental illness. *Current Opinion in Psychiatry*, 19, 411-412.
- Link, B., Struening, E., Neese-Todd, S., Asmussen, S., & Phelan, J. (2001). The consequences of stigma for the self-esteem of people with mental illness. *Psychiatric Services*, 52(12), 1621-1626.
- Loftis, C. & Salinsky, E. (2006). Medicare and mental health: The fundamentals. National Health Policy Forum, The George Washington University. Retrieved February 12, 2008 from [http://www.nhpf.org/pdfs\\_bp/BP\\_Mcare&MentalHlth\\_11-27-06.pdf](http://www.nhpf.org/pdfs_bp/BP_Mcare&MentalHlth_11-27-06.pdf)
- Magnussen, L., Ehiri, J., Jolly, P. (2004). Comprehensive versus selective primary health care: Lessons for global health policy. *Health Affairs*, 23(3), 167-176.
- Mauer, B. (2006a) Behavioral health/primary care integration: The four quadrant model and evidence based practice. National Council for Community Behavioral Healthcare. Retrieved from <http://nccbh.browsermedia.com/galleries/business-practice%20files/4%20Quadrant.pdf>
- Mauer, B. (2006b). Behavioral health/primary care integration: Finance, policy and integration of services. National Council for Community Behavioral Healthcare.



- Retrieved from <http://nccbh.browsermedia.com/galleries/business-practice%20files/Finance-Policy-Integration.pdf>
- McCall, L., Clarke, D., & Rowley, G. (2004). Does a continuing medical education course in mental health change general practitioner knowledge, attitude and practice and patient outcomes? *Primary Care Mental Health, 2*, 13-22.
- Mercer Government Human Services Counseling. (2007). CY 2008-2009 Benchmark Rate Study: Oregon Health Plan Summary Report. Oregon Health Services Commission, Office for Oregon Health Policy and Research. Retrieved from <http://www.oregon.gov/OHPPR/HSC/docs/03-07Summary.pdf>
- Miller, C., Druss, B., Dombrowski, E., & Rosenheck, R. (2003). Barriers to primary medical care among patients at a community mental health center. *Psychiatric Services, 54*(8), 1158-1160
- Mitchell, A. & Malone, D. (2006). Physical health and schizophrenia. *Current Opinion in Psychiatry, 19*, 432-7.
- Morriss, R. & Mohammed, F. (2005). Metabolism, lifestyle and bipolar affective disorder. *Journal of Psychopharmacology, 19*(6), 94-101.
- National Council for Community Behavioral Healthcare. (2007). An avoidable tragedy—The relationship of premature death and serious mental illness [Fact sheet]. Retrieved from [www.nccbh.browsermedia.com/galleries/policy-file/AnAvoidableTragedy.pdf](http://www.nccbh.browsermedia.com/galleries/policy-file/AnAvoidableTragedy.pdf)
- National Institute of Mental Health. (n.d.) Statistics: Impact of mental illness on society. Retrieved, February 3, 2008 from <http://www.nimh.nih.gov/health/statistics/index.shtml>

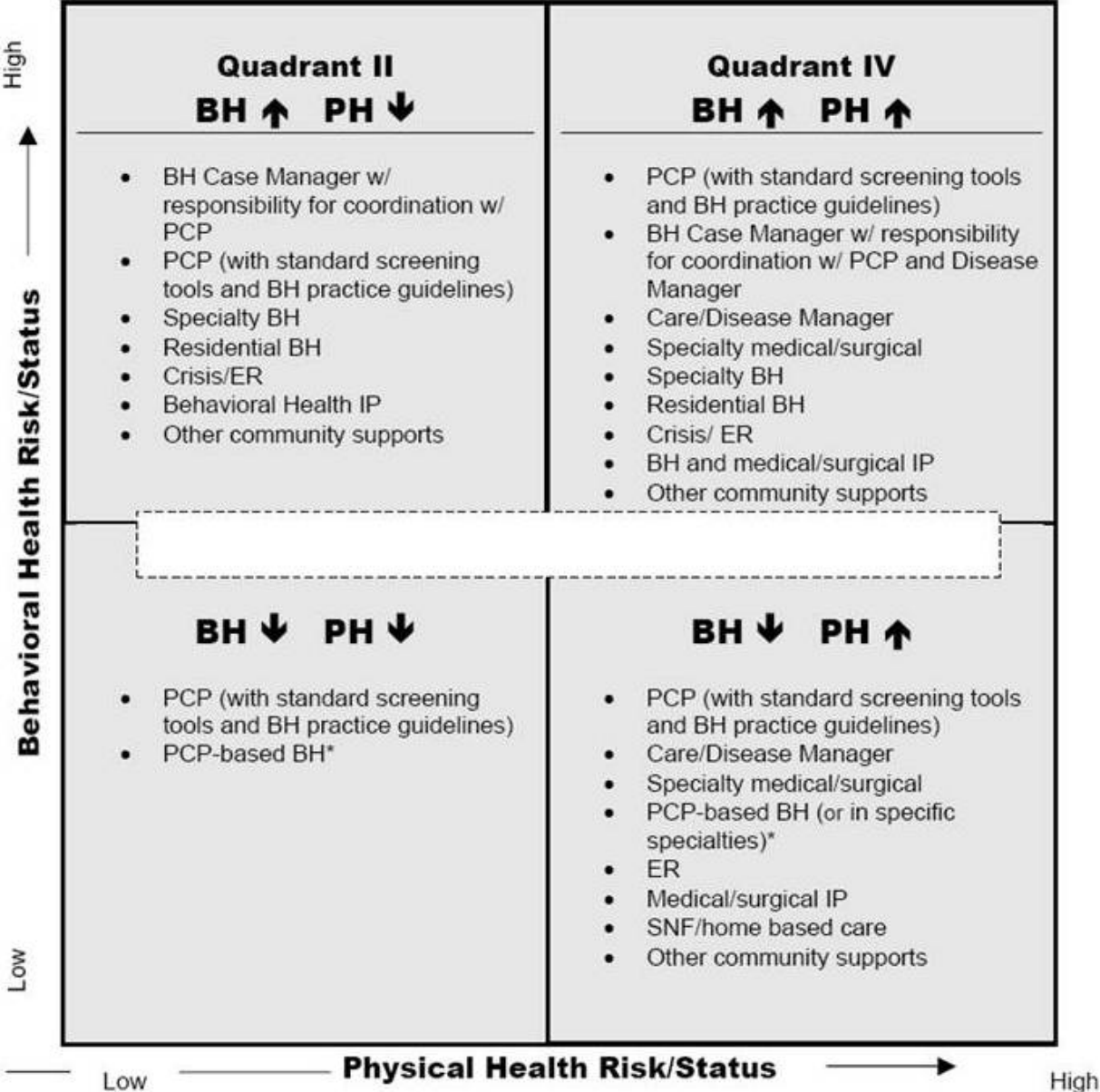
- Nikkel, R. (2008). Lecture: Oregon's public mental health services: Where we came from, where we've been, and where we're going [PowerPoint slides]. OHSU School of Medicine, February, 29, 2008.
- Office for Oregon Health Policy and Research. (n.d.) Health care reform references: 2008 Oregon health care spending estimates. Retrieved February 3, 2008 from [www.statehealthfacts.org/comparemaptable.jsp?](http://www.statehealthfacts.org/comparemaptable.jsp?)
- Oregon Department of Human Services (2007). Behavioral health and primary care integration. Retrieved March 14, 2008 from <http://www.oregon.gov/DHS/ph/hsp/docs/linkingintegrating.doc>
- Oregon Health Fund Board. Delivery System Committee. Website at [http://www.oregon.gov/OHPPR/HFB/Delivery\\_Systems\\_Committee.shtml](http://www.oregon.gov/OHPPR/HFB/Delivery_Systems_Committee.shtml)
- Oregon Senate Bill 329, 74<sup>th</sup> Oregon Legislative Assembly, 2007. Retrieved February 3, 2008 from <http://www.oregon.gov/OHPPR/HFB/docs/SB329.pdf>
- Oregon State Health Facts. (n.d.) Retrieved February 14, 2008 from <http://www.hopeforahealthyoregon.com/supporters.php>
- Parks, J. & Pollack, D. (2005). Integrating behavioral health and primary care services: Opportunities and challenges for state mental health authorities. NASMHPD. Retrieved from [www.nasmhpd.org](http://www.nasmhpd.org)
- Parks, J., Svendsen, D., Singer, P., & Foti, M. (2006). Morbidity and mortality in people with serious mental illness. NASMHPD. Retrieved from [www.nasmhpd.org](http://www.nasmhpd.org)
- President's New Freedom Commission on Mental Health. (2003). *Achieving the Promise: Transforming Mental Health Care in America. Final Report*. DHHS Pub. No. SMA-03-3832. Rockville, MD. Retrieved from <http://www.mentalhealthcommission.gov/reports/FinalReport/FullReport.htm>

- Robson, D. & Gray, R. (2006). Serious mental illness and physical health problems: A discussion paper. *International Journal of Nursing Studies*, 44(3), 457-466.
- Salsberry, P., Chipps, E., & Kennedy, C.(2005). Use of general medical services among Medicaid patients with severe and persistent mental illness. *Psychiatric Services*, 56(4), 458-462.
- Sullivan, G., Han, X., Moore, S. & Kortrla, K. (2006). Disparities in hospitalization for diabetes among persons with and without co-occurring mental disorders. *Psychiatric Services*, 57(8), 1126-1131.
- U.S. Department of Health and Human Services.(1999). *Mental Health: A Report of the Surgeon General—Executive Summary*. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health.
- World Health Organization.(n.d.) Community mental health services will lessen social exclusion, says WHO. Retrieved February 3, 2008 from <http://www.who.int/mediacentre/news/notes/2007/np25/en/print.html>
- World Health Organization. (2004). *The WHO guide to mental and neurologic health in primary care*. London: The Royal Society of Medicine Press.
- Wulsin, L. Soellner, W., & Pincus, H. (2006). Models of integrated care. *Medical Clinics of North America*, 90, 647-677.
- Young, I. (2005). Lipids for psychiatrists-an overview. *Journal of Psychopharmacology*, 19(6) Supplement, 66-75.

Appendix A

Four Quadrant Model for Integration of Behavioral Health and Primary Care

### The Four Quadrant Clinical Integration Model



Running head: COST EFFECTIVE METABOLIC SCREENING

A Cost Effectiveness Case Analysis

for Metabolic Screening

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Carolee is a 38 year old woman who is being seen in the local mental health center for a diagnosis of schizoaffective disorder. She first showed signs of mental illness after graduation from high school and has had 5 or 6 hospitalizations for psychosis and suicidal ideation over a period of 20 years. She has been on antipsychotic medication for 18 years. Her last hospitalization was 6 months ago when she was placed on a mental health hold and remained hospitalized for 3 days. Carolee hears voices most days, but usually she is able to ignore them. Her current psychiatric medications are escitalopram 20 mg, valproic acid 500mg bid, risperidone 6 mg qhs, lamotrigine 100mg qam, lorazepam 1 mg q6 hours as needed for anxiety, and ziprasidone IM as needed for agitation. Over the course of 20 years, she has been on haloperidol, fluphenazine, clozapine and olanzapine in the past as well as lithium, paroxetine and fluoxetine. She has “no idea” why they were changed throughout the years. She reports no medication allergies. She has been prescribed “a high blood pressure pill, but it is a hassle to get and I don’t think I need it. I am already on too many medications”. She has no drug allergies, smokes one half a pack of cigarettes a day and uses no alcohol and “occasionally” marijuana.

Medical history includes obesity and hypertension which she doesn’t think she needs to treat anymore because she “feels fine.” When she thinks she needs medical care, she drives 45 minutes to her home town to see her PCP, a physician’s assistant, with whom she feels comfortable. She tried care with a physician in town, but “felt weird in the waiting room and after he saw my mental diagnosis he stopped taking me seriously.” She has not seen her primary care provider in 18 months since her car broke down. Family history includes stroke, diabetes, obesity and cancer.

Carolee's case is fairly typical for people with severe and persistent mental illness. She has a history of trying numerous psychiatric medications without completely relieving her symptoms. Her family history and personal health risks include: smoking, marijuana use, obesity, hypertension and she is at risk for metabolic syndrome due to her treatment with antipsychotic medications. Carolee's physical health care is compromised by her distance from her preferred primary care provider and her refusal to see a provider locally. She is in need of health education regarding hypertension and the need to take medication even when no symptoms are present. Carolee presents challenges associated with chronic mental illness and typifies risk for metabolic syndrome in this population.

Metabolic syndrome is a collection of disorders that includes: hypertension, obesity, diabetes, and dyslipidemia (high triglycerides, low HDL). Metabolic syndrome is considered present when a person has three of the five components. Carolee already has hypertension and obesity. Metabolic syndrome can lead to cardiovascular problems that have been shown to shorten the lives of the severely mentally ill by up to 25 years (Parks, Svendsen, Singer & Foti, 2006).

For all intents and purposes, Carolee considers the mental health center her health care home. Difficulties negotiating two systems of care contribute to poor physical health care for the severely mentally ill population and have led to recommendations to provide physical health care screening in the mental health setting (Parks et al., 2006). There are a number of reasons why those with mental illness are more comfortable in the mental health care setting. Stigma in the community regarding mental illness and people who suffer from it, lack of understanding of mental illness by primary care providers and staff, and the symptoms of mental illness itself

contribute to the mentally ill avoiding treatment in settings other than the mental health center (Miller, Druss, Dombrowski, & Rosenheck, 2003).

The nurse practitioner screens Carolee and finds that she is positive for metabolic syndrome. Her findings are:

Measurement	Carolee's value	Normal range (female)
BMI	47	< 25
Waist circumference	46	≤35
Fasting glucose	265	<110
Triglycerides	214	<150
HDL	48	≥50
Blood pressure	158/96	<130/85

Nationally, 24% of the general public are identified with metabolic syndrome, yet in the mentally ill that number rises to approximately 35% (Suppes, McElroy & Hirschfeld, 2007).

Typical mental health clinic practice is for the individual provider to manage health care concerns for the patient. This responsibility includes lab studies and referral to the primary care provider (PCP). The nurse practitioner/DNP proposes a program to screen all of the adult patients in the mental health center who are at risk for metabolic syndrome. At risk patient are those taking antipsychotic medications, Lithium and anticonvulsants (Suppes et al., 2007). The clinical director consults with the financial officer and returns with a request for more information on what this would cost the center. The NP/DNP plans a cost effectiveness analysis (CEA) to determine the costs and benefits of screening the at risk patients in the mental health center. A secondary finding would be to determine the prevalence of metabolic syndrome at the clinic. The DNP is well suited to undertake this evaluation because of the DNP focus on health care systems, change and financial aspects of care.

### Cost Effectiveness Analysis

In this study, a budget and cost-effectiveness analysis is presented from the perspective of a fee



for-service mental health clinic that has not previously used an RN for care. The decision makers are the medical director and clinical operations director. Ultimately, insurers will make decisions regarding payment of screening activities such as laboratory tests.

The present clinic model of care is to use physicians and psychiatric nurse practitioners as providers of mental health services with assistance from a non-licensed medical case manager. Usual care has not addressed identifying and referring clients with metabolic syndrome. If identified, metabolic syndrome would be based on the individual practitioner's identification of weight gain or other physical difficulties as a side effect of antipsychotic medications. The clinic has no equipment to weigh clients or measure blood pressure unless a provider brought in their own personal equipment.

An RN screening program changes existing practice which is currently informal and expects each provider (MD/NP) to assess and follow through on physical health concerns. The question posed by the PMHNP was: what is the cost effectiveness of a RN based metabolic syndrome screening program for people in an outpatient mental health clinic? The following formula is used in cost effectiveness analysis (American College of Physicians, 2000):

$$C1 - C2 / E1 - E2$$

C1= Cost of an RN screening program for detection and referral of metabolic syndrome

C2= Cost of usual care.

E1= numbers of clients determined to have metabolic syndrome in screening program

E2= numbers of clients with metabolic syndrome detected by providers with no screening program.

In this situation, since there has been no ongoing program or monitoring, the cost comparison is based on usual care. A simple strategy will be used to compare the cost to no cost as the MD/NP

strategy is done within the scheduled 30 minute medication management appointment. The results will identify the cost per case found. The value of health screening in preventing future more serious diseases seems inherently worthwhile; however in the current climate of increasing health care costs and decreased funding, it is important to know the cost of new programs before undertaking them. This analysis will provide objective data that will be useful to the mental health center and stakeholders as finance and budget decisions are made. In this case, is there a sufficient yield of positive cases to warrant the expense of screening and once identified, can something be done to reduce the risk of complications and co-morbidities. Such a program might also identify those at risk of developing metabolic syndrome and initiate different management decisions related to medication prescription and diet and exercise recommendations.

The primary perspective used to analyze costs and outcomes is that of the non-profit mental health clinic. The reason for this perspective is that the clinic must take the initial burden of financing the screening program. The program uses the current reimbursement system to minimize agency costs involved in the program. Once the program is in place and has been evaluated, an additional perspective would be that of the insurers and would be related to long-term costs. These costs arise from not treating physical risks in the population early on (secondary prevention) and therefore assuming the future costs of acute and chronic disease such as hypertension, diabetes, heart disease and heart, kidney and liver failure.

The clinic sponsoring the screening program has very specific categories for expenses. In this clinic, direct expenses are considered salary and benefits and a preset percentage for clinical support (front desk, medical records billing, and a computer fee). Supervision of the clinical staff is based on the staff FTE. Interestingly, the cost of hiring and training for the position is also folded into the supervision cost. Supervision includes all levels of clinical supervision up the

administrative tree. The formula does not change with time as there is an assumption that turnover will maintain a hiring and training cost.

Indirect costs are divided into occupancy, based on the FTE of the clinical staff person and operations. These costs include staff incentives, occasional patient incentives, food and expenses related to programs such as manuals for a group therapy program. Into this expense they also put Clinical liability insurance and bad debt are included in these costs. Administrative costs include the human resources department and information technology.

As the program becomes established, the NP cost will not be needed for evaluation tasks as they will be assumed by the clinical administrative staff. Depending on the numbers that are referred by the MD/NP staff, the clinic revenues could be high or low. Potential numbers of clients seen could be estimated using the statistics on medical problems in the SMI population (34%) or since metabolic syndrome is prominent when antipsychotic medications are used, the entire SMI population would be at risk.

### Strategies

All categories of direct and indirect costs of the screening program are included in the budget shown in the Appendix. These figures are based on how the agency budgets for new and existing programs. In the short term, the screening program increases costs for the insurers as more patients will be referred for physical care. The alternative, which is to do nothing does not change costs for the agency. However, it does change long term costs for the insurers who would have to pay for the sequelae of untreated physical health problems related to metabolic syndrome.

Sources for information regarding costs and revenue for the screening program are included in the budget in the Appendix. This information is available from the Clinical

Operations Director (COD) who calculates the figures into the budget each year using the formula to figure indirect costs of supervision and office expenses.

Project evaluation includes both process evaluation and an outcome evaluation. Because past costs are not included in the program evaluation, adjustments for inflation will not be needed.

Uncertainty in estimated costs and outcomes concerns mostly the time it will take the RN to run the program, the numbers referred and any changes that may occur in reimbursement rates by the insurers. RN time and numbers detected and referred will need to be carefully monitored as the program runs in its first year with monthly records reviewed. Measures can be put into place to increase numbers referred if it is too low (which will increase RN time) but will ensure better assessment of health risks in SMI clients. Additionally, occupancy costs may change over the year. Insurer reimbursement rates may also change. The clinical operations director will know the details of rate changes and potential changes from county mental health board meetings.

An additional concern regarding this cost-effectiveness analysis is that the screening may never be profitable to the agency, but provides a service that improves patient care. In this time of budgetary struggles, as evidenced by a similar agency's bankruptcy, financial benefits will have to be balanced with the mission of the agency to provide quality health care to the mentally ill population.

Outcome data includes both program and patient data. Program data includes: screening results (prevalence of metabolic syndrome) and effect of subsequent referral and treatment.

Patient results are improvement in physical indicators of metabolic syndrome (BP, cholesterol,

triglycerides, blood glucose and BMI/waist circumference) measured 3 months after primary care treatment.

An anticipated recommendation for change in clinical practice related to this CEA is to maintain a position for an RN in the clinic to expand the ability of the MD/NP group to address physical health needs of this population. Depending on the cost effectiveness of using an RN for screening, the other clinic sites that do not have an RN, but do have a program for the seriously mentally ill (total 3 sites) may consider adding an RN or the one RN may be able to serve all three sites in a 1.0 FTE position divided among the sites. Time needed to screen the MD/NP referred population at the initial site will need to be carefully analyzed as numbers of clients is uncertain. Time involves the actual screening time, which can be billed by the RN and the follow up time. Time will be recorded for reviewing the chart, ordering lab work, contacting labs, and contacting primary care providers for lab work if it is already completed. Finally, the RN will need to maintain records and follow up on lab work and primary care notes that have not been received. The screening visit will be documented and dates for follow up screening noted in the medical record.

If the major insurers see the long term benefit of the program (reduction of ER visits and costly care for advanced conditions), reimbursement may be increased for all activities performed in the screening program. At this point, what is noted as RN case management (i.e. referral to PCP and tracking treatment) is not reimbursed. It takes significantly more time than the actual screening which takes 15 minutes. The insurers may or may not deem it “case management” similar to the SMI case manager time, which is reimbursed for this population. The SMI population is much less certain to follow through with care related to medical diagnosis. Consequently, more intensive efforts are needed to ensure follow up medical care.

With full reimbursement, the program could increase cash flow, but return on investment positive or negative will have to be balanced with non-monetary benefits such as increased detection of disease in a vulnerable population.

### Evaluation

Russell (2009) reports that prevention activities usually increase costs, but found that for people at higher risk, the savings were greater. This fits with the high risk of metabolic and cardiovascular complications in the mentally ill. Further, only 20% of prevention efforts were cost saving, with 80% adding more cost than that saved. Effectiveness of screening is judged in two ways: 1) it detects a disease before symptoms appear and 2) treatment is more effective if started at earlier in stages of disease progression. Again this would be the case with metabolic syndrome as blood pressure, cholesterol and glucose problems often have no symptoms that the person can detect. All components of metabolic syndrome progress to more serious problems if not treated.

It is hard to put a cost on quality of life, but using evidence to initiate screenings puts the costs and benefits into perspective. Rosenheck et al. (2006) looked at cost effectiveness of first versus second generation antipsychotic medications using medication cost, quality adjusted life years (QALY) and health services use. The researchers determined that although many believe the outcomes were better with the more expensive second generation medications, the difference was not significant. The researchers do caution that this study does not take into effect the longer term metabolic and neurologic effects which need to be considered in making medication choices such as with Carolee.

After Carolee's referral, medication was started to control her blood glucose (Metformin) and she was educated and supported in adherence to antihypertensive medication. She was able

to qualify for a free YMCA membership and began exercising with a friend. She did state that if her friend quits going to the YMCA, she will quit exercising.

The DNP thinks beyond individual clinical practice. Screening for metabolic syndrome is clearly indicated for the mentally ill population on antipsychotic and mood stabilizing medications. Rather than implementing the guidelines for individual practice, the DNP leads practice improvement efforts that can affect the larger population of the clinic. With evaluation and publication of findings, the information is disseminated to a wider audience and may stimulate similar efforts in other clinics or further innovations in care.

#### Self-Reflection

As I near the end of my DNP program, I can see how I have grown as a practitioner and leader. The coursework that has been particularly enlightening has been the health care systems and health finance and economics information which I have not studied previously. With this new knowledge of health care economics and finance I can answer many questions in health care that have not been possible for me to answer adequately before. This type of preparation is one thing that I feel distinguishes me now as a DNP. Financial information can be used to make a case for practice change using the leadership skills of the DNP. I would like to pursue this path for my CI project once I have completed the program. I see myself as a beginner in this area and would want to consult the experts at OHSU SON for help in completing a cost effectiveness study of my CIP.

## References

American College of Physicians. (2000). Primer on cost-effectiveness analysis. Retrieved July 30, 2008 from

[http://www.acponline.org/clinical\\_information/journals\\_publications./ecp/sep0ct00/primer](http://www.acponline.org/clinical_information/journals_publications./ecp/sep0ct00/primer)

Miller, C., Druss, B., Dombrowski, E., & Rosenheck, R. (2003). Barriers to primary medical care among patients at a community mental health center. *Psychiatric Services, 54*(8) 1158-1160

Parks, J., Svendsen, D., Singer, P., & Foti, M. (2006). Morbidity and mortality in people with serious mental illness. National Association of Mental Health Program Directors.

Retrieved March 30, 2009 from

[http://www.nasmhpd.org/general\\_files/publications/med\\_directors\\_pubs/Technical%20Report%20on%20Morbidity%20and%20Mortality%20-%20Final%2011-06.pdf](http://www.nasmhpd.org/general_files/publications/med_directors_pubs/Technical%20Report%20on%20Morbidity%20and%20Mortality%20-%20Final%2011-06.pdf)

Rosenheck, R., Leslie, D., Sindelar, J., Miller, E., Lin, H., Stroup, T. S. et al. (2006). Cost effectiveness of second generation antipsychotics and perphenazine in a randomized trial of treatment for chronic schizophrenia. *American Journal of Psychiatry, 163*(12), 2080-2089.

Russell, L. (2009). Preventing chronic disease: An important investment, but don't count on cost savings. *Health Affairs, 28*(1), 42-45.

Suppes, T., McElroy, S., & Hirschfeld, R. (2007). Awareness of metabolic concerns and perceived impact of pharmacotherapy in patients with bipolar disorder: A survey of 500 US psychiatrists. *Psychopharmacology Bulletin, 40*(2), 22-37.



Appendix

Budget, Assumptions and Strategies for Cost Effectiveness Analysis

<b>Individual items</b>	<b>Assumptions</b>	<b>Strategies and Plan</b>
<b>Start-up expenditures</b>		
<b>Direct expenditures</b>		
NP salary	Range \$34-50/hr	Human Resources Director (HR) verify range, Med Director determines exact amount based on qualifications.
RN salary	Range of salary based on RN experience .5 FTE	HR director and Clinical Operations Director (COD) have salary range based on Multnomah county rates
RN benefits	% based on salary & FTE	HR has formula, currently 27% (2008)
RN supervision [Includes all supervisors up the admin tree. Also includes training and hiring costs for the position].	% of salary and FTE	HR & COD
Clinical Support [Front desk and medical records, billing staff]	Formula based on program costs. OP program costs would be more than day treatment as multiple pts check in during the day and multiple charts and billings are generated	COD has formula
<b>Indirect expenditures</b>		
Occupancy [space, supplies, phone, utilities]	% of FTE	COD has formula
Operations [clinical incentives, manuals, med supplies, mileage, clinical liability insurance, bad debt]	Formula based on specific program	COD formula
Administration [overall admin, HR, IT, clinical operations director, CEO]	Formula based on program	COD formula
Biophysical measurement equipment for screening [stethoscope, BP	Equipment is inexpensive and can be purchased at cost through medical	Medical director

cuff, tape measure, scale]	supply. Costs are small and will not be depreciated	
<b>Implemented program</b>		
<b>Direct expenditures</b>		
RN salary	Range of salary based on RN experience .5 FTE	HR director and Clinical Operations Director (COD) have salary range based on Multnomah county rates
RN benefits	% based on salary & FTE	HR director
RN supervision	% based on salary and FTE Additional supervision by NP @ \$50/hr (2hr/wk)	HR & COD
Clinical Support	Formula based on program costs	COD
<b>Indirect expenditures</b>		
Occupancy	Formula based on FTE	COD
Operations	Formula based on program	COD
Administration	Formula based on program	COD
<b>Revenue</b>		
Coding and billing for RN	# of referrals and billing revenue exceeds program costs Psych ed = \$8.30/person Med educ.= \$32.50/unit Group therapy = \$65/grp Case Mgt = 32.50	Review payment codes for each insurance used, primarily OHP  Monitor revenues during evaluation process.
<b>Indirect impact on revenue and expenses</b>		
# referrals and billing exceeds (+) or does not (-) equal RN costs		Data will need to be collected during program for evaluation.
Case management not reimbursed	Time for referral to PCP usually not reimbursed in medical clinics and is not reimbursed in regular OP program. Case will be made that this population has special needs.	Data will need to be collected on time spent by RN on the referral activities
Expenses to run program may increase or decrease over time	Formula to figure clinical support, occupancy, operations and admin can change as can FTE of RN time in screening program	Data collection will need to be ongoing as program gets established.

Running head: PERSISTENT DELUSIONS

Persistent Delusions:

A Case Study

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Natalie is a 36 year old Filipino woman who is seen in the mental health clinic for a first medication management visit. Natalie's care has been transferred to this mental health clinic after her current clinic closed. She has a current diagnosis of schizoaffective disorder, bipolar type. She has no current complaints but would like a refill on her psychiatric medications which are risperidone 6 mg at bedtime and valproic acid 250 mg in the morning and 500 mg at night. She reports that she has discontinued benztropine as it was not needed for side effects. She has a three months med supply at the clinic, so it is possible she is not taking her medications.

Natalie is quiet and gives little information. When asked, if she ever hears or sees anything that is not there, she describes an elaborate delusional system involving angels, multiple lifetimes and a god-like figure who controls everything. This figure is named Mr. Attabine and he controls her mind, telling her what is going to happen and how many lifetimes she will live ("40 million 50 billion"). He will "shoot" her family after which, their skin will turn white. When asked if that will hurt her family, she laughs and states "no, he already shot them and they turned from brown to black." She will "live a million years and be shot by Mr. Attabine many times during these lifetimes." When asked if she would like him to go away, she replies that this is not possible as he is the creator of the universe. She would like him to "stop bugging" her so much. Clinical staff reports this as an ongoing delusion for Natalie.

A delusion is a fixed false belief and may be one of five types: persecutory, grandiose, jealous, erotomanic or somatic. Delusions may be characterized as religious or referential in nature. Natalie's delusions would be considered paranoid with religious content. Delusions must be considered within the cultural context in which they are found. An idea that western society might find delusional, may be a commonly held belief in another culture. Therefore culture must be explored before the idea is considered delusional or not. Santa Rita (1996) identifies paranoid

and religious symptoms as predominating in Filipinos with schizophrenia. Among people of Filipino origin, there is a tendency for these delusions to be characterized by supernatural forces, demons, malevolent spirits and magical forces (Pacquiao, 2003; Santa Rita). Exorcism is considered a treatment by some in the Philippines (W. Licaycay, personal communication, February 6, 2009). Natalie has lived in the US since age 12, but her family is still quite immersed in Filipino culture and regularly visits home.

Delusions may be present in a number of disorders, but primarily schizophrenia, schizoaffective disorder and delusional disorder. The prevalence of schizophrenia in adults is approximately 1% worldwide, and delusional disorder prevalence is 0.03%. The prevalence of schizoaffective disorder is not known most likely because of the overlapping nature of the thought and the affective components of schizoaffective disorder. Delusions are present in 75% of people diagnosed with schizophrenia (Freeman et al., 2004). This paper will focus on delusions in the patient with schizophrenia and will investigate treatment recommendations that may be useful to provide Natalie with a better outcome. Methods to promote improved practice interventions with the population suffering from delusions will be discussed.

#### Analysis of Case

A review of available clinic records shows that Natalie's delusion has been present since at least 2007 with little change in intensity or content. No documented medication changes have been made since 2007. Records from her former clinic (1998 to 2008) are reviewed to establish the onset of Natalie's disorder, its course and a history of medication trials. Family history may reveal contextual issues affecting treatment. Changes in her diagnosis and symptomatology over the years since her first diagnosis provide important data that influence treatment. The records are reviewed chronologically and important data are reported in the appendix.

### *Psychiatric Chronology*

In summary, her psychiatric history reveals inconsistent diagnoses, inconsistent recording of medication allergy, and inconsistency in reporting medications and doses prescribed. Her initial diagnosis (1998) was schizophreniform disorder which changed to major depression with psychotic features in 1999. This diagnosis remained until 2007 when the hospital record reported that “they were told she had bipolar disorder.” After this admission, the outpatient diagnosis changed to schizoaffective disorder, bipolar type for which she meets the criteria from the Diagnostic and Statistical Manual (DSM-IV-TR) (American Psychiatric Association, 2000). Medications have been olanzapine, fluoxetine, paroxetine, risperidone, valproic acid and benzotropine. Allergies have been reported at various times in the record as none, olanzapine, ASA, and antibiotics. The latest entry was “none.” Her mother reported fluoxetine made her stop eating, but this was not substantiated in the record.

Medical examinations with laboratory tests are found in the records in October, 1999 and June of 2007. In 1999 Natalie was found to have a microcytic anemia diagnosed as probable alpha thalassemia related to her ethnic group. She had irregular menses and reported a history of eye surgery as a child. Similar laboratory findings and a report of irregular menses were found but not diagnosed nor addressed in 2007. Natalie currently has no primary care provider and reports “no physical concerns.”

### *Psychosocial History*

Family and psychosocial history is limited. A brief note in the record in 1999, reported that her mother had suffered from depression. Later, in 2002 her brother was also identified as experiencing depression; however an uncle reported that there was no mental illness in the family. The first psychosocial history is recorded 2002. Natalie was raised in the

Philippines with her family, and her father died in an accident when she was 10 years old. This was reported as very traumatic for the family. The family moved to the United States two years later and her mother remarried. The family identifies as strongly Roman Catholic. Natalie, her brother and stepfather have had ongoing employment problems reported as stressful to the entire family. The family moved back to the Philippines for one year (summer 1998) when Natalie graduated from college and couldn't find a job. Natalie had had her first episode of illness just before the move. Her mother said it would be better there, "you never have to worry about money." Natalie found no job there nor did she socialize or make any friends. The family returned to the US northwest in the summer of 1999. Natalie later reported that while there, she ran away from home because her mother was going to commit her to a mental institution and in the Philippines, "they are like prisons that you never get out of." She eventually went home, apologized and "everything was okay." By 2007, she was living with her mother and brother in her brother's adult foster care home. Her stepfather is no longer there, but no information is given as to why. Natalie's stressors are her father's death, unemployment, moves between the US and the Philippines, lack of consistent health insurance and major mental illness with frequent hospitalizations.

### *Review of the Literature*

A review of the literature results in many articles on schizophrenia, with delusions as only one of the active symptoms. Treatment results address overall improvement rather than improvement in delusions specifically. Therefore a search of the literature on delusional disorder, though not Natalie's diagnosis, provides additional information.

Although delusional disorder traditionally has been considered difficult to treat, with atypical antipsychotic medications, almost 50% respond positively to medication with an

additional 40% showing improvement (Manshreck & Khan, 2006). Manshreck and Khan published an analysis of studies on delusional disorder from 1994 to 2004 and found the second generation antipsychotic medications to be similarly effective in treating delusions as the first generation antipsychotics. First generation antipsychotics were found effective in treating delusional disorder in an analysis of studies published from 1960 to 1994, before the widespread use of the second generation antipsychotics (Munro & Mok, 1995). Manshreck and Khan found no specific regimen more effective, yet it was noted that most patients were on a combination of antipsychotic agents or an antipsychotic and antidepressant combination. Clozapine was somewhat less effective. Both studies noted non-compliance with medication as a significant problem in delusional disorder.

An analysis of the literature on delusional parasitosis (Freudenmann & Lepping, 2008) demonstrated an improvement rate (partial and full remission) of 60 to 79%, close to Manshreck and Kahn (50% full remission plus 40% partial remission) with medication. Risperidone and olanzapine were the most widely studied for monotherapy and were found to have a full or partial remission rate of 71%, often at lower doses than those used for schizophrenia. Miramoto et al. (2008) reported the successful treatment of a Japanese woman with delusional disorder using low dose aripiprazole (2-6 mg). The lower risk of weight gain and metabolic syndrome with aripiprazole may make this a good choice for Natalie. Pacquiao (2003) reports that patients in the US of Filipino origin may need lower doses of medication for mental illness and are at higher risk for hypertension, diabetes and hypercholesterolemia.

A synthesis of these findings suggests that either first or second generation antipsychotics as monotherapy or in combination may be useful for Natalie. Risperidone, olanzapine and aripiprazole have efficacy with safety benefits, although olanzapine may not be the best for



Natalie as she may have a predisposition for metabolic syndrome based on her ethnic background. There is also a onetime listing in her record (1999) of an olanzapine allergy causing shortness of breath. A balance will need to be found for the higher doses needed for Natalie's schizophrenia versus the lower doses often needed by the Filipino population. The maximum dose can be determined by a slow taper. Tapp et al. (2003) make recommendations to add a second antipsychotic after four have been tried including clozapine, however clozapine was found not as effective with delusions (Manshreck & Khan, 2008) and therefore would not be the most likely agent to choose for augmentation in this case.

Depression may make the symptoms of schizophrenia worse (Arehart-Treichel, 2006) and Natalie has a history of a major depression diagnosis and most recently schizoaffective disorder. From a review of the records, she was treated successfully in the past with paroxetine and with fluoxetine, and so depression may be another consideration in Natalie's treatment. It would be important to pursue her current mood symptoms, despite her recent denial of depression after the antipsychotic medication is maximized. Santa Rita (1996) states that for Filipino people, disappointments may lead to depression. Natalie spoke often in the records of her inability to get a job despite her college education. Santa Rita further identifies that due to stigma, mental illness is often hidden or denied in Filipino families. The Filipino family may initially try to cope by resting, avoiding stress, making spiritual offerings or with increased church attendance, followed by indulging the ill person. This may be followed by a period of "tolerant accommodations" to the illness. It would be interesting to speak with Natalie's family and get their perspective on Natalie's illness and her role in the family.

The role of the psychiatric/mental health nurse practitioner encompasses both medication and therapy interventions, so a further search of the literature finds several therapy techniques

that may be effective with delusional patients. Cognitive behavioral therapy (CBT) has demonstrated in several studies that it can be effective to reduce the symptoms of schizophrenia (Kingdon & Kirschen, 2006; O'Connor et al., 2007). The underlying goal is to assist the person to develop insight into their illness and the need to remain on medications. Compliance with medications is very important to recovery. Delusions, in the psychodynamic approach, occur when the person experiencing confused thoughts, like those in schizophrenia, attaches to an idea (which may be false) as a way to explain what is happening. This provides comfort and the confusion seems to subside. Because the explanation has served to reduce the confusion, it becomes fixed. The therapy technique is to try to connect to the feelings at the time when the delusion first appeared. The therapist attempts to help the person find an alternative explanation for the experience as a way to lessen the dependence on the delusional theme and improve insight (Bora et al., 2007; Freeman et al., 2004; Jacobs, 1980). This may take time and is dependent on the therapeutic relationship between the therapist and patient. An understanding of the patient's culture is essential to understanding the significance of the theme of the delusion. Santa Rita (1996) identifies a tendency towards fatalism in Filipino culture that may cause the person and family to resign themselves to illness, which may be seen as a punishment (Pacquiao, 2003).

### Intervention Strategies

Several intervention strategies are suggested from the analysis of this case. The first approach is pharmacological. Evidence cannot be easily found, as the literature on the pharmacological treatment of delusions has no algorithms to consult, and must be synthesized from what is available. The literature on schizophrenia, mood disorders and delusional disorder, inform the best treatment approach. Antipsychotic treatment with risperdal, which has already

been maximized for Natalie, should include augmentation with aripiprazole which also has mood stabilizing and antidepressant properties. The timing may be good for this since Natalie has indicated she “can’t make him go away, but would like him to stop bugging me so much.” At the same time she denies depression, so an antidepressant would not yet be suggested, although the evidence suggests there may be an underlying depression. The dose will be started very low since she has a history of stopping medications if she did not like the side effects. If aripiprazole can be maximized, perhaps then the risperidone can be tapered down or eventually discontinued.

The second treatment intervention will involve the treatment team. Guided by the therapy literature, I can focus on her experience at the time of her illness and try to fill in the unclear information and unrecorded time periods in her history. Within a therapeutic relationship, she may be led towards an alternate explanation of her experience of psychosis and thereby insight into her illness and treatment, including the need for medication. The treatment team will need to reinforce medication compliance to ensure the best outcome. At the team treatment meetings, information on the treatment of delusions can be provided to all. Natalie’s case manager and the DNP will be able to work together to reach the treatment outcomes with each providing care in individual areas of expertise and in areas where skills overlap.

Outcomes are 1) reduced intensity and persistence of delusions, 2) compliance with medication treatment, 3) minimal side effects from medications including metabolic complications 4) active involvement in cognitive-behavioral strategies to reduce stress and increase ability to cope with day to day stressors 5) attendance at the socialization group for people with mental illness held at the center 6) primary care provider appointment to review health history, menstrual symptoms and earlier diagnosis of alpha thalassemia. Long term

outcomes would be for Natalie to return to work free from delusion and depression and to develop friendships outside of family members.

#### Evaluation of Care

After preparing this case study, Natalie returned for an office visit. We discussed the addition of aripiprazole and she agreed to take it. Samples were provided and she agreed to return in two weeks or to call sooner if she has questions or concerns about the new medication. Time was spent discussing the development of her “problems” and she states she was not mentally ill when she was first hospitalized, only “spooked” by someone. She told me that “this will seem fantastical” and went on to speak of Mr. Attabine. The positive in this is that she for the first time at least acknowledged that it sounded “fantastical” i.e. unrealistic. It is a starting point. She has been assigned a case manager and we will meet in one week to arrange a treatment plan. A time on the weekly team agenda is set aside to discuss delusions and the medication and therapy treatments available.

This case is complex for many reasons. From the records reviewed, little has been shared with other providers in a timely manner. It speaks strongly to the need for electronic records that can be shared from agency to agency. This is currently a concern at the policy level for the state. Fortunately the “mistakes” in the records did not cause harm.

The DNP evaluating this case was able to confirm the current diagnosis, and by reviewing and synthesizing the literature develop an evidence based plan for treatment of Natalie’s delusions. Continuing to collect data to confirm or deny a diagnosis of depression will be important. Previous treatment has been limited to medication, but given the success of this patient in the past, her college education, strong connection with her family and long periods of stability, she may benefit from the long lasting effects of therapy to more effectively understand

and manage her illness. One of the most important interventions is to include the entire team in the treatment.

The impact of Natalie's case goes beyond this patient in this setting. With more than 1 % of the population having schizophrenia and other thought disorders, the need for coordinated care and a hopeful attitude towards treatment is important. The general consensus on delusions is that they rarely go away and only medication can treat them, and then only partially in most cases. The literature does not support this perception and it is important to inform others of the findings. An article discussing treatment approaches for persistent delusions is needed to recommend alternate treatment approaches and emphasize cultural context in mental illness.

#### Self-Reflection

I was discouraged by the negative perception towards persistent delusions. I found little encouragement to step away from the status quo and find some hopeful possibilities for treatment. As I recorded a chronology of her case, I was surprised by the glaring mistakes in diagnosis, medications, allergies and history. Electronic records would have prevented that. I was determined not to let the current treatment be "good enough." The character of the DNP is not content to just perform what seems possible in the short time we have with the patient, but to look at the individual, the literature and improve care. The DNP doesn't stop there, but acts on what is discovered to improve practice. Publishing, planning practice improvement, and involving the team so new information affects more than just one practice and one patient. At times, I am reluctant to change, not wanting to possibly make things worse by trying something new. I am learning to step up and try it. DNP clinical expertise is a commitment to excellence.

## References

- American Psychiatric Association. (2000). *Diagnostic and Statistical Manual* (4<sup>th</sup> ed., text revision) Washington, D.C: American Psychiatric Publishing.
- Arehart-Treichel, J. (2006). Depression may aggravate delusions in schizophrenia. *Psychiatric News*, 41(22), 21.
- Bora, E., Erkan, A., Kayahan, B., & Veznedaroglu, B. (2007), Cognitive insight and acute psychosis in schizophrenia. *Psychiatry and Clinical Neurosciences*, 61, 634-639.
- Freeman, D., Garety, P., Fowler, D., Kuipers, E., Bebbington, P., & Dunn, G. (2004). Why do people with delusions fail to choose more realistic explanations for their experiences: An empirical investigation. *Journal of Counseling and Clinical Psychology*, 72(4), 671-680.
- Freudenmann, R., & Lepping, P. (2008). Second-generation antipsychotics in primary and secondary delusional parasitosis: Outcome and efficacy. *Journal of Clinical Psychopharmacology*, 28(5), 500-508.
- Jacobs, L., (1980). A cognitive approach to persistent delusions. *American Journal of Psychotherapy*, 34(4), 556-563.
- Kingdon, D., & Kirschen, H. (2006). Who does not get cognitive-behavioral therapy for schizophrenia when therapy is readily available? *Psychiatric Services*, 57(12), 1792-1794.
- Manschreck, T., & Khan, N. (2006). Recent advances in the treatment of delusional disorder. *Canadian Journal of Psychiatry*, 51(2), 114-119.
- Miramoto, S., Miyake, N., Ogino, S., Endo, T., & Yamaguchi, N. (2008) Successful treatment of delusional disorder with low-dose aripiprazole [Letter]. *Psychiatry and Clinical Neurosciences*, 62, 369.

- Munro, A., & Mok, H. (1995). An overview of treatment in paranoia/delusional disorder. *Canadian Journal of Psychiatry, 40*, 616-622.
- O'Connor, K., Stip, E., Pelissier, M., Aardema, F., Guay, S., Gaudette, G., et al. (2007). Treating delusional disorder: A comparison of cognitive-behavioural therapy and attention placebo control. *Canadian Journal of Psychiatry, 52*(3), 182-190.
- Pacquiao, D.(2004) People of Filipino heritage. In L. Purnell, & B. Paulanka (Eds.), *Transcultural health care: a culturally competent approach* (2<sup>nd</sup> ed.) (pp.138-159). Philadelphia: F.A. Davis.
- Santa Rita, E. (1996). Pilipino families. In M. McGoldrick, J. Giordano, & J. Pearce (Eds.), *Ethnicity and family therapy* (2<sup>nd</sup> ed) (pp. 324-330). NY: Guilford Press.
- Tapp, A., Wood, A., Secret., L., Ermann, J., Cubberley, L., & Kilzieh, N. (2003). Combination antipsychotic therapy in clinical practice. *Psychiatric Services, 54*(1), 55-59.

## Appendix

## Course of Illness as Documented in the Records

6/98-Triage-schizophreniform disorder, Prozac 10 mg (per PCP), Zyprexa 10 mg

Primary care provider diagnosed earlier with panic attack. Current symptoms: paranoid delusions (“someone said I was worthless,” there was a helicopter circling the house”), ideas of reference, thought insertion, vague historian, speech latency, inappropriate laughter.

9/99-Triage-major depressive disorder, NOS, r/o schizotypal personality, Prozac 20 mg

Did not follow up on Zyprexa.. Disorganized thoughts, trouble concentrating, denied episode from 6/98. Both parents and Natalie vague historians. Mother suffered from depression. One year move to the Philippines explains no treatment for one year.

10/99-Inpatient-major depressive disorder, “catatonic”, Paxil 30 mg/ Risperdal 3mg

Non compliant with meds, failed outpatient treatment. Near catatonic at home, fear of dying, anhedonic, restricted food intake, stressed can’t find job, speech latency, mild psychomotor retardation, flat affect, vague historian.

Allergies: Zyprexa

11/99-Inpatient-major depressive disorder with psychotic features, Paxil 20 mg, Risperdal 3mg

Not taking medications, decreased appetite, paucity of thought, flat affect, vacant stare, admits to difficulty functioning. “History of depression, but seems more psychotic”, (although there is a statement in the mental status exam “no psychotic symptoms”)

Allergies: ASA, antibiotics (not specified)

6/01-Triage-major depressive disorder in remission, Risperdal 2 mg, Paxil 20mg

Physician reports no records were available but he was told that she had been “in the hospital previously for thoughts of suicide” (all previous records stated not suicidal). Lost state Medicaid insurance coverage and ran out of meds. Described as quite insightful, high functioning. (This was in fact the physician who treated her at her very first episode and diagnosed as schizophreniform). No history reported for the 18 months interim from 11/99 to 6/01.

5/02-Outpatient-major depressive disorder with psychotic features (5/02), same meds

Referred for depression and paranoia. Worked customer service for one year before becoming ill and losing her job. History of paranoia and subsequent panic. Had a reaction when she stopped Paxil abruptly. Uses Risperdal to sleep. Has gained weight and has an



improved appetite. This NP prescriber restarted prozac to avoid withdrawal if she again abruptly stopped her medications, but Natalie's mother called and said she stopped eating on Prozac and Paxil was restarted.

No records until 5/07 (5 years) possibly treated in primary care.

5/07- Inpatient-psychosis,NOS, Risperdal 3 mg, Paxil 30 mg

Reported as catatonic. Stopped all meds 6 days ago, [MD] was "told she had a history of bipolar disorder". Responding to internal stimuli, wandered from home laughing and drooling, "acute psychotic symptoms".

6/07-Outpatient-schizoaffective disorder, bipolar type, Depakote 250 mg tid, Risperdal 2mg am/3mg hs, Paxil 30 mg (hospital discharge meds).

Euphoric, grandiose, delusions of St. Peter and "the voices of angels,spooking me", voices told her she will live 1 million years and turn white.

15 days later she is seen having stopped her medication because the voices told her she could cure herself. She is delusional, not sleeping, and hearing angels. She has stopped eating and is again wandering the neighborhood. She feels stressed because her mother wants to move back to the Philippines. She has no medical insurance and her mother has been ordering her medications from the internet.

7/07-Inpatient-Schizoaffective disorder, bipolar type, same medications  
Allergies: no known drug allergies

8/07-Outpatient-Schizoaffective disorder, bipolar type, Depakote 250 mg am, 500 mg hs, Risperdal 3 mg am, 6 mg hs, benztropine 1 mg qd

Angels and god-like figure "Mr. Attabine" transforming her into a mind slave and a blue eyed, blonde. Inappropriate laughter, responding to internal stimuli. Natalie has again lost her health insurance due to a lump sum payment social security gave her that increased her income above that required for state Medicaid insurance. Suspected not taking meds.

Running Head: DEPRESSION IN THE ELDERLY

Depression in the Elderly

A Case Study

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An elderly gentleman, Joseph, comes to the mental health clinic. He complains of feeling withdrawn and no longer wanting to socialize with his wife or friends. He has had an active life first as a high school coach, and since retirement, traveling throughout the United States. He and his wife have many friends, having lived in the same rural town for more than 40 years. The last 18 months, he has spent most of his time sitting in his lounge chair. He thinks this began after he injured his back and was unable to take an Alaskan cruise with his wife.

Joseph takes medication for high blood pressure. Four weeks ago, his primary care provider started him on a serotonin reuptake inhibitor (SSRI), sertraline 50 mg, with no change. He thinks the medication makes him dizzy, so he has not increased it as the physician recommended. He admits that he has been more forgetful lately and is becoming quite hard of hearing. He thinks that both his forgetfulness and his hearing deficit make it harder to connect to others. He does not want to be a burden to his wife and has encouraged her to continue to meet with her women friends. He is seeking specialized care from the mental health clinic.

Joseph meets the criteria for major depressive disorder. Despite medication, as treatment continues, Joseph frequently mentions that he does not see what can change as his physical deterioration “will not get better” and things “will just get worse until it’s over.” I have no answer to this. Therapy techniques are generally future oriented. They are not designed to answer how to live in the present and find meaning and purpose in life despite the inevitable decline and death that the elderly face. An online search provides little to answer the existential questions that the elderly face. Secondly, how does one address such issues in a 20 or 30 minute follow up appointment? Practice questions without easily available answers are what challenge our thinking and change practice to the benefit of patients, families and providers.

Joseph is one of approximately 15 million Americans age 65 and older who suffer from depression (NIMH, n.d.). It is estimated that 15% of the elderly in the community have some form of depression, with 3% suffering major depression (Blazer, 2002). Suicide is a serious concern with over five thousand people over 65 committing suicide in 2001 (Blackburn & Dulmus, 2007). Elderly patients with depression will be a growing part of mental health practice with adults. Studies have looked at depression over time and in different age cohorts. Depression in the elderly has increased during the 20<sup>th</sup> century and Blazer believes this can be attributed to psychosocial factors. Birth cohorts suffer the same rate of depression and suicide and certain birth cohorts stand out as suffering higher rates. For example, seventy year olds born in 1902 have a 39% suicide rate whereas 70 year olds born in 1932 have a 35% suicide rate (Blazer). Multiple factors must be considered in comparing depression rates such as standard of living and health care at the time. Availability of retirement funds, Medicare, social security and improvements in health care practices have affected the elderly over different generations. Social events that the birth cohort experienced at a certain developmental stage vary from decade to decade and impact depression estimates (Blazer).

Risk factors for depression in the elderly are physical illness, disability, negative life events during the course of one's life, genetic and biologic factors, personality predisposition, negative sociocultural processes and multiple losses (Blazer, 2002; Knight & McCallum, 1998). Knight and McCallum (1998) have developed a contextual, cohort-based, maturity, specific challenge model (CCMSC) that considers these factors in understanding the development of depression and planning its treatment. Importantly, Gatz (2007) noted that under treatment or inappropriate treatment is common in mental health care for the elderly and that referrals to therapy are rare.

## Analysis

Knight and McCallum report that therapy for the elderly is effective and can be valuable and rewarding for the therapist (1998). Knight and McCallum report that rates of improvement in the depressed elderly are similar to younger adults when they are given appropriate treatment from a skilled clinician. Further, therapy with medication is effective, and therapy alone is effective when health problems prevent the use of medication. They suggest adapting therapeutic practices for older patients by integrating concepts from gerontology and psychotherapy. Consideration must be given to the maturity of the patient and the significant life challenges they may face such as chronic illness, disability and grief. Acknowledging the impact of current social issues and unique cohort issues will improve the care offered.

Decisions about therapy must take into account the maturational issues of the elderly. These issues are 1) cognitive slowing but not decreased fund of knowledge, 2) decline in working memory, but not memory for relevant material and 3) emotional development changes such as being less impulsive, more complex emotionally, slow to arouse emotionally and then slower to calm down. Personality and development of a unique emotional response pattern are relatively stable throughout life (Blazer, 2002; Knight & McCallum, 1998). The person will need a slower pace to the therapy, and the provider will need to speak more slowly and use less complex phrasing and sentences. Problems will need to be addressed in “smaller pieces” (Knight & McCallum, p.17). This will fit well with the idea of incorporating therapy into the 30 minute medication visit.

Blazer (2002) identifies four depressive foci: biologic, social, psychodynamic and existential. The psychodynamic and existential foci are amenable to therapy only and will be discussed in this paper. Psychodynamic issues the elderly person may be dealing with are

learned helplessness, decreased psychological defenses against anxiety, depression and despair and ego impairment related to multiple personal losses. A decreased stress threshold leads to anxiety which may show itself as apathy, loss of meaning, loss of purpose and ultimately depression. Cognition may take on a negative perspective toward self (“I never do anything right”)and life events ( “My life has always been a struggle”) (Blazer).

Existential issues, according to Yalom (1980) relate to death, isolation, freedom and meaninglessness. Questions arise such as: what is the meaning of life? what is the meaning of my life? what have I accomplished? why are we here? if I must die, why do anything to change? Frankl (1969) writes that the lack of meaning and purpose is related to 20% of anxiety and depressive disorders. Erikson identifies integrity versus despair as the final stage of development (Erikson, Erikson & Kivnick, 1986). The outcome of integrity is the integration of hope, will, purpose, competence, love and caring. Yalom describes this as meaning and mastery versus meaninglessness and helplessness. He further identifies “cosmic meaning” as “what is the meaning of life?” a question best referred to clergy. “Terrestrial meaning” is characterized by the question: “what is the meaning of my life? This question can be answered by understanding personal suffering and survival and learning to live with dignity (Yalom, 1989). Joseph makes comments about the meaning of life in his appointments. He is experiencing hopelessness, apathy and loss of purpose.

While the biologic issues can be addressed with medication and the social issues with support and problem solving, it is the existential questions that often leave the therapist at a loss. What is the answer to questions of meaning in a life that is near its end or that faces suffering, disability and continued loss? A different approach is needed to address these issues when working with the elderly in mental health settings. Nurse practitioners may feel ill prepared to

address such issues and even more so because of limited time in follow up visits. A plan can be developed that holistically addresses the issues facing the person: biologic, social, psychodynamic and existential. Based on the literature, interventions are developed that can be incorporated into brief sessions that take place over time with the depressed elderly patient.

### Intervention Strategies

Interventions for depression are biologic, psychodynamic, social and existential.

Interventions for biologic and social issues are well known to the mental health nurse practitioner and will be briefly summarized. The purpose of this case study is to focus on interventions for the psychodynamic and existential issues that arise in mental health encounters with the elderly.

Age related changes influence the prescription of psychoactive medication in the elderly. These changes are structural changes in the brain, decreased cerebral blood flow, endocrine change and changes in the production and binding of neurotransmitters particularly norepinephrine and serotonin (Knight & McCallum, 1998). Often, there are physical health conditions that complicate psychopharmacologic treatment and medications for physical illness that may interact negatively with psychoactive drugs. This limits the ability to rely on medications only to treat depression in the elderly.

Social issues such as lack of social support, social stress, and deterioration of the social network due to deaths and/or disability can be addressed using a problem solving therapy approach. Cognitive-behavioral therapy has been shown to be effective in changing negative beliefs about ones ability to interact with others and the desirability of social networks (Blazer, 2002; Satre, Knight, & David, 2006). A referral for counseling may be made for this treatment.

A plan to incorporate treatment for psychodynamic and existential issues in brief office appointments is designed based on the information from Blazer (2002) and Knight and

McCallum (1998) and is presented below. Information can be gradually introduced in small segments during the brief office visit to address Joseph's issues such as the questions of purpose and meaning.

### *Therapeutic Relationship*

The therapeutic relationship is important in working with any patient. Based on Knight and McCallum (1998) the following considerations should be made when planning psychotherapy with elderly patients. First, due to deficits the person may have, assess the environment to make sure it is accessible, and that lighting and sound effects are considered.

The therapist working with the elderly should present as confident, relaxed and demonstrate the ability to empathize with the struggles of old age. An explanation of confidentiality may be important as many elderly have no experience with therapy. In the elderly, consistency, with a relaxed and sociable approach is shown to work well in therapy. Additionally, an educative and informative role coupled with some therapist self-disclosure allows for decreased anxiety and insecurity in the elderly patient (Blazer, 2002; Knight & McCallum, 1998).

### *Psychologic and Existential Issues*

Approaches to therapy in the elderly that may be helpful are supportive, psychodynamic, interpersonal and cognitive (Blazer, 2002). Supportive guidance and reassurance that a person can experience personal growth at any age and can solve what may seem like insurmountable problems is important in any therapy. Issues of self-esteem in the face of many losses can be improved using reminiscing (Serrano, 2004) which can also be used to examine personal strengths that have served the person throughout life. Resolving interpersonal disputes can decrease isolation and improve social supports. Using cognitive therapy, negative self-thoughts can be identified and corrected.



*Approaches to Existential Depression*

When you get a sense that the patient is struggling with meaninglessness, consider that there is an existential component to the depression. Yalom (1980) states that restitution is the goal of treating the existential focus of depression. The outcomes for the patient are to:

- find meaning in life
- take an active role in life
- partake in one's spiritual base

Existential issues can be addressed by reflecting on 1) personal values, 2) creating a legacy and 3) reconnecting with faith. Values clarification and reminiscence is useful to help identify those values that have consistently guided the person and can be a source of strength now. For example, courage used in facing life's obstacles can be recognized and put to use again. Finding role models of aging can instill hope and inspiration. The cognitive flexibility that comes with age can be recognized and used to mediate family disputes. The person can also be helped to recognize their earlier "generativity" that they pass on to others in their family through values modeled or lessons taught (Yalom, 1980).

Helping others or finding a cause outside of oneself is another area to discuss. Involvement in activities and getting to know and understand others can be life affirming. Taking a real interest in others versus just being present makes it more meaningful. Activity may not answer the question of life's meaning, but it will make the question less important to answer. The sense of togetherness one feels in belonging to a group gives meaning to one's struggle in life. This can be found for example, in groups for retired people, a senior center or at the local church, synagogue or mosque. Finally, identifying spiritual resources and achieving self-transcendence,

which like generativity, focuses on finding meaning in something beyond oneself creates purpose (Erikson, Erikson & Kivick, 1987).

### *Collaboration*

These interventions can be used in conjunction with appointments the patient may be attending with a counselor. When collaborative practice is encouraged, interventions from the counseling clinicians and the DNP will complement each other to provide the care needed to recover from depression.

Informing the primary care provider of treatment plans and progress will help the primary care provider to resume care more seamlessly when specialty care in mental health is no longer needed. Communication during the treatment process will keep both practitioners informed of medication prescribed and avoid untoward interactions and overprescribing.

The goal of treatment of depression is remission of depression.

1. Medication treatment will be effective for the biologic symptoms of depression with minimal, tolerable side effects.
2. Psychosocial issues will be addressed so that patient will return to his pre-illness level of activity with consideration for advancing disability.
3. Patient will verbalize purpose and meaning regarding the remaining years of life.

### Evaluation of Care

Joseph benefits from medication to address the biologic component of his depression. He also benefits from problem-solving the issues that prevent him from socializing with his friends and enjoying activities with his wife and children. Both of these are possible because Joseph understands how to find purpose and meaning in the life that he does have left to enjoy.

With up to 15% of the elderly population suffering from depression and many others struggling with issues of meaning and purpose, the plan designed in this case study can have a significant impact on a population long misunderstood, and undertreated or inappropriately treated. Treating elders in an appropriate and evidence-based program of care enhances the families and communities involved, who benefit from what the elderly can offer.

DNP practice will be enhanced by having expertise in providing both modalities, medication and therapy, in the often brief clinic visits that our current health care system prescribes. Disseminating this information will enhance practice for mental health nurse practitioners (DNP) and psychiatrists. It provides the knowledge to offer treatment to the elderly person without depending only on medication prescription which can be risky in the elderly. This provides a better standard of care for the elderly depressed person which reflects the leadership in clinical practice improvement expected of the DNP. The integration of therapy and medication helps to shape the advanced practice of psychiatric and mental health nursing at a time when providers feel pressured to relinquish the traditional therapy role.

#### Self Reflection

The practitioner in adult mental health will be seeing many elderly patients with depression. In clinical practice, the DNP working in mental health will most likely be completing a one hour psychiatric evaluation and thereafter 30 minute medication checks. In many mental health outpatient practices, therapy is referred to master's level counselors. This does not remove the responsibility or desire of the DNP working in mental health to provide both medication and therapy services. As a long practicing nurse practitioner, not combining therapy into treatment is not a satisfying practice model. The mental health nurse practitioner role was never intended to be only a medication and medication education role.

The question that perplexed this nurse practitioner was how to provide evidence-based therapy within a 30 minute medication management appointment. Depression that is not sufficiently treated with medication relates to the person's psychosocial life situation and existential issues of meaning at the end of life. I am aware of brief therapy models used in the one hour appointment for a time limited period, but if this is not feasible, what next? By reading the literature on depression in the elderly and elderly specific treatment for social and existential issues, I was hoping to be able to creatively adapt it to the shorter patient sessions over time.

Another question that this nurse practitioner has struggled with over time is how does one provide hope and purpose to the patient who is facing his own mortality? Familiar depression therapy treatments focus on change and setting future goals, which does not seem realistic in this population. Also, personally this is a question I struggle with as I am a very future and goal oriented person.

I combined the literature search with talking to experienced geropsychiatric providers, both physician and PMHNP, to answer questions and get feedback on my plan. In both cases they provided support for the plan to implement age and problem specific therapy interventions within the framework of brief medication appointments. Additionally, this study gives me the knowledge to provide age appropriate therapy when conducting full therapy sessions. It has helped me personally to feel confident to respond to the elderly person who questions how and why to get better when there is little future before him. I find hope for the patient and myself which was the motivation for this particular case study.

## References

- Ayers, C., Sorrell, J., Thorp, S., & Wetherell, J. (2007). Evidence-based psychological treatments for late-life anxiety. *Psychology and Aging, 22*(1), 8-17.
- Blackburn, J. & Dulmus, C. (2007). *Handbook of gerontology: Evidence-based approaches to theory, practice, and policy*. Hoboken, N.J.: Wiley.
- Blazer, D. (2002). *Depression in late life*, (3<sup>rd</sup> ed.). New York: Springer.
- Erikson, E., Erikson, S., & Kivnick, H. (1986). *Vital involvement in old age*. New York: Norton.
- Frankl, V. (1965). *The doctor and the soul*. New York: Knopf.
- Gatz, M. (2007). Commentary on evidence-based psychological treatments for older adults. *Psychology and Aging, 22*(1), 52-55.
- Knight, B. & McCallum, T. (1998). Adapting psychotherapeutic practice for older clients: Implications of the contextual, cohort-based, maturity specific challenge model. *Professional Psychology: Research and Practice, 29*(1), 15-22.
- NIMH (n.d.). Older Adults: depression and suicide facts (fact sheet). Retrieved March 6, 2009 from <http://www.nimh.nih.gov/health/publications/older-adults-depression-and-suicide-facts-fact-sheet/index.shtml>
- Satre, D., Knight, B., David, S. (2006). Cognitive-behavioral interventions with older adults: Integrating clinical and gerontological research. *Professional Psychology: Research and Practice, 37*(5), 489-498.
- Serrano, J., Latorre, J., Gatz, M., & Montanes, J. (2004). Life review therapy using autobiographical retrieval practice for older adults with depressive symptomatology. *Psychology and Aging, 19*(2), 272-277.
- Yalom, I. (1980). *Existential psychotherapy*. New York: Basic Books.

Running head: MENTAL HEALTH CONCERNS IN HOMELESS WOMEN

Mental Health Concerns in Homeless Women

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*Marcy (fictional name) is a 36 year old single Caucasian female who is homeless and presents to the mental health center for psychiatric evaluation in order to refill her psychiatric medications and enroll in the rehabilitation case management program. She has no health insurance but is able to obtain limited mental health services through a county funded program that provides medication evaluation and case management to the uninsured with a major mental illness. The program provides for one month of psychiatric medication every 6 months.*

*She reports feeling “depressed and scared” especially in crowds. Her symptoms include “voices” telling her to do things which she states she sometimes does. The “things” are described as hanging around with the wrong crowd, using drugs and engaging in prostitution. She reports seeing her mother’s boyfriend’s face in the mirror and fears that he has come back to kill her although he is in prison in California. She brings a letter which is a subpoena to testify in a murder trial in San Diego as a witness regarding multiple murders by a man she claims “pimped her out” as a teenager. She asks for an explanation as she is illiterate.*

*Marcy has a long history of trauma and sexual abuse. At age 8, her mother’s boyfriend (later her stepfather) injected her with opiates and afterwards sexually assaulted her. The abuse lasted for 8 years, ending when she ran away from home at age 16. She has been homeless for 8 years and supported herself through prostitution and petty theft. During her years of homelessness she has been physically and sexually assaulted numerous times, including last year when she was 7 months pregnant. Most recently, she was hospitalized after an acquaintance, living under the bridge where she*

*and a friend were staying; beat her unconscious during an argument over money. Her son is in state custody and she hopes to get him back, but has to “get my life together.”*

*The hospital arranged for her to get county funds for her mental health treatment, gave her a week’s worth of her most recent psychiatric medications and a pass to stay at a local homeless shelter. At the shelter, she was given unwashed clothes that gave her body lice. She was treated at the local free clinic and the nurse practitioner there referred her to this mental health clinic for services.*

An estimated 700,000 to 2 million people are homeless in America. Statistics are hard to determine because the homeless may not stay in one location for long, they may not be in a shelter or may temporarily be doubled up with family or friends (McCarty, 2005). Of those that are homeless, 13% are single women, 44% single men, 37% families and 7% adolescents. Fifty percent of the homeless are African American, 35% Caucasian, 12% Hispanic, 2% Native American and 1% Asian American. Sixty six percent of homeless in America are estimated to have substance abuse problems or mental illness. The consequences of homelessness are significant. Twenty two percent have been physically assaulted, 7% sexually assaulted and 38% have had their money or other possessions stolen. In addition, while 12% of Americans with a home feel they do not have enough to eat, 28% of the homeless are hungry (Almanac of Policy Issues, n.d.). The homeless in America come most often from the lower income population, people already living in poverty. Changes in life circumstances such as job loss and divorce can create problems that lead to loss of housing (McCarty).



### History, Social and Cultural Contexts and Practices

Homelessness is defined as 1) not having a fixed night-time residence, 2) living in a supervised public or private place such as a shelter or 3) living in a non-supervised public or private place that is not designed for human sleeping accommodation (McCarty, 2005). Homelessness has existed in America from first European settlement until the present. Although there has always been homelessness, there have been five waves of homelessness in the United States occurring most often when the economy falters. These have taken place in Colonial times (1660-1770), the pre-industrial period (1820-1850), the post Civil War time (1870-1900), the Great Depression (1929-1940) and contemporary times (1980-present).

All periods have been accompanied by negative attitudes by the public (Leginski, 2007). Up until the Great Depression, the homeless were almost entirely single men. However, during the Great Depression whole families became homeless and homelessness extended into the middle class. African Americans who were not significantly homeless until after the Civil War and emancipation, became increasingly homeless during the Great Depression.

Homelessness in contemporary times involves a diverse population of single men and women, families and adolescents. Leginski notes that for the first time in US history, as the economy improved in the 1980's, rates of homelessness did not decrease (2007). Governmental and non-profit organizations have begun to work together to provide services for the homeless and to find low-income subsidized housing. Immediate help is provided by soup kitchens, food pantries, emergency shelters and voucher programs for housing. Eighty five percent of the work is done by non-profit and non-governmental

organizations (NGA) and 14% by governmental agencies such as the department of Housing and Urban Development (HUD), the Department of Health and Human Services (DHHS) and the Veteran's Administration (McCarty, 2005).

Risk factors for homelessness include mental illness, childhood physical or sexual abuse, unemployment, lack of job skills, substance abuse, and domestic violence (Murray, Yakimo & Baier, 2008). Homelessness occurs when there is poverty, family instability, lack of affordable housing, low paying jobs, and reduction in public assistance programs (Murray et al.).

In an article by Toro, Trickett, Wall and Salem (1996) homelessness among women is conceptualized within an ecological framework which considers social, economic and cultural context along with local and community influences as they affect the homeless person in the environment. The authors cite homelessness as being the result of contextual factors that interact with individual and family vulnerabilities in the specific environment. Communities each had their own unique characteristics that contributed to the issue of homelessness.

Housing and health care are closely related. In developed countries with universal health care and significant subsidized housing for the poor, the rate of homelessness is decreased (Leginski, 2007). The homeless have more chronic health conditions, most likely as a result of the lack of control over diet and sleep, and reduced opportunities for hygiene (Flynn, 1997). Rates of AIDS, tuberculosis and alcohol related liver disease are higher in homeless women than the general population (Frisch & Frisch, 2002). The American Psychological Association, in a volume dedicated to homelessness,

declares homelessness itself a psychological trauma. Homelessness creates both acute trauma and chronic stress (Toro et al., 1996).

Women as a group are new to homelessness. Homeless women suffer from depression, PTSD, substance abuse and physical and sexual abuse at a higher rate than the general population (Flynn, 1997; Ingram, Corning, & Schmidt, 1996). Victimization was a significant predictor of psychological well-being in homeless and low income women (Ingram et al.). It is unclear if mental illness comes first or the stress of abuse, poverty and homelessness precipitates mental illness. In reality it is probably a mixture of both, but in either case, life for a homeless woman is much more complicated when mental illness is present. One third of homeless women have PTSD and one third have substance abuse. The incidence of schizophrenia and bipolar disorder is less, but significant (Murray et al., 2008). On a more hopeful note, women who have a support system that is not substance abusing, reported increased use of preventive health services and had fewer hospitalizations for medical problems (Nyamathi, Leake, Keenan & Gelberg, 2000).

Flynn (1997) reported that learned helplessness, low self-esteem and depression typically present in homeless women, negatively affects health practices. The result is overuse of ER services, decreased use of preventive services, increased dental caries. If children are present with the woman, delayed immunization, lack of pediatric care and dental caries are common. Self esteem increased when the woman was able to take purposive action toward improving life circumstances and achieving goals. However, Flynn further reported that depression was found to impair the ability to take purposive action.

### Intervention Strategies and Outcomes

Based on the literature, intervention strategies to aid the homeless with mental health disorders must be multi-faceted. Once food, shelter and safety issues are addressed, the person becomes able to participate in care (Flynn, 1997). At the mental health clinic Marcy attended, psychiatric case managers begin this process before the patient presents to the psychiatric provider. Physical problems identified in the initial evaluation are referred for treatment to a provider based on the patient's health insurance status. Mental illness and substance abuse must be treated to maximize the ability to benefit from supportive therapy. The focus of therapy starts with making environmental changes and treating mental health. Later, once stable, abuse issues can be addressed. Pharmacologic treatment along with education regarding the medications, dosing, benefits, risks and side effects is needed. In addition, the need for adherence to the medication regimen is emphasized. As the acute symptoms associated with the mental illness improve, exploration of issues of coping strategies, self-esteem, appropriate support systems and treatment needs can begin. Ultimately after some stability is achieved and maintained, therapy may start to address the history of abuse and violence affecting the person. This must all take place within a collaborative team of the DNP, case managers, primary care providers and community support workers. Finally, an agency employment specialist will work to help find and support the person in a job.

Initial outcomes expected of mental health treatment are for safe, affordable housing, food, clothing and application for available health care benefits. Referral for treatment of acute and chronic physical illness and preventive health care is an expected outcome. Maintenance of stable mood and affect and decrease in psychotic symptoms are

the expected outcomes of medication treatment. Supportive therapy will work to improve self-esteem by increasing sense of control over the environment. Patients will be emotionally supported while taking actions to achieve health and stability in their personal and physical environments. The long term goals for the patient will be to return to some form of employment, reunite with family (if this is an identified goal), and have a supportive social network in place. Community activities to increase awareness of homelessness and its associated problems are needed. Local solutions need to be developed and supported by policy on the state and national level. The DNP through involvement in grass roots organizations can contribute a nursing and health perspective to the issues discussed. Nursing organizations can work at the state and national level for change.

*In Marcy's case, she first needed housing, health care (for dental abscesses, scabies and hepatitis C) and stabilization of mood with concurrent reduction of anxiety. Additionally, she has been irregularly attending a methadone clinic for her heroin addiction. Medications are methadone (from county clinic), quetiapine 100 mg and fluoxetine 20 mg. These medications will be continued and include returning to the methadone clinic for addiction treatment. She will be supervised for weight gain from the quetiapine and will be screened for metabolic syndrome.*

*After obtaining housing and a month's supply of medication, Marcy relapsed and returned to substance abuse. She did not return to the clinic for 6 months. During that time, the case manager was unable to contact Marcy. She did not find her at home when she stopped by to inquire about her progress and was unable to call Marcy because she has no phone. When Marcy returned, she reported feeling increasingly depressed and*

*anxious as she was to leave in a week to testify at a trial in California. She was provided medication samples and agreed to accept transportation assistance to help her get to the clinic for her appointment in one month. She returned in two months off of all of her medications.*

### Implications for Nursing

Nursing has a long standing history of helping those who are marginalized in the health care system (ANA, 2006). Advanced practice nurses are active in treating populations with health disparities. The first success made by nurse practitioners in obtaining insurance reimbursement was for practice with underserved populations including rural health practice. Advanced practice nurses (APNs) who become familiar with the extent of homelessness in America and in their own community and practice can make a difference in the health of the homeless who are mentally ill. APNs who are prepared to help patients who are homeless or at risk for becoming homeless must know what resources are available and how to connect patients to these services. Knowing the illnesses that are prevalent in this population will help APNs ask the questions and perform assessments to ascertain the most relevant information for individualized care planning. They can be prepared to treat or refer those problems they are unable to treat. County resources available for referral of patients suspected of having tuberculosis can be identified along with other public health resources. The PMHNP needs to know how these medications interact with the psychiatric medications prescribed. Finally, the PMHNP will need to understand the best evidence-based practices to treat the complex psychological problems that may come with mentally ill homeless women.

Health policy is an area where the DNP can make a difference by influencing policy affecting the homeless population at the local, state and national level. DNPs can address funding of programs and policies that provide treatment and coordinated care with agencies and providers. In some states people may not be eligible for assistance if they have no permanent address. Many homeless people have no documentation of citizenship and do not have the resources to pay for vital records that are needed to access the public health insurance system. Some states have passed legislation to streamline this process, and Oregon has funding to help low income and homeless people apply for the necessary documents from out of state. This is an example of health policy that addresses the problems with health disparities.

The U.S. Department of Housing and Urban Development's Continuum of Care initiative requires communities to develop plans for housing and services for the community and its homeless. HUD, HHS, the Veterans' Administration and the U.S. Interagency Council on Homelessness sponsor the Chronic Homeless Initiative to identify and coordinate services to address homelessness in communities. These policies need to be monitored and supported for continued funding. By publishing case reports related to these programs, and being involved in program evaluation, DNPs can be influential.

### Self-Reflection

After my evaluation of Marcy, I was surprised at the extent of physical health issues and the victimization that takes place when one lives on the streets. I was aware of the amount of mental illness and the child abuse history present in many women who are homeless, but the extent of it still startles me. Although I have worked with other

homeless people including adolescents, the background of abuse that Marcy had was disturbing. Because abuse is so prevalent in this population, based on the statistics in this paper, I wonder if I missed abuse in some of the adolescents I evaluated because I didn't ask the right questions. Asking about abuse is standard practice in PMH, but perhaps there are questions better suited to eliciting abuse in a homeless population. I am convinced that treatment must take place with a team approach utilizing services within and outside of the health care sector because of the complex nature of problems in the homeless and the variety of agencies serving the homeless.

Prevention of homelessness is the best treatment. Although the patient's current health problems needs treatment, concurrent action in the community to assist the daily needs of the homeless and ultimately to prevent homelessness is needed. The ethics of social justice at the community level include food, safety and shelter. Individuals who are cognizant of the problem (hence raising public awareness) can contribute time and/or money to the NGOs that help the homeless. As nursing professionals, we must develop, evaluate, revise and support national, state and community policies that help treat and solve the problems of homelessness. We must become aware of the services in our communities and if they are not adequate, advocate for them. This includes advocacy for universal health care coverage. Preventing homelessness starts with preventing child abuse and supporting families in need. This is a local, state and national problem that everyone can become involved in.



References

- Almanac of Policy Issues. (n.d.). Retrieved Nov. 18, 2008 from [www.policyalmanac.org/social\\_welfare/homeless.shtml](http://www.policyalmanac.org/social_welfare/homeless.shtml)
- American Nurses Association. (2006). *Nursing's Social Policy Statement* (2<sup>nd</sup> ed.). Washington, DC: American Nurses Publishing.
- Bassuck, E., & Browne, A. (1996). The characteristics and needs of sheltered homeless and low income women. *JAMA*, 276, 640-646.
- Flynn, L. (1997). The health practices of homeless women: A causal model. *Nursing Research*, 46(2), 72-76.
- Frisch, N., & Frisch, L.(2002) Forgotten populations: The homeless and the incarcerated. In N. Frisch, & L. Frisch (Eds.) *Psychiatric mental health nursing* (2<sup>nd</sup> ed.) (pp. 793-793). NY: Delmar.
- Leginski, W. (2007). Historical and contextual influences in the US response to contemporary homelessness. *National Symposium on Homelessness Research*. Retrieved November 20, 2008 from <http://aspe.hhs.gov/hsp/homelessness/symposium07/leginski/index.htm>
- McCarty, M. (2005). Homelessness: Recent statistics, targeted federal programs, and recent legislation. CRS Report for Congress. Retrieved Nov. 20, 2008 from <http://fas.org/sgp//crs/misc/RL30442.pdf>
- Murray, R., Yakimo, R., & Baier, M.(2008) Care of people who are homeless and mentally ill. In M. Boyd (Ed.), *Psychiatric nursing: Contemporary practice* (pp. 740-755). Philadelphia: Lippincott, Williams & Wilkins.

Nyamathi, A., Leake, B., Keenan, C., & Gelberg, L. (2000). Type of social support among homeless women: Its impact on psychosocial resources, health and health behaviors, and use of health services. *Nursing Research*, 49(6), 318-326.

NGA Center for Best Practices. (April, 2007). State Strategies to Address Chronic Homelessness. *Issue Brief*. Retrieved Nov 18, 2008 from <http://www.nga.org/Files/pdf/0704HOMELESSNESS.PDF>

Toro, P., Trickett, E., Wall, D., & Salem, D.(1996). Homelessness in the US: An ecological perspective. *American Psychologist*, 46(11), 1208-1218.

Running Head: DNP LEADERSHIP

DNP Leadership in Practice:  
Designing, Implementing and Evaluating  
A Metabolic Screening Program in a Mental Health Outpatient Clinic  
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Psychiatric/mental health nurse practitioners (PMHNP) are commonly employed in community mental health centers (CMHC). Community mental health centers receive federal, state and local funds to treat underinsured or uninsured vulnerable patients. Insured patients most often are Medicare or Medicaid recipients.

I have been employed in such a setting for more than 20 years and have been increasingly concerned about the physical health of people with severe and persistent mental illness. My interest increased after I received additional certification as a family nurse practitioner (FNP). For the last two years, I have been employed at a mental health agency that contracts with the county health department to provide mental health services to a population with severe and persistent mental illness (SMI). The physical health of the 150 patients that I serve concerned me.

The agency has a vision to provide integrated care for the population it serves. Last winter the agency's clinical directors were looking for a practice improvement project (PIP) that could be implemented with a small grant from the state Medicaid health plan. The agency's medical director had contributed to a paper on the health risks of people with major mental illness, written by the National Association of State Mental Health Program Director (NASMHPD) (Parks, Svendsen, Singer, & Foti, 2006). After discussing the findings of increased morbidity and mortality and relating it to the population we serve at the agency, he directed me to the clinical leaders at the agency who were involved in the PIP.

In reviewing the results of the NASMHPD report (Parks et al., 2006) and searching the literature, it was clear that cardiovascular disease was the leading cause of death in people with

SMI. Metabolic syndrome, a collection of disorders that create significant risk for cardiovascular disease is common in people with SMI due in part to the medications used to treat mental illness. I decided to focus my clinical inquiry project on metabolic syndrome, a serious health risk for people with SMI.

### Decision Making Process

The agency administrative structure includes a director of clinical operations (DCO), a clinical director and a medical director. The DCO is involved in the financing of clinical operations and the medical director leads the medical staff which includes the PMHNPs. These two administrators were the stakeholders in the clinical agency to whom I brought my idea for a metabolic screening program. The DCO would work with the Medicaid agency regarding the financing of the PIP and the medical director would advise me on the clinical implementation of a screening program.

Decisions had to be made about where to pilot the screening program. The medical director suggested that if I would move my practice to another clinic site, there was an RN who might help with the project. The RN had worked for an agency that had been operating at the clinic site and wanted to continue her employment. My agency did not operate with a “medical model” i.e. physicians, NPs and nurses, but with a “case management model,” physicians, NPs and medical case managers. The medical director asked me to present him with a proposal for utilizing an RN (scope of practice) and potential revenue that an RN could bring in for the agency. This plan was to include all services the RN might provide.

I consulted the American Nurses Association’s scope and standards of practice for psychiatric and mental health nursing (ANA, 2004) and created a table of interventions

appropriate for a PMH registered nurse. I consulted with the DCO and received a booklet of codes billable to Medicaid that I matched to specific RN interventions. RN case management was a reimbursable code that could fit the screening activities. The medical director decided to “take the risk” and offer the RN employment with the understanding that part of her job was to help me with a metabolic screening program. I agreed to perform a cost effectiveness analysis 6 months after the screening program had been implemented.

I was placed in charge of designing and implementing a metabolic screening program for the agency. I was also to direct the RN’s participation in the screening program at the agency site. Furthermore, the agency would support an evaluation of the program, to demonstrate the effectiveness of having an RN as part of the clinical staff and to determine the program’s effectiveness. After designing the program it was turned over to the RN for implementation and data collection so that I could avoid bias in the evaluation.

Using the current literature, I designed a metabolic screening program and a method to evaluate the program (Marder et al., 2004; Parks, 2007; Sernyak, 2007). I consulted with the medical director as I planned the program, but decisions about the program and its implementation were left to me. My aim was to create a program that would help the psychiatric providers implement the latest guidelines for metabolic screening in patients with SMI. It was important for the psychiatric providers at the clinic site to be comfortable with the screening program and to understand how it would impact their own practice and patients. For this reason, I included them in the planning of the process of referral for screening. I clarified how they wanted to be informed of the screening results and the follow up process. Both psychiatrists offered suggestions and were actively involved in referrals. The psychiatric

providers at the site, in collaboration with the medical director decided to screen all patients with a primary diagnosis of severe mental illness. The providers would continue to screen any patients with MR/DD for metabolic syndrome as before, not utilizing the RN screening program.

A decision was made to involve the case manager in the patient referral process. As the screening began, it became clear that more patients could be screened if the case managers assisted. The case managers meet with the patients more frequently than the psychiatric providers or the RN. I spoke at two team meetings about the screening program and elicited the case managers' support for referral. I provided the case managers an informational handout on metabolic syndrome. We discussed potential problems of creating anxiety in some patients and of patients who might not be open to screening. I suggested ways they could describe the program to the patients upon referral so not to engender fear of illness or suspiciousness. I followed up by distributing a written "cue sheet" to the case managers with sample statements they could use when presenting the screening program to the patients.

My rationale for using the above approach was to increase the involvement of all staff affected by the practice change. Initially, information about the problem (metabolic syndrome) was provided to elicit concern for the patients' physical wellbeing and to create a desire to be involved in improving care. Presenting information to team members outlining the proposed screening referral process before beginning the project, allowed each discipline involved to have input and a sense of ownership. Assurances that everyone on the team would receive screening results created a sense of trust that their efforts were valued and essential to improving health outcomes.

### Outcomes/Leadership Style

My style for decision making was first developed in the 1980's as a nursing faculty member through committee participation and chairperson duties. At that time Peggy Chinn's "Peace and Power" creative leadership methods were influential. My basic model is built on that foundation which involves: building community, consensus, values based decision-making and conflict resolution. These basic principles remain in Chinn's model, despite significant changes in the model, now in its seventh edition (2008). It was very important to me to involve all team members affected by the proposed clinical agency changes. Utilizing staff feedback in the project design and implementation was important to the success of the project. Unlike Chinn's model, I do not believe all decisions must be made by consensus, but eliciting the team's input in all phases of the project is crucial to success. Listening to the ideas of others before designing or proceeding with a plan reinforces that everyone influences the outcomes.

My leadership style has developed throughout the DNP curriculum and with my clinical inquiry project. I am more thoughtful in the execution of my leadership activities. Consensus, community building and values based decision making is the foundation of my style. The DNP program has encouraged me to look at myself as a leader in each area of the DNP competencies.

Two works influence my current style, the American Association of Critical Care Nurses (AACN) "Framework for Governance Leadership Positions" (2009) and the Collaborative on Interprofessional Professionalism's document on "Essential Behaviors" (Consultant Group, n.d.). The AACN leadership document identifies five essential competencies that can be



adapted to any leadership position. They fit well with Chinn's basic framework (2008) and include: self-leadership, global thinking, visioning, consensus building and delivering effective messages. The case example in this paper fits well with the AACN essential competencies. I noticed a clinical problem, designed a solution, elicited support from stakeholders to proceed, and then involved the interdisciplinary team to help implement a plan.

In addition to the AACN essential competencies, the Collaborative Interprofessional Professionalism Behaviors are important to my success in the screening program. Examples of the behaviors are: interact with others to challenge the status quo, determine best plan after discussion with other health care professionals and eliciting contributions from a variety of health professionals. These behaviors have been described in this case report and mesh well with the AACN framework. My leadership of the project exemplified interprofessional collaboration which strengthened the project during planning, implementation and incorporation of project results in making changes to improve practice and patients' health outcomes.

Professionals in a mental health agency are experts in therapeutic communication and these techniques can be used in the work of the team. As a leader I encouraged effective communication at meetings. I wanted the group to feel comfortable expressing opinions and to feel that all input was heard and valued. I made sure to keep the group informed of developments in the screening program and continued to elicit feedback. The group was supportive and dedicated to helping our vulnerable patients and needed little coaxing to support the metabolic syndrome screening program. Consensus building among the team was important to recruit and successfully screen the clinic population. For self-leadership, I sought

out feedback from others as I proceeded while clearly expressing my thoughts and opinions on the issues.

Outcomes include the evaluation report documenting a clinical problem that is now being addressed at the agency. The agency psychiatric providers have met to discuss changing individual and clinic practices to improve the health of our patients based on the clinical inquiry report. A grant is being written to expand the agency's attention to physical health care in the mentally ill population with a family nurse practitioner for part time clinic hours at two clinic sites.

the Oregon Department of Human Services has a mandate from the legislature to integratemenal health and primary care services and an important first step is to document physical health issues in patients with mental health problems so they can continue to create a holistic integrated care system. The results of this metabolic screening program will be shared with the director of the Mental Health Division in the state Department of Human Services.

The strengths I brought to this leadership project were extensive mental health practice experience and leadership experience. I have chaired faculty committees and have served on several local, state and national boards. I was the board president for a local rehabilitative clubhouse for people with mental illness and have served on the state Board of Advanced Practice Nursing for Nebraska. Leadership in this instance used these skills but required additional skills involving understanding of how to evaluate and improve practice as well as the potential financial impact of building a practice change that could be sustained because it was cost effective and practical.

### Self-Reflection

To develop a clinical inquiry project on my population, I examined trends in my practice. I listened to the case managers, RN, and physicians to validate what I was observing in the clinic patients. I then turned to the literature to further analyze national trends for metabolic syndrome in people with mental illness and proposed a plan to create positive health outcomes in our clinic population. The project was an outgrowth of global thinking and envisioning how to improve health outcomes for this population. These abilities were competencies essential to the success of the project. Based on the national trend and the data I collected which demonstrates a local problem, the agency wants to use the data to apply for grant funds to continue and expand the project. The positive outcomes of the project benefit not just the patient population at our local site, but can be adopted throughout the agency. The agency directors want to involve me in the planning and implementation of the expanded program which speaks for their support and confidence in my abilities.

The project has gotten the attention of Oregon Medicaid administrators and they want to review the project results. The results of this work are expected to influence legislation, budget and the state's mental health/physical health integration process.

I recognize that my success in this project was a result of my ability to integrate the DNP education that I have received with my skills as an advanced practice nurse. Not only did I expand my knowledge base, but I learned to think differently. Before I may have noticed a problem and searched the literature, but I might not have had the "big picture" thinking and enthusiasm to approach the agency and move a plan forward. The "big picture" was not only designing a project, but recognizing the implications for patients and the agency. Additionally, I

gained perspective that led me to aim for change in more than one agency. I plan to publish the results and influence patient care for people with SMI on a larger scale. I also have strategies on how to influence policymakers and other stakeholders which I have seen come to fruition during my residency experience at the Department of Addictions and Mental Health. I have renewed enthusiasm for scholarly activities that benefit vulnerable populations such as the severely mentally ill and look forward to expanding my clinical expertise and influence to impact care for this population on a broader scale through policy and using data from this project to advocate for this population politically in a climate of fiscal restraint.

## References

- American Association of Critical Care Nurses. (2008). *Framework for governance leadership positions*. Retrieved April 4, 2009 from <http://www.aacn.org/WD/Volunteers/Content/frameworkforgovernanceleadershippositions.pcms?pid=1&&menu>
- American Nurses Association. (2004). *Psychiatric mental health: Scope and standards of practice*. Silver Spring, MD: nursebooks.org.
- Chinn, P. (2008). *Peace and power: Creative leadership for building communities* (7<sup>th</sup> ed.). Boston: Jones and Bartlett.
- Consultant Group on Interprofessional Professionalism. (n.d.). *Compilation of observable interprofessional professionalism behaviors*. Presented January 23, 2009 at the American Association of Colleges of Nursing Doctoral Education Conference, San Diego, CA.
- Marder, S., Essock, S., Miller, A., Buchanan, R., Casey, D., Davis, J., et al. (2004). Physical health monitoring of patients with schizophrenia. *American Journal of Psychiatry*, 161(8), 1334-1349.
- Parks, J. (2007). Implementing practice guidelines: Lessons from public mental health settings. *Journal of Clinical Psychiatry*, 68(Suppl. 4), 45-48.
- Parks, J., Svendsen, D., Singer, P., & Foti, M. (2006). Morbidity and mortality in people with serious mental illness. NASMHPD. Retrieved April 8, 2008, from [http://www.nasmhpd.org/general\\_files/publications/med\\_directors\\_pubs/Technical%20Report%20on%20Morbidity%20and%20Mortality%20-%20Final%2011-06.pdf](http://www.nasmhpd.org/general_files/publications/med_directors_pubs/Technical%20Report%20on%20Morbidity%20and%20Mortality%20-%20Final%2011-06.pdf)

Sernyak, M. (2007). Implementation of monitoring and management guidelines for second-generation antipsychotics. *Journal of Clinical Psychiatry, 68*(Suppl. 4), 14-18.

Running head: MENTAL ILLNESS AND METABOLIC SYNDROME

A Case Study of Mental Illness

and

Metabolic Syndrome

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Monty has been diagnosed with schizophrenia for eight years. During this time, he has consistently been on antipsychotic medications. Initially, he was placed on haloperidol, but with the advent of the newer, second generation antipsychotics such as olanzepine, his medication regimen was changed after two years. The second generation antipsychotic medications are recommended for the treatment of schizophrenia because they are less likely to cause extrapyramidal symptoms and because of the success they have had in treating the negative symptoms of schizophrenia.

Monty is at the community mental health center to refill his psychiatric medications. He complains of weight gain over the last six years. Monty has the risk factor of long term use of olanzepine. With his use of antipsychotic medication and obvious abdominal obesity, metabolic syndrome is suspected. It is decided that he will undergo a screening for metabolic syndrome at the clinic.

Metabolic syndrome is a collection of disorders that is identified when a person has at least three of the following problems: hypertriglyceridemia, low HDL, hyperglycemia, hypertension and overweight or obesity. Obesity in metabolic syndrome is primarily truncal and contributes to a basal metabolic rate (BMR) of  $\geq 25$  or a waist circumference of greater than 40 inches in males and greater than 35 inches in females (Newcomer, 2007). Obesity is 1.5 to 2 times more common in people with mental illness (Sernyak, 2007). In a study by Allison et al. (1999) 40% of patients with schizophrenia were found to be overweight. Vreeland (2007) notes that using the National Heart, Lung and Blood Institute (NHLBI) guidelines, 90% of psychiatric patients would qualify for treatment of obesity.



Obesity is also associated with poor outcomes in bipolar disorder (Fagiolini, Kupfer, Houck, Novick, & Frank, 2003). Certain antipsychotic medications such as olanzepine and clozapine are associated with weight gain more than others but an association between schizophrenia and weight gain has been known since before antipsychotic medications (Ganguli, 2007). Significant weight gain is defined as 7% gain in weight from baseline. The weight gains reported in the second generation antipsychotic medication are: olanzepine 29%, quetiapine 23%, risperidone 18%, zizprazidone 10% and aripiprizole 8% (Weiden, 2007). Increased abdominal adiposity is associated with type 2 diabetes, which in turn is associated with hypertension and lipid abnormalities, all components of metabolic syndrome (Newcomer, 2007). The number of metabolic syndrome risk factors present increases the risk of cardiovascular disease, the leading cause of increased morbidity and mortality in mental illness.

The results of Monty's metabolic screening identify that he meets the criteria for metabolic syndrome. He has obesity as evidenced by a waist circumference of 45 inches and BMI of 32. He also has hypertriglyceridemia (225 mg/dL) and hypertension (186/96). Monty has no primary care provider. The clinic nurse finds him a primary care provider close to his apartment who is taking new Medicaid patients. He returns to the community mental health center after his primary care visit.

The primary care physician placed Monty on Norvasc and recommended that he lose 30 pounds. He admits that he has never tried to lose weight before and questions if he can change his diet. He lives in an apartment with a roommate and eats mostly highly processed, high caloric foods. Monty is requesting that the center help him with his health issues in addition to his psychiatric treatment. He feels more comfortable at the center because of his regularly scheduled appointments with the psychiatric nurse practitioner and case manager.

### Analysis of Case

Critical decision points in this case are about how to meet Monty's physical health care needs in the setting in which he is the most comfortable. While one alternative might be to refer Monty to a nutritionist and an exercise program, studies have shown that in the mentally ill, referrals outside of the mental health care home are less effective (Sernyak, 2007). Monty will need to have some sort of treatment for his obesity "to lose 30 pounds" as his primary care provider recommended. The primary care provider gave no additional information to Monty about this other than to cut back on his eating and to exercise more. How can the mental health setting best provide services to Monty?

For weight loss to be effective, Monty will need to be motivated and supported. If not, the metabolic syndrome that is already diagnosed has the potential to worsen, involving more significant cardiovascular complications. The question is how to provide the information and support that the patient needs. Monty's case is complicated by the effects of his mental illness. He uses only public transportation and is isolated by his lack of employment and a limited social network. He has already requested the help of the mental health center staff, so some motivation is present. Studies have found that the obese mentally ill are well aware of being overweight, that they want to lose weight and have demonstrated that they have the ability to lose weight and keep it off (Ganguli, 2007; Vreeland, 2007). The best setting may be at the mental health center with a supportive team that is informed about nutrition, exercise and community resources. Nurses and nurse practitioners are well informed about nutrition and exercise. Group wellness classes led by clinicians trained to present a specific program have been effective in managing weight in the mentally ill population (Littrell, Hilligoss, Kirshner, Petty, & Johnson, 2003; Vreeland).

The expertise of mental health case managers is useful to access community resources and they may also help the patient grocery shop and pick healthy foods. They can reinforce the information the patients has received about portion size, environmental cues when eating and exercise. The case manager, when available, can walk with the patient or instruct the patient to take a brief walk after the session before returning home. They also know the patient's living arrangements and neighborhood and can assess whether neighborhood exercise is safe.

Problems have arisen with Medicaid refusing to pay for medical treatments (obesity) that take place in a mental health setting. For this reason, intervention plans will need to be accommodated within the current clinic and payment systems. In the next section of this paper, interventions for implementation within the 30 minute follow up visit with the psychiatric/mental health nurse practitioner/DNP are recommended. These interventions have been developed based on effective group interventions documented in the literature (Littrell et al., 2003; Vreeland, 2007) and the NHLBI guidelines (1998).

The NHLBI obesity guidelines identify weight loss, exercise and lifestyle changes first, followed by medication and as a final resort, bariatric surgery. Although the NHLBI guidelines state that they are not recommended for people with serious mental illness, there is nothing to preclude using them with patient monitoring in a mental health setting. The problems with adding a weight loss medication to the psychiatric medication regimen probably outweighs the benefits (Ganguli, 2007). Goff (2007) recommends a change in psychiatric medication if lifestyle interventions don't help. Risks versus benefits should be considered before switching medications when a patient is stable. If the patient is on the only medication regimen that has adequately treated his symptoms, a change is not recommended (Weiden, 2007).

### Intervention and Prevention Strategies

Interventions for obesity in the mentally ill population can be implemented with every patient. First, preventive strategies can be implemented when a person is placed on medication known to increase weight. Secondly, those who are already overweight or obese can be treated in the mental health setting by the DNP to either lose weight or maintain current weight if weight loss is not possible.

Due to histamine antagonism from antipsychotic medications, increased appetite and decreased sensation of satiety are often part of the problem of obesity in the mentally ill (Newcomer, 2007). Behavioral techniques can help the patient learn to detect true hunger and determine satiety (Ganguli, 2007).

There are three goals of weight loss: decrease caloric intake, increasing physical activity, learning cognitive behavioral strategies to reinforce positive changes in dietary intake and physical activity (Bermudes, Keck, & McElroy, 2007; Ganguli, 2007). Small weight losses of 5-10% from baseline weight are associated with improvements in hypertension, lipoprotein profile, and type 2 diabetes (Bermudes et al.).

In studies with the mentally ill, caloric reduction has been successful by focusing on decreasing carbohydrate, fat intake and portion size (Bermudes et al., 2007). Self monitoring of weight and exercise and catching slips before they escalate have also been shown to be important.

Exercise alone without calorie reduction has not been as successful. Bermudes et al. (2007) report that either programmed activity (jog, weights) or lifestyle activity changes (taking stairs) can be effective, but the person with mental illness will need continuous support to be successful. Using a 16 week education group called Solutions for Wellness, Littrell et al. (2003)

found a weight loss of .06 lbs. in the treatment group and a gain of 10 pounds in the control group. Littrell's group wrote the Solutions for Wellness program and tested it for the Eli Lilly Company, manufacturers of olanzepine. Vreeland's study (2007) was a 12 months intervention using Solutions for Wellness plus self-monitoring, cognitive-behavioral therapy, stress management, problem solving, social support, and motivational counseling to encourage self-efficacy. The control group gained 7 pounds and the intervention group lost 6.6 pounds. Small steps are encouraged and if the person cannot lose 1-2 pounds per week as recommended (NHLBI, 1998), they can strive for no weight gain. Realistic goals are most important and CBT can be used to counter thoughts that interfere with motivation and progress (Ganguli, 2007).

The following topics can be introduced at visits, with each building on the earlier information. The NHLBI has patient education sheets that can be purchased or downloaded off of their website.

#### Healthy Weight Plan

Discuss health problems caused by obesity that can be reduced by diet and exercise

Provide the food pyramid and discuss one change they can make now/portion size

Identify healthy body weight (individualized to patient)

Discuss lifestyle activity changes that can be made now (stairs, 10 minute walk)

Set one goal for an eating change and one for activity ("small steps")

Pick one friend or family member who can be supportive

Discuss ways to decrease food costs and still eat healthy foods

Discuss the benefit of regular exercise, and what kinds of exercise there are (e.g. aerobic)

Discuss what they would like to do and ways to increase activity for low cost or no cost

At each visit reinforce what was discussed in the last session and add a new piece of information. Encourage, motivate and support changes the patient is attempting to make. Support through times when the patient is unable to make progress. Collaborate with the therapist or case manager to provide stress management, CBT, problem solving and motivational counseling.

Expected outcomes are steady weight loss, no more than 4-8 pounds a month and a commitment to 30 minutes of exercise three times a week and/or lifestyle activity changes. If this fails, maintaining current weight and a change in psychiatric medication should be considered. Additionally, healthy food choices using the FDA food pyramid or other guidelines appropriate to the person's weight loss needs will become standard practice for the patient.

#### Evaluation of Care

Given the high rates of obesity worldwide in the general population and the increased incidence of obesity in the mentally ill population, it is to be essential that mental health professionals become influential in preventing, identifying and managing the global obesity epidemic (Bermudes et al., 2007, p.56). Preventing and reducing obesity in this population is a beginning. It may subsequently treat the other complications of metabolic syndrome such as hypertension, hypertriglyceridemia and insulin resistance. A weight loss of 5 to 10% of baseline body weight can improve hypertension, lipid profile and type 2 diabetes (NHLBI, 1998).

The DNP involved with complex medically ill psychiatric patients will need to stay aware of the latest findings on the medical problems that further complicate their health needs and shorten their lives. An example is updated recommendations for medication prescription and monitoring from the latest CATIE studies. Continuing education on physical health care and wellness issues will be important to consider when selecting continuing education. Often continuing education offerings for psychiatric advanced practice nurses do not include physical

care. DNPs practicing in mental health need to become educated in the prevention and care of metabolic syndrome and present this information at national conferences to better inform psychiatric nurses. Additionally, submitting manuscripts for publication in journals read by advanced practice psychiatric nurses will disseminate this crucial information.

Education presentations need to go beyond information about the phenomena, but include plans that can be implemented in the practice setting. The DNP focus on clinical inquiry is well suited to this as well as expertise in clinical practice. The DNP is also well suited to analyze policy barriers to reimbursement for physical health care activities in the mental health setting that nurses are well qualified to perform.

### Self Reflection

Metabolic syndrome is my area of study for my clinical inquiry practice improvement project. Metabolic syndrome from a screening viewpoint and how it affects people with mental illness is very familiar to me. What is not as familiar to me are medical treatments. As an FNP I want to increase my expertise in the medical treatments of the component disorders involved in metabolic syndrome.

Several issues arise when one wants to treat the mentally ill person holistically, primarily Oregon's system of separation of mental health Medicaid funds from physical health funds. The PMHNP is not able to perform or bill medical treatments in the mental health setting. Nurse practitioner providers who specialize in mental health at the Master's level often leave behind management of physical care problems as they embrace their new specialization. As an RN, they can perform medical tasks, but they are not reimbursed at the same rate as an NP.

On a policy level, I would like to work towards changing reimbursement in Oregon to allow for reimbursement for wellness and screening activities in the mental health setting

performed by qualified clinical staff. I am involved in this in my residency at DHS. Integrating mental health and primary care is a goal of the Department of Human Services. I am involved with an integration core committee that is identifying barriers to integration and encouraging state mental health organizations to implement integration project in the local communities.

Nursing needs to rethink specialization. Perhaps there are changes that could improve the ability to integrate care in providing physical wellness activities in the mental health site. This will take active involvement with national PMH nursing organizations to consider graduate educational expectations unique to psychiatric and mental health nursing. Now that clinical expectations in mental health include physical monitoring, psychiatric professionals will need to obtain additional continuing education and rethink educational program coursework. It is clear that the connection between mental health and physical health is one that influences the health of all consumers of health care. Successful integration of mental and physical health care will result from changes in health care policy, in the education of health care providers and in the practice setting.



## References

- Allison, D., Fontaine, K., Heo, M., Mentore, J., Cappelleri, J., Chandler, L., et al. (1999). The distribution of body mass index in individuals with and without schizophrenia. *Journal of Clinical Psychiatry, 60*, 215-220.
- Bermudes, R., Keck, P., & McElroy, S. (Eds.) (2007). *Managing metabolic abnormalities in the psychiatrically ill: A clinical guide for psychiatrists*. Washington, D.C.: American Psychiatric Publishing.
- Fagiolini, A., Kupfer, D., Houck, P., Novick, D., & Frank, E. (2003). Obesity as a correlate of outcome in patients with bipolar I disorder. *American Journal of Psychiatry, 160*, 112-117.
- Ganguli, R. (2007). Behavioral therapy for weight loss in patients with schizophrenia. *Journal of Clinical Psychiatry, 68*(Suppl. 4), 19-25.
- Littrell, K., Hilligos, N., Kirshner, C., Petty, R., & Johnson, C. (2003). The effects of an educational intervention on antipsychotic-induced weight gain. *Journal of Nursing Scholarship, 35*, 237-241.
- National Institutes of Health, National Heart, Lung and Blood Institute (1998) *Clinical guidelines on the identification, evaluation and treatment of overweight and obesity in adults: The evidence report*. Bethesda, MD: National Institutes of Health. Retrieved March 20, 2009 from [http://www.nhlbi.nih.gov/guidelines/obesity/ob\\_gdlns.pdf](http://www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.pdf)
- Newcomer, J. (2007). Antipsychotic medications: Metabolic and cardiovascular risks. *Journal of Clinical Psychiatry, 68*(Suppl. 4), 8-13.
- Sernyak, M. (2007). Implementing of monitoring and amagement guidelines for second-generation antipsychotics. *Journal of Clinical Psychiatry, 68*(Suppl. 4), 14-18.

Vreeland, B. (2007). Bridging the gap between mental and physical health: A multidisciplinary approach. *Journal of Clinical Psychiatry*, 68(Suppl. 4), 26-33.

Weiden, P. (2007). Switching antipsychotics as a treatment strategy for antipsychotic-induced weight gain and dyslipidemia. *Journal of Clinical Psychiatry*, 68(Suppl. 4), 34-39.

Running head: SCHOOL VIOLENCE

A Case Study of Adolescent School Violence

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Victor is an 18 year old high school student from India treated in the school based health center for anxiety, anger outbursts and impulsiveness. He was referred for a violence risk screening by the counselor after he shouted out racial slurs during class. Victor has gotten into verbal shouting matches with several males in the school hallway, but has never physically harmed another student. Almost daily, he storms out of the classroom without warning when he feels “the pressure is too great.” At these times, he comes to the school-based health center.

Last year, in high school, his cell phone was stolen and several days later, was found destroyed in the hallway. He is now a senior and the teachers are reporting that he is having more outbursts in class and he participated in taunting another classmate. He is failing in math, his best subject. He avoids going outside after school until his mother drives up to the front door.

Victor attends a high school with programs for both gifted students and at risk students. Although the students do not attend classes together, they share the same hallways. There are economic and cultural differences between the program participants. The majority of the community school students are minority and low income, while the gifted program has a preponderance of male, middle-income, non minority students.

Victor states that he cannot get thoughts of people and “things” out of his head. During the interview he grimaces, hits himself on the side of the head and tenses his muscles until he trembles as he repeats over and over, “no, it’s just my OCD thoughts.” He noticed his “OCD thoughts” about 2 years ago. He states that he continues to worry and has no friends at school, but “these people are idiots.” He denies suicidal ideation, but sometimes he wishes he were dead.

Victor reveals that when he was in middle school, he was followed by a “gang of four Hispanic boys” who called him names, hit him in the face, and shoved him to the ground. Around the same time, a group of boys “de-pantsed” him during recess. After this, his parents

said they noticed a change in his behavior. He became fearful of going outside to play and “obsessed” about who was walking in the neighborhood.

At a visit with the nurse practitioner, the parents describe “odd behavior” such as a fascination with Victor’s mother’s and sister’s hair. Unrelenting anger towards a cousin from India who came to live with them resulted in the cousin being sent home. They also report frequent angry outbursts about George Bush. He frequently teases his sister. In the past year, they tried therapy and medication for Victor, but saw no difference because the therapist “did not make Victor change his behavior.” Medication (fluoxetine, 10 mg) increased his anger and was stopped by the parents in 2 days. Last year, when the nurse told him *he* could choose to take medication, they cancelled his school health clinic visits. Victor’s mother is now trying Ayurvedic herbs to treat him.

#### Current Literature

Violence among adolescents in the school environment is a grave concern. In a 2005 survey of youth age 14 to 18, more than 13% reported being in a physical fight at school within the last year (Centers for Disease Control [CDC], 2006). In the 30 days preceding the survey, 6.5% reported carrying a weapon to school and 6% had missed one or more days of school because they felt unsafe either at school or on the way to or from school (CDC). Thirty percent of middle and high school students reported either bullying or being a victim of bullying (Anderson et al., 2001; Nansel et al, 2001) and 30% reported having personal property stolen or deliberately damaged while at school.

Bullying is a form of abuse, harassment and violence (US Department of Health and Human Services [HHS], 2003). Causes for bullying behavior include peer pressure, need for attention, low self-esteem, early childhood abuse and neglect, antisocial tendencies and

witnessing violence in the home (American Psychological Association [APA], 2002). Two types of students get bullied: the quiet, sensitive and passive student or the quick tempered, aggressive, immature and hyperactive student. The aggressive type of victim may try to bully weaker students (HHS, 2003). Bullies and victims report high levels of depression and suicidal ideation (Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2007).

Results from a study by Carlyle and Steinman (2007), indicate that gender differences in bullying behavior are only significant for white students, with males more often involved in bullying than females. Differences in bully/bullied behavior across ethnic groups were not significant except in Native Americans who had a higher rate of both perpetration and victimization. Rates decrease from 7<sup>th</sup> to 12<sup>th</sup> grade. Most violent incidents that occur at school happen at the start or end of the school day or during lunch (Anderson et al., 2001).

The complexity of this case is reflected in the mental health and cultural factors expressed in the context of a troubling environment of violence. The mental health implications of school violence for youth nationally are compelling. Victor has been affected by violence and bullying in the school environment. Expert care is needed to understand and intervene in light of the multifactorial context of this case. Additionally, the broader context of school violence needs to be understood and addressed.

### Case Analysis

Victor has been a victim of school violence and has significant mental health problems. He describes thoughts in his head that he “cannot get rid of.” These thoughts are of hatred towards others and himself and a fear that he is going to “do something bad.” When asked what that bad behavior might be, he states “support George Bush.” He also describes being fascinated by his mother and sister’s sleek black hair and feeling compelled to touch it, to their annoyance.

He ruminates on “being born in 1990 and not the 1980’s because they were better times.” Victor meets the current *Diagnostic and Statistical Manual of Mental Disorders*’ (DSM) criteria for a diagnosis of obsessive-compulsive disorder [OCD] (see Appendix A). Based on the literature, consideration of dysthymia, and/or major depressive disorder (2000) is appropriate. Generalized anxiety disorder (GAD) is ruled out as his concerns go beyond real-life concerns and situations. Anxiety related to a medical condition and substance induced disorder are ruled out after further questioning regarding physical status and use of substances. Psychosis is also ruled out as Victor’s thoughts are reality based. Victor does not meet criteria for a diagnosis of post-traumatic stress disorder (PTSD).

#### *Decision Making regarding OCD*

Prevalence rates of OCD are similar worldwide. The lifetime prevalence in children and adolescents is 1% to 2.3% with onset at age 6 to 15 for males and 20 to 29 in females. OCD rate is higher in monozygotic twins and with first degree relatives with anxiety disorders. While etiology is unknown in OCD, it is an anxiety disorder with both biological and environmental influences. Neuroimaging techniques suggest that the orbitofrontal lobe, limbic system and basal ganglia are involved and that SSRIs normalize the hyperactivity seen with OCD, in these areas (Neugroschl, Hoblyn, del Castillo & Caughey, 2004).

For this reason, an initial decision is to attempt a trial of an SSRI. Attention to side effects is important because of a reported negative reaction to fluoxetine in the past. It is determined that an adequate trial was not undertaken (2 days only at 10 mg). If there is an underlying depression, an SSRI will also treat that. Ongoing evaluation will determine if depression is present as it would be more evident after the debilitating anxiety is treated. For medication to be effective, the family needs to be supportive of this approach. A relationship

based on trust and respect will be extremely important for this family. As noted, the mother is using Ayurvedic medicine to treat Victor and this needs to be considered in the treatment plan.

Ayurvedic medicine is an Indian system of medicine that uses herbs, massage and special diets to integrate the body and mind, cleanse it of imbalances and restore health (National Center for Complementary and Alternative Medicine, n.d.). If there are no harmful drug interactions, the family may continue the treatment.

Therapy is warranted to address the psychosocial issues involved in Victor's OCD. The family has expressed support for therapy although they envision it as "telling Victor what to do." These concerns will need to be addressed with education and guidance. Cognitive behavioral therapy has the highest success rate for OCD (American Psychiatric Association, 2000). In addition to the OCD affecting Victor, the potential violence that he is exposed to at school is another issue to address.

#### *Decision Making regarding School Violence*

Sociocultural, economic, ethical, legal and political issues affect the adolescent population at risk for school violence. Studies have identified three sub-groups: pure bullies, pure victims and bully-victims. The bully-victim bullies others and is the victims of bullies. Bully-victims have more long term problems, with the highest level of self-harm and antisocial behavior. Studies on antisocial youth have tried to identify environmental risks that contribute to antisocial behavior such as lead and PCB exposure, but ultimately a mixture of biologic, socio-cultural and economic risks are the most significant (American Medical Association, 2002; Hwang, L., 2007). Victor has been bullied and is now bullying other students.

Victims can be either aggressive or passive types with the aggressive type most often becoming the bully-victim (Barker, Arseneault, Brendgen, Fontaine & Maughan, 2008). In a



study by Crouch, Hanson, Saunders, Kilpatrick and Resnick (2000), higher family income was associated with less exposure to violence, fewer physical assaults and fewer sexual assaults, but only for Caucasian, non-Hispanic teens. Hispanic and African American teens had higher exposure regardless of family income. Programs that focus on lower socioeconomic groups only would not serve bullied middle income Hispanic and African American teens. Gay youth were found to experience such intense bullying that they felt unable to receive an adequate public education. Thirty one percent of gay adolescents had been threatened or injured at school (verbally, as many as 26 times a day) and 22% had missed school (in the last 30 days) because they felt unsafe at school (Mental Health America, n.d.). Victor's school has an interesting mix of separate programs that include all social classes, income levels and ethnic groups.

The Centers for Disease Control and Prevention (CDC) is interested the "Crime Prevention through Environmental Design" (CPTED) program as a way to improve safety and decrease opportunities for violence in schools. Environmental measures would be to improve visibility in all areas, decrease unsupervised spaces such as landscaping that creates hiding spots, maintain a visible adult presence in all areas, and quickly remove graffiti and hazards such as loose equipment in the restrooms. This addresses immediate environmental threats rather than larger socioeconomic goals (CDC, n.d.). A walking survey of Victor's school building may reveal issues with physical safety that could be addressed.

After the school shootings in the late 1990's revealed that many of the perpetrators had been bullied at school, many states have passed anti-bullying laws. In 2001, Oregon passed legislation (ORS, 339.331) authorizing a Center for School Safety within the Department of Higher Education (Oregon State Archives, 2008). The Center analyzes data about school safety and conducts research. It also provides information to schools to implement prevention and

intervention programs. Subsequent legislation specifically defines harassment, intimidation, bullying and cyberbullying (ORS, 339.51). The definition includes harming a student, student property, placing a student in reasonable fear of physical harm or property damage or creating a hostile educational environment. ORS 339.56 requires that each school district have a policy to address violence and ORS 339.62 prevents retaliation against a person who reports harassment, bullying, intimidation or cyberbullying.

Victor has experienced physical harm, harm to his property and he fears subsequent harm or property destruction. Overall, nursing is in a good position to intervene since schools usually have a school nurse and many schools in Oregon have school-based health centers staffed by nurse practitioners.

#### Intervention Strategies

Interventions for Victor address safety issues and his mental health problems. The mental health problems are conceptualized as starting with an incident of violence, possibly threatening his sense of safety. This increased his anxiety which may have led to his OCD, given a family predilection for anxiety (an aunt in India has “a lot of anxiety problems”). This in turn is acted out in his disruptive behaviors, which are more common in children and adolescents with anxiety. Interventions need to address three spheres of interaction affected by mental illness: school, home and social (DSM, 2000).

Safety concerns are the first to be addressed. At school, the team includes the DNP, principal, teachers and school counselors. Immediate concerns are discussed first: building safety and safe interpersonal interactions. Utilizing existing school programs as mandated by the state, the building and an overall safety plan can be reviewed. A behavioral plan addresses steps to take when there is an incident of acting out, aggression, or inappropriate verbal outbursts.

The parents want to be involved in treatment and Victor wants them involved. A method to communicate about in-school counseling sessions and medication recommendations will be carefully agreed upon. For the home environment, a behavioral plan will address how to handle Victor's outbursts. Education and guidance from the DNP will help his parents meet his need to feel loved, be taken care of and be listened to. Later in treatment, the DNP will assist the parents to allow Victor to have some choices in order to increase his sense of autonomy. All of these interactions will need to take place within the family's cultural boundaries.

Victor has no friends at this time, so social interventions will be addressed at a later date. In the meantime, his teachers can encourage him to interact with compatible students through classroom activities. His parents can explore ways to expose Victor to young people outside of his immediate family.

The outcomes of the team interventions, parental counseling and guidance, psychotherapy and medication address both safety and anxiety. Victor will feel safe in the school and home environments. Medication will decrease his ruminative obsessions and control his anxiety so that he can begin to utilize psychotherapy interventions. Psychotherapy outcomes are: increased self esteem, increased self-efficacy, and behavioral self-management of his obsessive thoughts, anger and anxiety.

### Evaluation of Care

#### *Health Outcomes Attained*

The school team had a number of meetings to address school safety. Victor was assured that he could stand at the front door and wait for his mother to pick him up. It was hoped that he would gradually become more comfortable standing outside. One teacher was selected to be his "sounding board" when he felt unable to control himself. This teacher was available throughout

the day. They would talk, take a brisk walk or jog outside the school and that calmed Victor. He was to keep his classroom teacher informed when he needed to leave class. The nurse practitioner set up weekly appointments during a study hall period. Victor made clear progress in counseling to understand his disorder and try cognitive strategies to decrease intrusive thoughts. He expressed a desire to separate more from his parents as graduation approached.

The parents agreed to try medication after being given literature about OCD and recommended treatments. Victor was unable to tolerate sertraline or citalopram and the parents could not be convinced to try a mood stabilizer. The family continued to be somewhat disrupted by Victor's behavior and were not able to consistently set limits. They often would chide him for his behavior and the father eventually disengaged from trying the interventions. Victor was referred to a psychiatrist for after graduation and was placed on clonazepam but results are unknown. He is attending a local college and living at home with his parents.

#### *Recommendations for DNP Practice*

DNP leaders in clinical nursing practice need to recognize the impact of the school environment on the mental health of adolescents. Awareness of the violence in schools that patients are exposed to will help the DNP better assess for aggressive, bullying behaviors and intervene before serious consequences occur. Support for the implementation of evidence-based violence prevention programs in communities is crucial.

Nurses working in a school environment can promote violence prevention through education, anticipatory guidance and creating safe environments. Early recognition of unsafe situations and environmentally induced stress in students will allow for treatment before serious injury occurs. Referring students exhibiting symptoms for counseling may prevent serious

mental health problems. The DNP can be a leader in educating school personnel about the risk factors, consequences and legal obligations concerning school bullying.

Ultimately, families and communities must be involved in creating safe neighborhoods and schools. Finally DNP's advocating for sociocultural change through local and state policy that will address poverty and other disparities, promote safe neighborhoods, and enhance parenting skills will in the long term, contribute to changing the milieu that allows violence to threaten the well-being of our youth.

### *Self-Reflection*

The professional skills needed to analyze this case include: 1) recognizing risk and safety issues for patients, 2) making an accurate diagnosis and 3) understanding the current evidence-based treatment interventions. To be able to achieve this, the DNP needs knowledge and application skills that include: 1) safety and risk assessment, 2) diagnostic decision making including familiarity with the *Diagnostic and Statistical Manual of Mental Disorder's* criteria for obsessive compulsive disorder, generalized anxiety disorder, dysthymia, major depressive disorder and PTSD, and 3) familiarity with the current literature on safe, effective treatment choices. Contextual knowledge and application skills are needed to understand the pervasiveness and causes of school violence, the consequences of victimization and interventions that are appropriate to the sociocultural context and population affected.

Personal skills needed are the ability to form therapeutic relationships and utilize therapeutic communication techniques with adolescents, families, school personnel and community stakeholders. Relationships with community leaders are needed to address policy and societal issues related to school violence.

## References

- American Medical Association (2002). Youth bullying. *Proceedings from the Educational Forum on Adolescent Health*, May, 3, 2002. Retrieved August 8, 2008, from <http://www.ama-assn.org/ama1/pub/upload/mm/39/youthbullying.pdf>
- American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders (4<sup>th</sup> ed., text-revision)* [DSM IV-TR]. Arlington, VA: American Psychiatric Association.
- American Psychological Association (2002). Warning signs of youth violence [Fact sheet]. American Psychological Association's Practice Directorate. Retrieved August 6, 2008, from [http://www.apahelpcenter.org/dl/warning\\_signs-of\\_youth\\_violence.pdf](http://www.apahelpcenter.org/dl/warning_signs-of_youth_violence.pdf)
- Anderson, M., Kaufman, J., Simon, T., Barrios, L., Paulozzi, L., Ryan, G., et al. (2001). School-associated violent deaths in the United States, 1994-1999. *Journal of the American Medical Association*, 286, 2695-2702.
- Barker, E., Arseneault, L., Brendgen, M., Fontaine, N., & Maughan, B. (2008). Joint development of bullying and victimization in adolescence: relations to delinquency and self-harm. *Journal of the American Academy of Child and Adolescent Psychiatry*, 47(9), 1030-1038.
- Carlyle, K., & Steinman, K. (2007). Demographic differences in the prevalence, co-occurrence, and correlates of adolescent bullying at school. *Journal of School Health*, 77(9), 623-629.
- Centers for Disease Control and Prevention (2006). Youth risk behavioral surveillance-United States, 2005. *MMWR*, 55(No. SS-5).
- Centers for Disease Control and Prevention (n.d.). Using Environmental Design to Prevent School Violence. Retrieved August 12, 2008, from <http://www.cdc.gov/print.do?url=http%3A//www.cdc.gov/ncipc/dvp/CPTED.htm>

- Crouch, J., Hanson, R., Saunders, Kilpatrick, D., & Resnick, H. (2000). Income, race/ethnicity, and exposure to violence in youth: results from the national survey of adolescents. *Journal of Community Psychology, 28*(6), 625-641.
- Hwang, L. (2007). Environmental stressors and violence: Lead and polychlorinated biphenyls [Abstract]. *Reviews on Environmental Health, 22*(4), 313-328.
- Klomek, A., Marrocco, F., Kleinman, M., Schonfeld, I., & Gould, M. (2007). Bullying, depression, and suicidality in adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 46*(1), 40-49.
- Mental Health America. (n.d.) Bullying and gay youth [Factsheet]. Retrieved August 9, 2008, from [www.nmha.org/go/information/get-info/children-s-mental-health/bullying-and-gay-youth](http://www.nmha.org/go/information/get-info/children-s-mental-health/bullying-and-gay-youth)
- Nansel, T., Overpeck, M., Pilla, R., Ruan, W., Simons-Morton, B., & Scheidt, P. (2001). Bullying behavior among US youth: Prevalence and association with psychosocial adjustment. *Journal of the American Medical Association, 285*(16), 2094-2100.
- National Center for Complementary and Alternative Medicine (n.d.). *Ayurvedic medicine: An introduction*. Retrieved December 2, 2008 from <http://nccam.nih.gov/health/ayurveda/>
- Neugroschl, J., Hoblyn, J., del Castillo, C., & Caughey, A. (2004). *Behavioral science and epidemiology*. Malden, MA: Backwell.
- Oregon State Archives. (2008). School Safety. Retrieved on December 12, 2008, from <http://www.leg.state.or.us/ors/339.html>

U.S. Department of Health and Human Services (2003). Bullying is not a fact of life. Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, (Publication CMHS-SVP-0052).



## Appendix A

## Diagnostic Criteria for 303.3 Obsessive-Compulsive Disorder

## A. Either obsessions or compulsions:

## Obsessions:

- Recurrent persistent thoughts, impulses or images experienced as intrusive and inappropriate that cause marked anxiety and distress.
- The thoughts are not simply excessive worries about real-life problems.
- Attempts to ignore or suppress thoughts or neutralize them with another thought or action.
- Person recognizes that the thoughts are the product of his/her own mind.

## Compulsions:

- Repetitive behaviors or mental acts driven to perform in response to an obsession, according to strict rules
- Behaviors are aimed at preventing or reducing distress or to prevent some dreaded event and not realistically connected, or clearly excessive

B. Person recognizes the obsessions/compulsions are excessive and unreasonable (not in children)

C. Cause marked distress and are time consuming (> 1 hour a day) or significantly interfere with the person's normal routine, occupational/academic functioning, or usual social activities or relationships.

Adapted from *DSM-IV-TR* (American Psychiatric Association, 2000)

Running head: ETHICAL DILEMMA IN MENTAL HEALTH

An Ethical Dilemma in Mental Health:

A Clinical Case Study

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Christina is a 17 year old client in a community mental health center. Her diagnosis is bipolar disorder and she is on medication for depression and mood swings. She has a past history of substance abuse which she states is now “under control”. She has no health insurance and is a legally emancipated minor. She has been in therapy in the past but was not compliant with appointments. Her chart indicates a pattern of identifying issues at the start of therapy such as her mood swings and substance abuse, but not following through on therapy recommendations and then missing appointments and eventually not returning. She now attends sessions with the psychiatric-mental health nurse practitioner (PMHNP) for medication management and brief therapy as she cannot afford regular therapy sessions. Her medication appointments are covered by a state grant.

At the first appointment, Christina was given a handout about treatment at the center and was told by the nurse practitioner (NP) about confidentiality, including what issues allowed for breaking confidentiality: physical or sexual abuse, suicidal or homicidal ideation, and grave impairment with potential for harm to self. It is now three months into the treatment and Christina begins to talk more about her issues including alcohol and drug abuse which began at age 12, a suicide attempt at age 13 that she didn't report and sexual promiscuity. She says she's sure she knows the reason for the substance abuse and depression and it is connected to why she is distant from her father's family. She begins by saying that her mother worked nights as a nurses aide at a local nursing home and she was always scared at night.

As a PMHNP, I have been in this situation before. First, Christina fits the profile of someone who has sexual abuse in her past. Symptoms include mood instability, impulsivity, aggression, suicide attempts, substance abuse and self-injurious behavior including runaway behavior. All of these were present in Christina's case. Nurses have a legal requirement to report abuse to the appropriate state agency. All states require reporting of sexual abuse when the person abused is underage. In Nebraska, where this case took place, it is "expected and highly recommended" that all abuse be reported no matter how much time has passed and regardless of the current age of the abused person. The agency in which I was employed, expected this level of reporting.

This time, Christina has stayed in treatment longer than previous treatments. Her mood swings are improving and she is following the medication treatment plan. I wonder, should I remind her of the reporting requirements? The dilemma is that if I don't remind her, and then have to report, it may harm the therapeutic relationship and she may again leave treatment. If I remind her, and I have had this happen in the past, she may choose not to reveal the issue and thereby not get the treatment she needs. At this time, I am her only treatment option as she has no coverage for therapy only medication management, which can be coded as "medical psychotherapy" (medication management and brief psychotherapy) and be reimbursed. How do I proceed?

### Review of Topics

#### *Medical indications*

Christina has a number of treatment issues: bipolar disorder with current depressed mood, a history of drug abuse and possible current use, and probable sexual

abuse history. This dilemma concerns the revealing of sexual abuse in a therapeutic relationship and the risk to the NP-patient relationship in reporting the abuse. It also concerns how that abuse is reported, i.e. with or without the patient's knowledge and consent and the subsequent harm to the patient of not receiving treatment. Per state law, because Christina is below the age of 19 (age of consent in Nebraska), any sexual abuse must be reported to the Department of Social Services' Child Protection Services (CPS) Division no matter how long ago it occurred. The risk of reporting the abuse is that Christina will choose not to return for treatment and thus will not get the treatment she needs. Treatment is medically indicated for sexual abuse. Risks of not getting treatment are inability to form intimate relationships as adults, promiscuity with the risk of sexually transmitted disorders and pregnancy, post traumatic stress disorder, somatization disorder, dissociative disorders, substance abuse, eating disorders, anxiety, anger, depression, and suicide (Berks, 2008, p. 276; Herman, 1997, p.110; Townsend, 2006, chap.40). Treatment can be successful and entails 1) pharmacologic treatment of target symptoms such as anxiety, and 2) individual and group therapy especially cognitive behavioral therapy to: improve self-esteem, decrease feelings of panic and anxiety in close relationships and help the patient identify supportive environments and friends (Townsend, 2006). The potential to benefit Christina, the principle of beneficence, applies here. The ANA code of ethics for nurses states that the primary commitment is to the patient and the health and safety of the patient is of utmost concern (ANA, 2001). Knowing there is an indicated treatment and a benefit to the patient of that treatment, creates the desire to provide that treatment. But isn't reporting of abuse based on

beneficence as well? Isn't it good practice to prevent abuse by reporting it? Could reporting abuse therefore be medically indicated?

### *Patient Preferences*

Christina is a legally emancipated minor and is able to make her own treatment decisions, however in Nebraska, all sexual abuse that has occurred to someone who is still under the age of consent (19 years), must be reported by health care providers. Christina has the choice to stay in therapy, but once she reveals sexual abuse, has no choice in terms of the reporting of the abuse. Christina's prior behavior indicates that there is a high risk that she will leave treatment. She is comfortable and close to revealing her "secret". Once she does this, the report will have to be made. One question remains, does she remember that you are required to report abuse? Three months have passed since the discussion about confidentiality and when it must be broken. While autonomy seems to be at issue here, this is a situation where legal issues override the autonomy of the patient and the provider. Perhaps there is choice in how it is reported. For example, could Christina be involved in the decision to report and the report itself?

### *Quality of Life*

The prospects for Christina to lead a healthy, normal life without treatment are not good. Without treatment for sexual abuse, chances for healthy personal relationships are poor. Depression, suicide attempts, PTSD, substance abuse and self-injurious behavior as sequelae of abuse significantly affect quality of life (Joshi, Salpekar & Daniolos, 2006). In a study by Russell (as cited in Herman, 1997, p.111), two-third of women sexually abused in childhood were sexually victimized as adults. Should she leave therapy, she will have to find another provider to treat her bipolar disorder. She will need

to find one who takes patients without insurance and then chose not to reveal her abuse and thus still not get the treatment she needs. Her past and present treatment seeking behavior shows that she wants treatment, she wants to get better. As she is already showing the sequelae of childhood abuse and treatment has the potential to improve the quality of her life, will reporting do harm? As a provider, I am guided by the principle of nonmaleficence.

### *Contextual features*

Family issues may be quite important in this situation. First, Christina is an emancipated minor. It takes a court order to be emancipated from your family before the age of consent. This suggests a troubled relationship with her family. If the abuse took place within the family context, a CPS investigation would inform the family of Christina's report. This may further endanger her relationship with her family. Economic issues come into play as treatment is available to Christina now through this state medication management grant and may not be available in the future as she has no health insurance. Legal issues are also influential, the legal duty to report supersedes the right to confidentiality. Standard 12 in the ANA *Psychiatric-mental health scope and standards of practice* (2007) states that confidentiality is maintained within legal and regulatory requirements. Child Protective Services may chose not to investigate if the abuse is long past, but believe a record of the perpetrator's past behavior may be important in the future to protect someone else. The law exists to protect the public, to do what is just. It may be that there are already other victims of the perpetrator, it may be that there are future victims to protect.

### Case Analysis and Recommendations

The ethical dilemma is not whether or not to report, but whether to allow Christina to talk about the abuse and then tell her I must report it, or to remind her about my duty to report and risk that she does not proceed with the abuse discussion and get treatment specific to abuse. Either may damage the patient-NP relationship. Either may result in her leaving treatment. With the first scenario, she will be forced to deal with reporting the abuse, restricting any choice for her. She may or may not feel that the provider should have reminded her and may wonder if the provider “knowingly” or intentionally didn’t remind her. If she does wonder that, trust may become an issue. With the second, she has a choice not to talk about the abuse, but that choice prevents her from receiving appropriate treatment. Trust in the provider is maintained, however.

Another alternative is to let her talk about the abuse and then report it clandestinely. That immediately is ruled out as it seriously affects the honesty that must be inherent in the therapeutic relationship especially with someone who has had her trust in adults violated so significantly by abuse. If investigated by CPS, her trust in the provider would be irreparably damaged with possible feelings of re-victimization by a trusted adult. The principles of beneficence and nonmaleficence would be seriously violated.

The dilemma is deciding how best to proceed. The principle of beneficence on the surface applies to doing the best for this patient. While it is clear that treatment will benefit the patient and improve her quality of life, the legal mandate to report should be remembered as also being based on the principle of beneficence. It benefits society to prevent the abuse of children. Reporting abuse so that it can be stopped immediately and



future abuse can be prevented is vital. It protects individuals, families and society. So, are we to focus on the “greater good” that reporting affords or on the individual? The principles of justice and nonmaleficence come forward at this point. Is it unjust to hurt one child (i.e. potentially force Christina from treatment) to protect all children? But, is reporting in this case in fact, harmful? Reporting abuse may be a way of empowering the abused person to take control (Herman, 1997, p. 176).

There is no way to predict how Christina will react to the knowledge that the abuse she just revealed will be reported or to the information that anything she says about having been abuse must be reported. One thing is clear, the latter scenario maintains choice or at least limited autonomy for Christina. It clearly demonstrates concern for the patient and it has the best chance for maintaining trust which is so important for the abused person. If she chooses not to reveal abuse, a hypothetical discussion can ensue about how it would be reported, the reason for reporting mandates (referring to the beneficent intent) and what the risks and benefits of reporting could be. The discussion could move into how she might prepare herself for the ramifications of an investigation. The potential remains for her to take control and decide her course, which in itself could be therapeutic for someone whose trust and autonomy has been violated. This becomes the recommended action. Because of the contextual features of each case, this may not be the course of action in future similar dilemmas, but the process has illuminated the issues involved.

#### Ethical Essay

For the provider, initially, this ethical dilemma involves an individual patient and how best to proceed with the care of that patient. Following the ethical principles familiar to

most nurse providers, the ANA ethics and scope and standards publications, the major issues that emerge in this case are: respecting the patient by maintaining confidentiality, doing what is best for the patient and collaborating with the patient in care. Right away, these standards are not going to be easily applied. External forces, in this case legal issues shape the dilemma. From a legal standpoint, ethical theories of utilitarianism seem to apply, but they don't feel comfortable as the health of the patient right in front of you may be compromised. As Kantian theory might posit, there is a rule involved: abuse is always wrong and should be stopped. The intent of the reporting duty is based on that rule; it protects people from abuse. Wouldn't every rational person agree? Again, contextual features alter the value of universal principles or rules in this case. Even the principles of autonomy and justice are questioned. The reporting duty seems to declare that autonomy is not important. Yet, a way to preserve some autonomy was found. What is important in any dilemma and any review of topics is that all of these principles, seen in the context specific to the case influence the decision. For me, honesty and trust became the pertinent decision points.

The integrity and moral values of the provider are often overlooked. We learn in nursing that there is no place for self interest, "patient first", yet immediately I ruled out two alternatives clearly based on my values. I knew I could not keep the abuse secret in order to help the patient, and I knew I could not hide that I was going to report. I could rationalize that it was in the best interest of the patient not to do these things, but in reality it just felt wrong and additionally thoughts about "my license" and my self-image and reputation as an honest person and "not a liar", came first to me. My initial reaction was to demonize the reporting duty as if it were the enemy. In going through the topics

and thinking about the theories, I was able to reframe the reporting duty and that helped me to think of how to proceed as an advocate for the patient and for society at the same time. Honesty and trust could be preserved with the right intervention. Lo (2005, p. 51) writes that in cases of deception and nondisclosure it becomes “not whether to tell, but how to tell”. In the end, “how to tell” became the intervention.

References

- American Nurses Association. (2001). *Code of ethics for nurses with interpretive statements*. Washington, DC: American Nurses Publishing.
- American Nurses Association, American Psychiatric-Mental Health Nurses Association & International Society of Psychiatric-Mental Health Nurses. (2007). *Psychiatric-mental health nursing: Scope and standards of practice*. Silver Springs, MD: Nurse Books.org
- Berk, L. (2008). *Exploring lifespan development*. Boston: Pearson Press.
- Herman, J. (1997). *Trauma and recovery*. New York: Basic Books.
- Joshi, P., Salpekar, J., & Daniolas, P. (2006). Physical and sexual abuse of children. In M. Dulcan & J. Wiener (Eds.), *Essentials of child and adolescent psychiatry*. Washington, DC: American Psychiatric Publishing.
- Lo, B. (2005). *Resolving ethical dilemmas* (3<sup>rd</sup> ed.). Philadelphia: Lippincott, Williams & Wilkins.
- Townsend, M. (2006). *Psychiatric and mental health nursing* (6<sup>th</sup> ed.). Philadelphia: F.A. Davis.

Running Head: METABOLIC SYNDROME IN THE MENTALLY ILL

Case Report:

A Practice Improvement Plan for  
A Metabolic Syndrome Screening Program  
in an Outpatient Mental Health Clinic  
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Oregon Health & Sciences University

Over the last decade, life expectancy of the mentally ill has declined. Researchers estimate that people with severe mental illness, such as schizophrenia and bipolar disorder, live 25 years less than the national average (Colton & Manderscheid, 2006).

Over one fourth of American adults suffer mental health and/or substance abuse problems in a given year, affecting one in five families. Six percent of these adults suffer from severe mental illness [SMI] (Kessler, Berglund, Demler, Jin, & Walters, 2005; National Institute of Mental Illness, [NIMH], n.d.; President's New Freedom Commission, 2003). Of people with SMI in the US, 35% have at least one undiagnosed medical disorder (Wulsin, Soellner, & Pincus, 2006). Metabolic syndrome is a collection of risk factors for coronary artery disease which includes: hypertension, diabetes, dyslipidemia and obesity (McCarron & Keenan, 2007). Metabolic syndrome is reported in 30 to 42% of people with SMI, compared to only 24% of adults nationwide (McEvoy et al., 2005; Suppes, McElroy & Hirschfeld, 2007).

Difficulty negotiating two systems of care contributes to poor physical health care for the severely mentally ill population and have led to recommendations to provide physical health care in mental health settings (Parks, Svendsen, Singer, & Foti, 2006). Preventable or treatable conditions such as metabolic syndrome, cardiovascular disease, diabetes, and lifestyle issues such as smoking and obesity, contribute to the increase in morbidity and mortality among the SMI (Chavetz, White, Collins-Bride, Nickens, & Cooper, 2006; Miller, Paschall, & Svendsen, 2006). Citrome and Yeomans (2005) found that guidelines for monitoring physical health in mental health settings are underutilized, a finding that suggests a change in practice is needed.

The setting for the proposed project is a private, non-profit mental health agency. Most of the clients are impoverished and underserved, one fourth of whom are minority. The agency serves over 12,000 people, approximately 1000 of whom are enrolled in case management for SMI (D. Allison, personal communication, September, 2008). A pilot project, to improve the coordination of primary care

and mental health is underway. The project goals focus on providing basic health screening, health education, and coordination of care within the mental health setting (J. Hrmco, personal communication, May 23, 2008).

Efforts to screen patients at risk for metabolic syndrome have been of limited success due to provider time limitations and reimbursement concerns (D. Allison, personal communication, June 5, 2008). Psychiatric/mental health nurse practitioners (PMHNPs) are well positioned to reverse this lack of success. Yet time and financial constraints affect PMHNP practice as well. Incorporating a registered nurse (RN) into the mental health treatment team expands the ability of the team to screen for physical health problems, refer for care, and coordinate care between mental health and primary care. The DNP provides leadership and clinical expertise to evaluate best practices and guide practice improvement.

Screening for metabolic syndrome in the SMI population could significantly improve health. Early detection and treatment of metabolic syndrome can prevent cardiovascular disease, the most common cause of death in the SMI population (Suppes et al., 2007). The purpose of this clinical project is to implement a screening program for metabolic syndrome for the SMI population at one site of the mental health agency. A proposal to evaluate the screening outcomes is included with this project.

The specific clinical inquiry questions are:

- #1 How does the prevalence of metabolic syndrome, in a mentally ill population in a community mental health clinic, compare to national statistics on metabolic syndrome in the SMI?
- #2 Does an RN screening program for metabolic syndrome increase the detection of metabolic syndrome in a mentally ill population in a community mental health clinic?
- #3 Does a screening and referral program for metabolic syndrome result in an improvement in measures of metabolic syndrome?

#### Conceptual Framework

A conceptual model is presented that provides a framework for an outpatient screening and

referral program for metabolic syndrome in an at risk population of people with severe mental illness. Outcomes address detection and referral of metabolic syndrome for treatment and improved patient health indicators. The project will also evaluate the initial outcomes of the clinic's screening program.

The components of this conceptual model are: 1) the population at risk, 2) the screening and referral program and 3) program outcomes aimed at improving the health of the population at risk.

The following is a model showing the relationships among concepts:

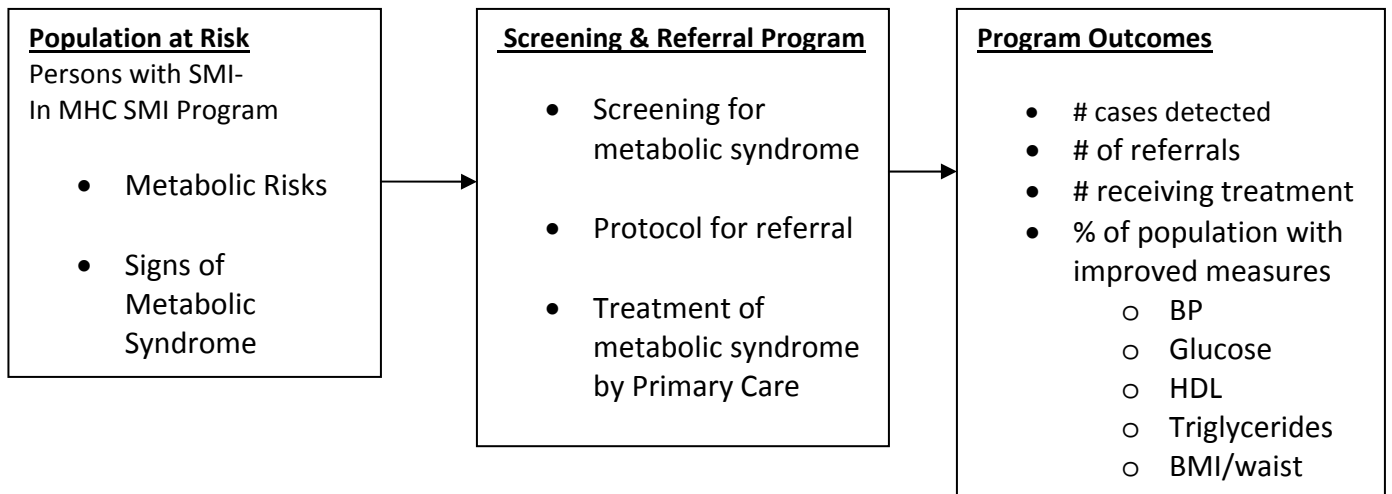


Figure 1: Evaluating quality of care for seriously mentally ill (SMI) adults at risk for metabolic syndrome.

This project is focused on the adult the population diagnosed with severe mental illness at an outpatient mental health clinic. Severe mental illness (SMI) refers to the major mental illnesses such as schizophrenia, schizoaffective disorder, bipolar disorder, major depression and severe anxiety disorders. It includes impairment of functioning and a chronic trajectory (Schinnar, Rothbard, Kanter, & Jung, 1990). The population is at risk for metabolic syndrome due to medications prescribed for SMI such as antipsychotics, lithium and anticonvulsants and/or lifestyle risks common to this population (Suppes et al., 2007). Participants in the screening are patients in the SMI case management program at one site of the mental health agency who meet the criteria for risk. Risk is conceptualized as being on a medication known to contribute to metabolic syndrome or having metabolic syndrome or one of its components.



Appendix A presents diagnostic criteria, screening guidelines for patients on medications, and referral criteria.

Psychiatrists and PMHNPs (psychiatric providers) complete comprehensive psychiatric evaluations on each patient. Information about medical illnesses, hospitalizations, surgeries, a review of systems and medication use is included. The PMHNP may diagnose only mental illness, but has a rich background in health assessment and pathophysiology. In this screening project, psychiatric providers refer patients at risk for to the RN for a health screening, which includes assessment for metabolic syndrome using the parameters identified in Appendix A.

Using national screening guidelines for metabolic syndrome (Sernyak, 2007), patients meeting the criteria are referred for treatment, preferably to the person's primary care provider. Screening results that do not meet the criteria for metabolic syndrome, but have some abnormalities are flagged for review by the psychiatric provider. The RN coordinates care with the primary care provider (PCP) and reports treatment results to the patient's psychiatric provider. The center's electronic records system is used for within-clinic communication. Specific referral forms are used to communicate with the PCP.

Program evaluation is concerned with specific program and population based patient outcomes. Program outcomes regarding number of referrals made, referrals completed by patients and treatment received, reflect the utility of the screening program and may lead to the discovery of barriers to receiving treatment that are currently unknown. Program outcomes documenting improved health indicators in the population, reflect the effectiveness of early detection and referral on health status.

#### Review of the Literature

The literature documenting the decreased life expectancy in people with SMI is reviewed. Metabolic syndrome as a precursor to cardiovascular disease, the most common cause of morbidity in people with SMI, is reviewed as it pertains to mental health practice. Issues affecting the physical health of people with SMI are examined from a societal, health care system, and provider perspective.

Guidelines and recommendations for incorporating physical screening into psychiatric practice are discussed with barriers to implementation. Finally, practice models for integrating physical and mental health care for the mentally ill will be reviewed, with a focus on models that incorporate physical health care in a mental health setting.

#### *Morbidity and Mortality in People with Severe Mental Illness*

A 2006 study by Miller et al. examined state death records in 608 patients at a state mental hospital from 1998 to 2002. Causes of death, medical comorbidities, years of potential life lost (YPLL) and mortality ratios were calculated. Death from cardiovascular disease resulted in an average YPLL of 32.0. The most prevalent comorbidities were obesity and hypertension. Colton and Manderscheid (2006) reviewed the mortality statistics databases in eight states from 1997 to 2000 for public mental health clients. They found that in all eight states, public mental health clients had a higher relative risk of death than the rest of the state population, dying at an earlier age, with more years of potential life lost (average 13 to 30 years) than people without SMI. Heart disease was the leading cause of death in both groups, as it is nationally. Each study concluded with recommendations to improve the interface between mental health and primary care (Colton & Manderscheid; Miller et al.).

#### *Metabolic Syndrome and Cardiovascular Disease in People with Severe Mental Illness*

In a review of current literature on cardiovascular disease in patients with schizophrenia, Hennekens (2007) reports that relative risk of death from cardiovascular disease is 1.5 compared to the non-schizophrenic population, citing obesity, dyslipidemia, hypertension, insulin resistance and cigarette smoking as major risk factors. Patients with schizophrenia have a much higher rate of obesity, cigarette smoking, diabetes and hypertension as noted in the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) trial (McEvoy et al. 2005). The CATIE trial collected data from 1,460 patients with schizophrenia at 50 sites across the U.S. (Chwastiak et al. 2006). In analyzing the data from the CATIE trial, McEvoy et al. found the prevalence of metabolic syndrome to be 40 to 43%.

McEvoy et al. used the data from the CATIE trial and compared it to the third National Health and Nutrition Examination Survey (NHANES III) to show that males in the CATIE trial were 138% more likely to have metabolic syndrome than males in the NHANES study. Women in the CATIE study were 251% more likely to have metabolic syndrome. Nasrallah, Meyer, and Goff (2006) also noted that the CATIE trial data reported that patients with schizophrenia had limited access to physical health care and often received suboptimal care. In a review of the literature, Newcomer (2006) identified similar findings in patients with bipolar disorder, even when not on antipsychotic medications. The increased risk came from weight gain associated with lithium and mood stabilizers.

#### *Societal and Health System Issues*

Reasons for the increase in morbidity and mortality in the SMI population are varied. In a systematic review of the literature, Druss and von Esenwein (2006) found that modifiable risk factors such as substance abuse, smoking, poor nutrition, lack of exercise, unsafe sexual practices and residence in homeless shelters and group care facilities contributed to increased morbidity. Additionally poverty, unemployment and a high rate of incarceration increase vulnerability (Parks et al., 2006).

Poor quality of medical care and /or lack of access to medical care contribute to the increase in risk (Miller, Druss, Dombrowski, & Rosenheck, 2003; Sullivan, Han, Moore, & Kotrla, 2006; Weiss et al., 2006). Miller et al. surveyed 59 randomly selected patients at a community mental health center about access to primary care and perceived barriers to care. They found that even in patients with a regular source of primary care, barriers prevented them from accessing it. Perceived barriers to appropriate care were that medical providers were not well informed about psychiatric medications and did not pursue mental health issues. Sixty three percent of patients could not name their primary care provider, and 40% said their mental health and primary care providers did not coordinate care. Salsberry, Chipps, and Kennedy (2005) found that people with mental illness received a lower level of preventive care.

In a qualitative study by Lester and Tritter (2005), mental health patients avoided primary care because of shame (stigma), or perceived lack of acceptance in settings other than mental health. Further, the symptoms of the illness caused suspicion of others, fear of being in public and sensory overstimulation resulting in avoidance of diagnosis and treatment of physical problems. The study participants also identified that they needed to minimize their mental health symptoms and yet maximize their physical symptoms to get seen in primary care, and particularly struggled to “make it through the waiting room.”

#### *Mental Health System and Provider Issues*

A barrier to seeking treatment of physical problems, identified by mental health patients was that their mental health provider did not ask about medical issues (Miller et al., 2003). Suppes et al. (2007) conducted a survey of 500 psychiatrists to assess their knowledge of metabolic syndrome and practices regarding it. The researchers found that 94% viewed it as a significant health risk for their patients and that 76% had diagnosed it in their patients. A significant number monitored weight (78%), glucose (69%) and lipids (61%). Interventions included switching to a different medication based on recommendations from the CATIE study and referral to primary care.

Practice guidelines for monitoring patients on antipsychotic medications were developed in 2004 by a consensus group of the American Diabetes Association, the American Psychiatric Association, the American Association of Clinical Endocrinologists and the North American Association for the Study of Obesity (American Diabetes Association, 2004). Baseline monitoring was recommended, and a monitoring protocol was developed. Goff et al. (2005) developed comprehensive guidelines that include screening for health problems and recommendations for preventive care.

Problems that mental health clinics may encounter in trying to meet the expectations of the guidelines and evidence-based practice are: practitioner knowledge and comfort with “medical procedures,” time to perform additional screening and lack of funding or payment for these services in

the mental health setting (Druss, 2007; Parks, 2007). A study of preventive services provided at psychiatric visits determined that in the 3,198 visits reviewed, preventive services were provided at 11% of the visits. Preventive services were more likely to occur for patients with SMI when a patient had a chronic physical illness, when nursing care was available, when living in rural areas and when visits were longer (Daumit, Crum, Guallar, & Ford, 2002). Besides lack of knowledge, time and funding, Sernyak (2007) cites resistance to change, unclear division of roles, poor communication systems and lack of start-up funds for establishing an embedded medical program, as barriers to implementing monitoring in a mental health clinic. These barriers must be addressed in order to meet professional standards that basic screening be completed in all mental health practices (Druss; Goethe, Szarek, Caley & Woolley, 2007; Goff, 2007; Marder et al., 2004). Several studies identify nurses as vital to overcoming these barriers (Daumit et al.; Goff; Vreeland, 2007).

No literature was found on the development of a screening program within a mental health clinic. The literature on integration of mental health and primary care has focused predominately on the addition of a mental health provider in a primary care setting (Druss, 2007). Although there are current recommendations to designate the mental health clinic as the primary health home for the SMI population with referral to primary care, no literature was found regarding designing or evaluating a physical health screening program within a mental health center (Parks et al., 2006).

### *Integration Models*

Druss (2007) identifies four integrated models to provide medical care to the seriously mentally ill: a) training psychiatrists and PMHNPs to diagnose and care for certain medical conditions, b) medical consultation with a primary care provider on site, c) a collaborative care model with a multidisciplinary team approach, such as the Chronic Care Model, and d) facilitated referral between mental health and primary care as a case management model. A systematic review of the literature (Druss & von

Esenwein, 2006) showed few studies to address these models. Of the six studies found, four focused on populations with addictive disorders and two on patients with serious mental illness.

Rubin, Littenberg, Ross, Wehry, and Jones (2005) looked at the addition of a medical practitioner to an inpatient psychiatry setting. The study was a randomized control trial (RCT) with one group using an onsite internist for medical care and the other using care as usual (medical care by consultation). The study demonstrated significant improvement in process of care for the internist treated group as measured by a 17 question rating scale. A measure of resource use (billables and length of stay) found no difference between the groups.

In a study by Druss, Rohrbaugh, Levinson, & Rosenheck (2001), completed at a VA hospital, a group of outpatients with mental illness, treated by primary care at the mental health site, had more primary care visits and received more preventive interventions than the control group, treated at two different clinic sites for mental health and primary care. The participants in integrated care also had significant improvement in health as measured by the physical component score on the 36-item Short-Form Health Survey. There was no difference in mental health symptoms or costs between groups.

#### *Nursing Literature*

Nursing is not well represented in the integration literature. Three articles by nurses were found on the topic. Howard, El-Mallakh, Rayens and Clark (2007) measured self-reported medical problem frequency, overall health, and health-related quality of life in a retrospective, cross-sectional descriptive study of Medicaid mental health clients. Health was reported as poor or fair in 83% of the population of 787 adults. The findings for the sample with bipolar disorder and schizophrenia did not identify heart disease, metabolic syndrome or its components in the top four most prevalent diseases. Hypertension was third on the list for people with schizophrenia. It is difficult to compare these findings to others since this study used patient's perceived health versus diagnosed conditions.

In two articles, advanced practice nurses reported on patient education programs aimed at reducing modifiable risk factors such as smoking, diabetes and obesity in people with mental illness (Littrell, Hilligoss, Kirschner, Petty, & Johnson, 2003; Vreeland, 2007). The results of these intervention programs are impressive and important for improving treatment of physical conditions in the seriously mentally ill population.

The literature supports that there is an increase in physical illness and decreased lifespan in the SMI population. System, provider and patient issues contribute to this problem. Guidelines have been developed to address basic health screening that should take place in a mental health setting, but barriers exist to full implementation. A program to change the standard model of care, focusing on metabolic syndrome, is a positive step toward combating metabolic syndrome, a major contributor to the health crisis. The evaluation of this program will add to the body of literature needed to improve health in this vulnerable population. Remington (2006) in an editorial in the *American Journal of Psychiatry* states that “new programs may be required to achieve such a goal” (p. 1133). He goes on to state that guidelines have now been issued to help, but “unfortunately, this knowledge has not yet been translated into clinical practice” (p. 1133).

This project extends current research to the evaluation of a new model of care, screening within a mental health clinic and focuses on the positive contribution nursing can make. Druss (2007) and Parks (2007) noted that the time to perform the additional screening that the guidelines require and funding as barriers to implementation. The evaluation of this program of RN screening within a mental health setting would begin to address both of those barriers. Working as a team RNs, PMHNPs and psychiatrists could systematically implement the guidelines. A future cost analysis of the program may support continued funding of such efforts and expand the program’s reach.

## References

- American Diabetes Association, American Psychiatric Association, American Association of Clinical Endocrinologists, North American Association for the Study of Obesity. (2004). Consensus Development Conference on antipsychotic drugs and obesity and diabetes. *Diabetes Care*, *27*, 596-601.
- Chavetz, L., White, M., Collins-Bride, G., Nickens, J., & Cooper, B. (2006). Predictors of physical functioning among adults with severe mental illness. *Psychiatric Services*, *57*(2), 225-231.
- Chwastiak, L., Rosenheck, R., McEvoy, J., Keefe, R., Swartz, M., & Lieberman, J. (2006). Interrelationships of psychiatric symptom severity, medical comorbidity, and functioning in schizophrenia. *Psychiatric Services*, *57*(8), 1102-1109.
- Citrome, L. & Yeomans. (2005). Do guidelines for severe mental illness promote physical well-being? *Journal of Psychopharmacology*, *19*(Suppl.6), 102-109.
- Colton, C. & Manderscheid, R. (2006). Congruencies in increased mortality rates, years of potential life lost, and causes of death among public mental health clients in eight states. *Preventing Chronic Disease: Public Health Research, Practice, and Policy*, *3*(2), 1-14. Retrieved from [http://www.cdc.gov/pcd/issues/2006/apr/05\\_0180.htm](http://www.cdc.gov/pcd/issues/2006/apr/05_0180.htm)
- Daumit, G., Crum, R., Guallar, E., & Ford, D. (2002). Receipt of preventive medical services at psychiatric visits by patients with severe mental illness. *Psychiatric Services*, *53*(7), 884-887.
- Druss, B. (2007) Improving medical care for persons with serious mental illness: Challenges and solutions. *Journal of Clinical Psychiatry*, *68*(Suppl. 4), 40-44.
- Druss, B., Rohrbaugh, R., Levinson, C., & Rosenheck, R. (2001). Integrated medical care for patients with serious psychiatric illness. *Archives of General Psychiatry*, *58*, 861-868.



- Druss, B. & von Esenwein, S. (2006). Improving general medical care for persons with mental and addictive disorders: Systematic review. *General Hospital Psychiatry, 28*, 145-153.
- Goethe, J., Szarek, B., Caley, C., & Woolley, S. (2007). Signs and symptoms associated with the metabolic syndrome in psychiatric inpatients receiving antipsychotics: A retrospective chart review. *Journal of Clinical Psychiatry, 68*(1), 22-28.
- Goff, D. (2007). Integrating general health care in private community psychiatry practice. *Journal of Clinical Psychiatry, 68*(Suppl. 4), 49-54.
- Goff, D. & Newcomer, J. (2007). Integrating general health care in private and public psychiatry. *Physicians Postgraduate Press*. Podcast retrieved February 29, 2008 from [http://www.medfair.com/content/cme/lectures/eview/mentalhealth/goff\\_transcript/](http://www.medfair.com/content/cme/lectures/eview/mentalhealth/goff_transcript/)
- Hennekens, C. (2007). Increasing global burden of cardiovascular disease in general populations and patients with schizophrenia. *Journal of Clinical Psychiatry, 68*(Suppl. 4), 4-7.
- Howard, P., El-Mallakh, P., Rayens, M., & Clark, J., (2007). Comorbid medical illnesses and perceived general health among adult recipients of Medicaid mental health services. *Issues in Mental Health, 28*, 255-274.
- Kessler, R., Bergland, P., Demler, O., Jin, R. & Walters, E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the national comorbidity survey replication. *Archives of General Psychiatry, 62*, 593-602.
- Lester, H. & Tritter, J. (2005). "Listen to my madness": Understanding the experience of people with serious mental illness. *Sociology of Health & Illness, 27*(5), 649-669.

- Littrell, K., Hiiligoss, N., Kirschner, C., Petty, R., & Johnson, C. (2003). The effects of an educational intervention on antipsychotic-induced weight gain. *Journal of Nursing Scholarship, 35*, 237-241.
- Marder, S., Essock, S., Miller, A., Buchanan, R., Casey, D., Davis, J., et al. (2004). Physical health monitoring of patients with schizophrenia. *American Journal of Psychiatry, 161*(8), 1334-1349.
- McCarron, R., & Keenan, C. (2007). The metabolic syndrome. In R. Bermudes, P. Keck, & S. McElroy (Eds.), *Managing metabolic abnormalities in the psychiatrically ill* (pp.25-54). Washington, D.C.: American Psychiatric Publishing.
- McEvoy, J., Meyer, J., Goff, D., Nasrallah, H., Davis, S., Sullivan, L., et al. (2005). Prevalence of the metabolic syndrome in patients with schizophrenia: Baseline results from the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) schizophrenia trial and comparison with national estimates from NHANES III. *Schizophrenia Research, 80*, 19-32.
- Miller, C., Druss, B., Dombrowski, E., & Rosenheck, R. (2003). Barriers to primary medical care among patients at a community mental health center. *Psychiatric Services, 54*(8), 1158-1160
- Miller, B., Paschall, C., & Svendsen, D. (2006). Mortality and medical co-morbidity among patients with serious mental illness. *Psychiatric Services, 57*(10), 1482-1487.
- Nasrallah, H., Meyer, J., Goff, D., McEvoy, J., Davis, S., Stroup, S., et al. (2006). Low rates of treatment for hypertension, dyslipidemia and diabetes in schizophrenia: Data from the CATIE schizophrenia trial sample at baseline. *Schizophrenia Research, 86*, 15-22.
- National Institute of Mental Health [NIMH]. (n.d.) Statistics: Impact of mental illness on society. Retrieved, February 3, 2008 from <http://www.nimh.nih.gov/health/statistics/index.shtml>

- Newcomer, J. (2006). Medical risks in patients with bipolar disorder and schizophrenia. *Journal of Clinical Psychiatry*, 67(Suppl. 9), 25-30.
- Parks, J. (2007). Implementing practice guidelines: Lessons from public mental health settings. *Journal of Clinical Psychiatry*, 68(Suppl. 4), 45-48.
- Parks, J., Svendsen, D., Singer, P., & Foti, M. (2006). Morbidity and mortality in people with serious mental illness. NASMHPD. Retrieved from [http://www.nasmhpd.org/general\\_files/publications/med\\_directors\\_pubs/Technical%20Report%20on%20Morbidity%20and%20Mortality%20-%20Final%2011-06.pdf](http://www.nasmhpd.org/general_files/publications/med_directors_pubs/Technical%20Report%20on%20Morbidity%20and%20Mortality%20-%20Final%2011-06.pdf)
- President's New Freedom Commission on Mental Health. (2003). *Achieving the Promise: Transforming Mental Health Care in America. Final Report*. DHHS Pub. No. SMA-03-3832. Rockville, MD. Retrieved from <http://www.mentalhealthcommission.gov/reports/FinalReport/FullReport.htm>
- Remington, G. (2006). Schizophrenia, antipsychotics, and the metabolic syndrome: Is there a silver lining? *American Journal of Psychiatry*, 163, 1132-1134.
- Rubin, A., Littenberg, B., Ross, R., Wehry, S., & Jones, M. (2005). Effects on processes and costs of care associated with the addition of an internist to an inpatient psychiatry team. *Psychiatric Services*, 56(4), 463-467.
- Salsberry, P., Chipps, E., & Kennedy, C. (2005). Use of general medical services among Medicaid patients with severe and persistent mental illness. *Psychiatric Services*, 56(4), 458-462.
- Schinnar, A., Rothbard, A., Kanter, R., & Jung, Y. (1990). An empirical literature review of definitions of severe and persistent mental illness. *American Journal of Psychiatry*, 147(12), 1602-1608.

- Sernyak, M. (2007). Implementation of monitoring and management guidelines for second-generation antipsychotics. *Journal of Clinical Psychiatry, 68*(Suppl. 4), 14-18.
- Sullivan, G., Han, X., Moore, S. & Kortrla, K. (2006). Disparities in hospitalization for diabetes among persons with and without co-occurring mental disorders. *Psychiatric Services, 57*(8), 1126-1131.
- Suppes, T., McElroy, S., & Hirschfeld, R. (2007). Awareness of metabolic concerns and perceived impact of pharmacotherapy in patients with bipolar disorder: A survey of 500 US psychiatrists. *Psychopharmacology Bulletin, 40*(2), 22-37.
- Vreeland, B. (2007). Bridging the gap between mental and physical health: A multidisciplinary approach. *Journal of Clinical Psychiatry, 68*(Suppl. 4),26-33.
- Weiss, A., Henderson, D., Weilburg, J., Goff, D., Meigs, J., Cagliero, E., et al. (2006). Treatment of cardiac risk factors among patients with schizophrenia and diabetes. *Psychiatric Services, 57*(8), 1145-1152.
- Wulsin, L. Soellner, W., & Pincus, H. (2006). Models of integrated care. *Medical Clinics of North America, 90*, 647-677.

## Appendix A

Table A1

## Screening Criteria for Metabolic Syndrome

Clinical Measure	Referral criteria*	Comments for interventions
Blood pressure	≥130/85	
Blood glucose	Fasting ≥ 110 mg/dL	Teach sx DKA. Switch med if worsening FBG.
Triglycerides	≥150mg/dL	Switch med if worsening
HDL	<40 mg/dL male <50 mg/dL female	Switch med if worsening
BMI Waist circumference	>40 males >35 females	Intervene if BMI increase 1 unit, patient is overweight 25-29.9 or obese ≥30

\*Three criteria must be met for the diagnosis of metabolic syndrome

(Goff, 2007; Goff & Newcomer, 2007; Sernyak, 2007)

Table A2

## Monitoring Protocol for Patients at Risk for Metabolic Syndrome

Parameter	Baseline	4 weeks	8 weeks	12 weeks	Quarterly	Annually	Every 5 years
History	X					X	
Weight/BMI	X	X	X	X	X		
Waist circum	X					X	
Fasting plasma glucose	X			X		X	
Blood pressure	X			X		X	
Fasting lipids	X			X		X	X

(Goff & Newcomer, 2007)

**Evidence Table**

\*SMI = severe and persistently mentally ill, terminology for those with Schizophrenia, Schizoaffective disorder, Bipolar, chronic Major Depression

\*CMHC = Community mental health center PC=primary care YPLL=years of potential life lost MH=mental health

<b>Synopsis</b>			<b>Findings</b>		<b>Clinical Applicability</b>
<b>Citation</b>	<b>Clinical Question/ Study Purpose</b>	<b>Design</b>	<b>Credibility</b>	<b>Significance</b>	<b>Applicability</b>
Colton & Manderscheid (2006)	Compare mortality of mental health clients to mortality rate of state general population	Compare age adjusted death rates, mortality ratios, YPLL for MH population compared with same state population.  Epidemiological study	Multiple standardized measures of mortality calculated in general population and MH clients.. Variations in state findings were noted yet congruency cited overall. Used methods similar to other studies for comparison.	Level VI  Clinical signif: MH clients in all 8 states have higher risk or dying than general pop of states.  Descriptive stats, comparison groups.  Used SMR of 1.0, > 1.0 rr of death is higher than general population	Enlarges Morbidity & Mortality studies to include states throughout the US to show increased mortality.

<p>Daumit, Crum, Guallar,&amp; Ford (2002)</p>	<p>Examine the extent of preventive medical services provided to psych patients</p>	<p>Retrospective, Cross sectional analysis of visits to psych by persons with SMI. Physician recorded services on visit form. Random sample of US office physicians. Also noted if other professionals saw pt during visit.</p> <p>Study sometimes called provider physician, sometimes psychiatrists, unclear.</p>	<p>Chi square test. to see if pt type and office type determined if preventive services received.</p> <p>Regression model to examine associations between factors and receipt of preventative services</p>	<p>Level IV</p> <p>Observational, correlational study</p> <p>Statistical significance</p> <p>Used adjusted odds ratio, with 95% CI</p>	<p>Study showed more preventive services when pt saw another health provider in addition to psychiatrist. More likely to get preventive care with team approach.</p> <p>Supports RN as part of team</p>
<p>Druss, Rohrbaugh, Levinson,&amp; Rosenheck (2001)</p>	<p>Evaluate an integrated model of PC for a cohort of SMI</p>	<p>RCT Clients referred to clinic who did not already have a PCP. Randomly assigned to groups. one group treated in same location with PC and MH. Control group in 2 separate sites. Health process (17 question survey) and outcomes (health, mental status and cost) measured</p>	<p>Measures were significant at <math>p &lt; .001</math>.</p> <p>Use 36-Item Short Form Health Survey</p> <p>Self report.</p>	<p>RCT Level II</p> <p>Pts assigned to integrated care clinic had signif improvement in health than those at the separate clinics.</p>	<p>Getting care in one setting improves health status</p>

Druss & von Esenwein (2006)	Review of studies of interventions to improve general medical care in SMI and addictions	Systematic lit review, multiple studies. 6 randomized trials used	Used randomized trials used, met pre-established search criteria. Two independent assessors extracted information	Level I systematic review of randomized trials  Demonstrated substantial positive impact on linkage to and quality of medical care.	Improved health status with onsite medical consultations, team based approaches, facilitated referrals to primary care.
Howard, El-Mallakh, Rayens, & Clark (2007)	Descriptive study of perceived general health in adult recipients of Medicaid MH services	Retrospective, cross-sectional descriptive study	Descriptive stats: t-test, ANOVA and Pearson's product correlation, appropriate stats and Spearman's rank correlation. Perceived health status compared to studies of direct measures is a weakness in discussion section.	Level V descriptive, qualitative	Lends little to my inquiry project but does take a pt perspective approach
Littrell, Hiligoss, Kirschner, Petty, & Johnson (2003)	Assess the effect of an educational intervention on antipsychotic-induced weight gain	Quasi- experimental study. n=70 with dx of schiz. Randomly assigned to intervention of standard care group.	STATS: Categorical variable, Fisher's exact test and on continuous variable by t-test.	Level II  Significance: p=.005 at 4 months, .0007 at 6 months	Educational interventions may have positive effect on antipsychotic weight gain in pts with schizophrenia



McEvoy, Meyer, Godd, Nasrallah, Davis, Sullivan, Stroup et al. (2005)	Examine the prevalence of metabolic syndrome in pts with schizophrenia using the CATIE data	Comparative analysis of CATIE participants with randomly selected sample from NHANES III study	CATIE study is large NIMH database, used by researchers. NHANES is also large national database.	Level III Review of prevalence studies included. Comparison between groups. $p=.002$ and $.003$ using different criteria for MS. both significant	Continues strong basis for need to treat metabolic syndrome. Much higher rate in females
Miller, Druss, Dombrowski, Rosenheck, (2003)	Barriers to primary medical care among the SMI	Random selection of patients from CMHC, interview using 3 assessment tools, $n=59$	Patient self report used. May be biased or unduly influenced	Level VI descriptive study  Significance level $p<.001$	Partially answers the question as to why h. promo info not given, from the perspective of the patient. Access problem also, PCP psych collaboration needed
Miller, Paschall & Svendsen (2006)	Examines mortality and medical comorbidity in SMI	State databases of death records and those of mental hospital pts from 1998-2002, used to determine cause of death, comorbidities and calculate YPLL and mortality ratios	Screened database of 20,018 patients.  Used 90-99.9% confidence interval. Chi square calculations	Age and gender considered, but medication history, socioeconomic status not considered as influencing factors.  Statistical significance $p<.001$	Establishes foundation of increased rate of death from medical cause in SMI.  Uses one state hospital's data only.

Nasrallah, Meyer, Goff, McEvoy, Davis, Stroup et al. (2006)	Examine treatment rates for hypertension, dyslipidemia and diabetes in CATIE participants (SMI)	N=1460 SMI pop  Examined prevalence of medical disorders	CATIE data collected under rigorous conditions	Level VI  single descriptive study	Demonstrates high likelihood that metabolic disorder untreated in pts with schizophrenia, especially HTN and dyslipidemia. Especially in women
Rubin, Littenberg, Ross, Wehry, & Jones (2005)	Examine the effects of collaboration between an onsite internist and psychiatrist on an inpatient psych unit	RCT. Sample 139 adults. 55 in intervention group/ 84 in usual care group.	Measures of 17 categories of assessment of needs, coordinate care and completed health maintenance services	Level I  Pts in intervention group showed significant improvement in 12 of 17 categories of processes of care. Resources data (cost, length of stay) showed no differences.	Demonstrate addition of primary care (on inpatient unit) has positive effect
Salsberry, Chipps, & Kennedy (2005)	Examine patterns of use of medical services among SMI enrolled in Medicaid from 1996-1998	3 year database of Medicaid used to examine service use.	Analysis controlled for presence of chronic medical condition, age race and sex	Level VI  Descriptive study  Use of dental and vision services low, mammogram and PAP use low	High levels of OP medical service use, but low levels of primary and preventive services

Sullivan, Han, Moore, & Kotrla (2006)	Rate of hospitalization for diabetes in persons with and without SMI	ER visits and if resulted in hospitalization. Comparison of those with psychotic illnesses and no psychotic illness.	Descriptive stats on sample characteristics. Sample selection used. Used odds ratio on hospitalization or not.	Level VI Descriptive study	Poor quality of care in SMI with diabetes
Suppes, McElroy, Hirschfeld (2007)	Survey of psychiatrists knowledge of metabolic syndrome and practices to treat	500 psychiatrists survey by mail and phone	Random selection from AMA database.  Bias could be present in giving desirable answers	Level VI Single observational study	Demonstrates high level of knowledge about metabolic syndrome, and attempts to treat with referrals and med changes
Weiss, Henderson, Weilburg, Goff, Meigs, Cagliero, et al. (2006)	Examine the appropriateness and effectiveness of OP medical management of cardiac risk factors for pts with diabetes and schizophrenia	Cross sectional analysis of 4,236 pts with diabetes. Using billing codes 214 pts with schizophrenia identified.	Determined odds ratios	Level IV Correlations, odds ratios  No statistical difference between groups. Pts with schizophrenia received similar regimen of treatment for cardiac factors but effective lipid control was more difficult to attain for some pts with schizophrenia	Cardiovascular risk is high in SMI and treatment risks are significant for use of preventive measures.

Running head: ORGANIZATIONAL CHANGE IN OUTPATIENT PSYCHIATRY

Organizational Change in an Outpatient Psychiatry Practice

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## Introduction

### *Summary of Problem*

In this busy rural psychiatry practice, one full-time psychiatrist and one part-time psychiatric nurse practitioner had a practice of approximately 1100 patients. Patients frequently called the office between visits for information about their symptoms or medications or to talk about a troubling event in their life. Traditionally, the medical providers in a psychiatry practice return patient phone calls when time permits. In our office, non-emergency/non-urgent calls could take several days to be returned and often only after the RN directly requested a response as the patient had already called several times. The nurse was returning most of the calls after consulting with the medical providers when time permitted. Particular patients, who were frequent callers, were either cut short on the phone or avoided.

Patients, the office nurse and the medical providers were dissatisfied with the system as it was. As medical providers, we were aware of the problem because patients, when they next saw us, were often very angry about “being ignored” when they called the office. When patients spoke with the office RN, she often “got an earful” about them not getting called back soon enough. There had also been complaints to the hospital ombudsman and the director of Behavioral Health that were brought to our attention.

The problem addressed by this change effort can be stated as: Patient dissatisfaction with between visit communication between patient and provider.

### *Significance of Problem*

From the office’s perspective, the problem is the delayed response time to the patient. Given the nature and severity of illnesses treated in a psychiatry office, the

consequences could be serious. For example, medication side effects if not addressed could result in medication discontinuation, inappropriate use or other harm to the patient. Risks in a psychiatric practice include the amotivation, fearfulness and social instability of the patients (National Association of State Mental Health Directors, 2006). Patients may feel uncared for, compromising the therapeutic relationship with the provider. The patient's symptoms could worsen, resulting in an emergency room visit or hospitalization and suicide is always a concern. Providers' liability thus increases as well when patient concerns are not adequately addressed.

The Institute for Healthcare Improvement website notes that despite innovations in design and performance for outpatient clinics, many of the improvements are unused, fragmented and isolated causing physicians to feel overworked, unable to take on new patients and that their practice is "out of control". While this refers to the primary care office, they easily apply to a psychiatry practice and point to the significant problem of managing the patient-clinic interface and the need for improvement. The initial suggestion for change was to give more responsibility to the office RN.

### *Literature Review*

The Institute for Healthcare Improvement (IHI) writes of enhancing office flow and optimization of the care team as changes to improve care, and this is relevant to the issues involved in this problem. The office was busy and the providers needed to make use of the other team members to improve the flow of work. Methods identified in the IHI report to optimize the care team include: cross train staff, reduce variation in provider styles, use team communication methods, limit interruptions and ensure that clinicians

and staff work to their highest level of experience, skills and licensure. Another method to “move work away from the provider” is to use written protocols (IHI, n.d.).

The RN would have the biggest change in role in this change project. Current literature on safety and satisfaction of nurses performing telephone triage is positive (Omery, 2003; Richards et al., 2004; Richards et al., 2007). Very little is written about quality indicators, but documentation, clinical guidelines and competency are cited in a study by Hoare, Lacoste, Haro, and Conyers (1999). The physician stakeholder interviewed for this project identified not having protocols as a weakness of the change since the success of the change then depends on the individual nurse rather than the system (Appendix A). An article by Robinson, Anderson, and Erpenbeck (1997) written when phone advice was new, focuses on protocols to lessen liability for the nurse. It includes guidelines for writing protocols that will satisfy legal requirements. In one study, 90% of nurses monitored in a family practice clinic followed the recommended protocols (Harmsen, Giesen, van der Wouden, Grol, & Wensing, 2005).

Another important issue for the RN in the office is whether or not the additional tasks would be within the RN scope of practice. The ANA Psychiatric Mental Health Nursing Scope and Standards clearly states that counseling, assessing response to medication, health teaching about medications, coping skills, self-care, problem solving, stress management and advice in following treatment regimens are within the RN scope (ANA, 2007). A pilot study in England in a general practice office found that nurse triage reduced the number of consultations needed by the general practitioner by 75% and reduced waiting time for appointments 50%, allowing physicians to extend the time with individual patients (Agnew, 2005). Utilizing the RN in an expanded role would meet

legal standards, be within her scope, could be done accurately and could increase patient satisfaction.

### *Change Process and Outcomes*

The behavioral health manager assembled the group at an office meeting and gave background about the problem (patient complaints and provider dissatisfaction). There was no solution presented, all participants were invited to give input into the problem solving. Subgroups were formed for the various tasks that the group identified needed to be performed to design the best change and a timeline was set. Each subgroup had a leader and a scribe and managers were not automatic group leaders. Handouts on group roles were given as many employees had never been involved in a process like this.

The planned change was to expand the psychiatric RN role to facilitate improved communication between patients and providers between office visits. This role expansion was to include 1) a message system between the RN and the providers to get quick feedback to the provider on patient questions/concerns and then to communicate back to the patient, 2) identified feedback that the RN could give without consulting the provider and 3) patient callback with counseling between the RN and patient with notification of medical provider of the counseling content.

Additionally, the clerical staff, as the initial point of contact, would have to change how they managed patient phone calls for the RN and medical providers by making an initial decision to forward the call immediately to the RN or take a message. An algorithm was created for this purpose.

The outcome measured was patient satisfaction with communication between visits. A standard survey used in other hospital clinics on patient “satisfaction with care”



was given to exiting patients for one week every 3 months. The responses were compiled and shared with all staff. Responses were positive on almost all measures, however few questions related to between visit care.

Patient complaints were monitored informally and staff perceived a decrease in complaints. Additionally, the medical providers reported a decrease in their frustration and anxiety. Compliance with decision trees monitored the clerical staff change but only medical provider feedback to the RN monitored the RN changes.

## Analysis

### *Systems Level Analysis*

#### *Ecological Environment*

The patient who comes to the psychiatric clinic lives in an environment that includes the stigma of mental illness that results from the political and economic macro-environment that affects health care and the patient's access to health care. The systems that influence payment and the specific clinic where the person may or may not chose to come to also influence the person. Therapists, friends and other providers and institutions influence the person as he or she becomes a patient and interacts with the psychiatric clinic. That clinic is in turn influenced by third party payers, the hospital and community in which the clinic is located, the systems in place within that hospital system, such as the outpatient clinic structure, and the employees of the larger system. This particular psychiatric clinic, influenced by the environments it is housed in, interacts with the patient coming from his or her greater environment. All these environmental systems and subsystems color the relationship the patient has with the clinic.

*Systems Inputs and Outputs*

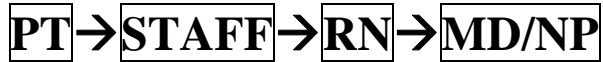
The systems associated with the clinic input into the clinic. These provide the resources needed to run a clinic, such as payments to providers, but also the human resources that are there. The employees provide (“input”) their skill and expertise (activities) into the clinic. This creates the service that the clinic offers.

The clinic provides or “outputs” mental health services to patients. The patient receives these services and payment is received by the clinic. A relationship is created that does not exist only at the office. The patient’s interaction with the clinic transforms his input and output in his world. The patient’s satisfaction with the services of the clinic results in continued care which provides payment to the clinic which allows the clinic to provide services. When the patient cannot receive the services that he desires or expects from the clinic, the flow is interrupted. In this case, the service the patient desires is to communicate with the medical provider between office visits. When the demand for service exceeds the ability of the clinic to provide the service, the system becomes unbalanced. In this case, the medical providers feel unable to provide the phone communication the patient desires. The patients in turn become dissatisfied with the clinic.

The clinic was so busy that no one felt like they had the time to discuss the communication issue and yet everyone wanted it to change. There was not a blame culture at the clinic, so the employees were eager to find a solution. Yet as the patients became more angry and frustrated, they called more thereby increasing the problem.

*Root Cause Analysis*

A root cause analysis was performed looking first at the lines of communication in the office.



At each step of the process there was the potential to do nothing, write a note, or talk to the next person up the chain (if they were available and had time). The RN did, under rare situations, answer the question without consulting the medical provider.

The reverse process was more complicated: The MP/NP talked to the RN, when they got a chance, and asked her to either do nothing, or call the patient back with specified information. The RN in turn could call the patient or have the staff call the patient depending on the type of information. The MD did not call the patient nor interact about clinical matters with the clerical staff. Information was not always documented.

The process used for the root cause analysis and the responses are included in Appendix B. The issues identified from the analysis were that the practice did have a high patient volume and a high call volume; there were no systems in place for the RN to help manage the patient's concerns; and the current system of paper messages was not efficient as the location of the mailboxes and non-essential mail and charts in the boxes made the message hard to access.

*Organizational Readiness to Change*

The process used for change involved everyone. Despite everyone being included, because of the historical way the hospital made change (from the top down), there was some skepticism that anyone but the physicians would have a voice. Staff feared that in the redesign they would simply have to do more work. The climate was

often one of “queens and the worker bees”, but the culture was that “the patients mattered and we have to do what is right for them.”

A force field analysis identified that the drivers of change (patient complaints, physician complaints, management mandate) were stronger than the resistance (staff fears) and those in resistance (staff) were not in a power position.

The motivation to change was a management dictate. The staff, despite their fears had a desire to please and a genuine caring for the patients. The hospital is the biggest employer in town and is one of the highest paying, thus a reason to stay and work on the issues. The clinic management was offering some autonomy in making the change and there was some satisfaction in being able to sit down with the physicians and work with them on an equal footing. No new resources were forthcoming and that was clear at the beginning so the solutions would need to be directed towards redesign.

Management was strongly supportive of the change and selected the method to be used. The change was to be a “megachange”, a change in operation and thus would need the support of all the players. The roles for clerical staff and the office RN would change the most and resistance could occur at the individual level with these players.

As no solution was presented, and all participants were invited to give input equally and anyone was able to lead a work group, the groundwork for trust that was established began the **unfreezing process**. It was also driven by the desire to help the patients. When the small groups actually formed and started their work, everyone could contribute and the work was less intimidating. The work ended in the proposed **change** of a communication redesign with decision trees for staff to follow for managing phone calls and a message system between the medical providers and RN and an understanding of

what the nurse could do independently. Compliance with the decision trees would monitor the system. The office manager would monitor the clerical staff on that. Non compliance with the tree could harm the patient and get the staff “counseled by the office manager and thus motivation was high to comply. Patient satisfaction and decrease in complaints would also be monitored contributing to **refreezing**. Ultimately, a decrease in complaints would not only keep the boss off your back, but make the work go more smoothly, which made for job satisfaction. Despite the fact that all staff participated in the redesign, the new process is maintained in part because it is mandated and reinforced by management and physicians.

## Conclusions, Discussion and Recommendations

### *Appraisal of Outcomes*

The changes addressed a number of the causes of dissatisfaction, such as creating a system to screen calls by clerical staff using an algorithm and clarification of the role of the nurse. The duties performed by the RN independently were within her scope of practice and gave her a sense of satisfaction and autonomy. The interactions with the physicians were more frequent, but planned and often done through messages that created documentation of interventions. The nurse was able to agree with the medical providers on protocols to use for medication refills and lab work so there was less need to wait for the providers to come out of the office before acting. The method used to unfreeze the problem opened lines of communication for the providers, the RN and the staff.

The patient surveys were positive and once the patients knew they were going to get a response in a reasonable time, they accepted that the communication would be with

the RN and not the provider. They understood that the RN was in contact with the provider frequently during the day. Subjectively, the complaints seemed less, although this was not measured.

What was not addressed was the high volume of patient calls. No one thought about that during the meetings, but it came out in the root cause analysis. The idea that the patients were being encouraged to call (“call if you have any questions or concerns”) without any specifications about when and why suggests an additional solution.

#### *Recommendations to Advance the Sustainability of the Change*

Clerical staff turnover was fairly high and so new staff could be indoctrinated to the new method using the algorithm and would not know the difference. Management pressure to follow the algorithm maintains the change. The RN job was less clearly delineated and would have to be worked out with the physicians. Clearly this is a big weakness and was noted strongly by the physician stakeholder who was interviewed. The redesign of the RN role was done piecemeal and not written down and thus a new RN would have to start all over learning how to handle patient requests. It is for this reason that a book of protocols should be developed. This could begin with keeping a record of calls to know what protocols are needed. Protocols would be developed jointly with the psychiatrists and must follow the safest practices and promote evidence based care. This is a long term goal.

In the short term, patients’ satisfaction with the nurse’s role must be measured more effectively. The surveys could add questions that relate to the between office phone communication and patient complaints could be systematically collected and quantified.

Patient could be queried as to their preferences and expectations of the clinic. Finally, an informational pamphlet introducing patients to the office could include a paragraph on contacting the office, including examples of appropriate contacts to hopefully decrease the volume of calls to the office and subsequent inappropriate use of staff resources and time.

A well planned out change process with input from all staff created a change that was accepted by all. The patient concerns were systematically handled and it created a better flow to the office functioning. Several things remain to be done, specifically better measurement of patient satisfaction and written protocols for the RN. Addressing the high patient volume is a new issue identified in this study and will need to be analyzed in the next phase of change.

## References

- Agnew, T. (2005). Nurse triage pilot cuts number of GP consultations by 75 per cent. *Nursing Standard*, 20(13), 7.
- American Nurses Association. (2007). *Psychiatric mental health nursing scope & standards*. Silver Springs, MD: Nursesbooks.org.
- Harmsen, M., Giesen, P., van der Wouden, J., Grol, R., & Wensing, M. (2005). Urinary tract infections in young children: high guideline adherence of triage nurses at general practice co-operatives. *Quality in Primary Care*, 13, 241-247.
- Hoare, K., Lacoste, J., Haro, K., & Conyers, C. (1999). Exploring indicators of telephone quality. *Journal of Nursing Care*, 14(1), 38-46.
- Institute for Healthcare Improvement. (n.d.). Retrieved December 2, 2007, from <http://www.ihl.org/IHI/Topics/OfficePractices/Access/Changes/>
- Omery, A. (2003). Advice nursing practice. *Journal of Nursing Administration*, 33, 353-360.
- Parks, J, Svendsen, D., Singer, P. & Foti, M. (2006). Morbidity and mortality in people with serious mental illness. Alexandria, VA: National Association of State Mental Health Program Directors, Medical Directors Council. Retrieved December, 2, 2007, from [http://www.nasmhpd.org/general\\_files/publications/med\\_directors\\_pubs/Technical%20Report%20on%20Morbidity%20and%20Mortality%20-%20Final%2011-06.pdf](http://www.nasmhpd.org/general_files/publications/med_directors_pubs/Technical%20Report%20on%20Morbidity%20and%20Mortality%20-%20Final%2011-06.pdf)



Richards, D., Meakins, J., Tawfik, J., Godfrey, L., Dutton, E., & Heywood, P. (2004).

Quality monitoring of nurse telephone triage: pilot study. *Journal of Advanced Nursing*, 47(5), 551-560.

Richards, D., Meakins, J., Tawfik, J., Godfrey, L., Dutton, E., Richardson, G. et al. (2002).

Nurse telephone triage for same day appointment in general practice: Multiple interrupted time series trial of effect on workload and costs. *BMJ*, 325(Nov 23).

Retrieved on October 26, 2007, from

<http://www.bmj.com/cgi/reprint/325/7374/1214><http://www.bmj.com/cgi/reprint/325/7374/1214>

Robinson, D., Anderson M., & Erpenbeck, P. (1997). Telephone advice: new solutions for old problems. *The Nurse Practitioner*, 22(3), 179-192.

Stevenson, K. & Baker, R. (2005). Investigating organizational culture in primary care.

*Quality in Primary Care* 13, 191-200.

Silver, M. (n.d.) "Event Reconstruction: Principles and Techniques". Retrieved December 2, 2007, from

<http://medqic.org/dcs/ContentServer?cid=1187032067880&pagename=Medqic%20FMQTools%20ToolTemplate&c=MQTools>

## Appendix A

**Stakeholder Interviews**

**Stakeholder:** Psychiatrist provider

**#1 Assessment /perspective of problem and causes of the problem**

Timeliness of response to patients. The practice was so busy (patient numbers per provider, paperwork requirements) that there was not time to respond to patients without lengthening the work day, which none of us were willing to do. Problem patients who call almost daily take up a lot of time yet get more persistent if limited in access even threatening self harm the more their demands are not met.

**#2 Assessment/perspective of why the change effort was successful or not**

Successful, for sure. What made it successful was first and foremost the quality of the RN. We tried it with two different LPN's and it just didn't work. We also tried it with inexperienced RN's and it didn't work. It needed to be an expected part of the RN job description. There also was front line training of the secretaries who answered the calls first and needed to know what to do with various types of calls. Quality and training were the keys to success.

**#3 How success was measured (perception or objective measure)**

It wasn't measured objectively. Our perception was that we had good patient and guardian /family feedback. Patients were given feedback in hours rather than days. It also cut down on ER utilization and/or inpatient stays as we could quickly make med changes or alternative plans to prevent worsening and possible hospitalization.

**#4 Suggestions for maximizing success of change or improving the process**

Clear delineation of job duties of secretaries and RN, secretary must know the system or what to do with calls. Improvement would be written criteria as we learned “by the seat of our pants” as we went along. It would cut down on time to train.

**Stakeholder:** Office RN

**#1 Assessment /perspective of problem and causes of the problem**

Patient and family complaints and anger when they couldn't talk directly to their provider. The providers were just too busy. They had too many patients to see.

**#2 Assessment/perspective of why the change effort was successful or not**

Using experienced psych nurse. The collaborative relationship with the RN and providers was essential. We were all in it together and there to help each other. Respect between the professionals was important. Understanding each providers preferences helped too.

**#3 How success was measured (perception or objective measure)**

Fewer angry patients! RN could help right away without waiting. It encouraged better use of the RN's skills than traditional office nursing or how it was before. Job satisfaction increased. The doc's were happier too. We worried a lot less about the patients doing something rash and felt more in control.

**#4 Suggestions for maximizing success of change or improving the process**

A written process for front staff would help. Because I write messages to the provider after an encounter that they read right away (between patients) I feel less worried about if I gave the wrong advice (liability). If the provider wants me to add something, I know it right away and can call the patient back. Either way I can help right away (use my nursing skills) and then get back to them with additional information from the provider.

**Stakeholder:** Behavioral health director (head of outpatient and inpatient service, an RN)

**#1 Assessment /perspective of problem and causes of the problem**

Angry complaints to management and MD complaint of overwork. Cause, a very busy practice with a large patient base, also the type of patients we have.

**#2 Assessment/perspective of why the change effort was successful or not**

We initially had a good RN with experience who liked her job and wanted to keep it. The alternative for her was rotating shifts in the hospital. Docs saw progress right away and were willing to stick with it. Initial problem was with front line staff who had no psych training, they had to be specifically trained on how to handle calls and needed constant remediation and correction. They were less happy.

**#3 How success was measured (perception or objective measure)**

Fewer complaints except from the clerical staff. Patients seemed happier, docs seem happier. More time freed up to see patients, but still patients got better care overall.(increased revenue)

**#4 Suggestions for maximizing success of change or improving the process**

Training curriculum for clerical staff.

Appendix B

**Root Cause Analysis**

Using the process described in the online MedQIC Root Cause Analysis PowerPoint presentation by Michael Silver, I used a causal tree diagram to look at the problem and identify action and condition causes, following all roots until a system design weakness was identified. 39 different scenarios of what could happen to a phone call were mapped out.

**Summary of the findings:**

CALL NOT RETURNED (why?):

call ignored on purpose → pt demanding, frequent calls,

staff burn out, don't care ready to quit,

inappropriate calls

unsure what to do → clerical not medical, RN scope

RN or MD/NP not available → then forgot

too many patients → “only game in town”,

too many calls → “patients encouraged to call’ too much →

unrealistic expectations

emergency in office

Notes misplaced (why?):

messy workspace → too busy to clean up → call volume

mailboxes full of charts & mail → one box for all materials

DELAY IN CALL RETURN (why?):

ignored/procrastinated → pt demanding, call frequency,

burned out, don't care, busy

emergency in office/hospital

RN/MD/NP not available → busy seeing patients → high

patient volume

### **ROOT CAUSE ISSUES**

1. high call volume → numerous inappropriate calls → patients unaware
2. high patient volume → not changeable
3. emergencies → not changeable
4. role of clerical staff in screening calls not delineated
5. unclear role of RN's → scope of practice issues, autonomous tasks not delineated
6. time lag from call/message to response because MD/NP seeing patients → "hit and miss" contact system
7. overload of paper and mail in mailboxes

Running head: ETHICAL DILEMMA

An Ethical Dilemma in Mental Health Practice:

To Tell, or Not to Tell?

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## Clinical Case

Christina is a 17 year old client in a community mental health center. Her diagnosis is bipolar disorder and she is on medication for depression and mood swings. She has a past history of substance abuse which she states is now “under control”. She is a legally emancipated minor. Christina has been in therapy in the past but was not compliant with appointments. Her chart indicates a pattern of identifying issues at the start of therapy such as her mood swings and substance abuse, but not following through on therapy recommendations and then missing appointments and eventually not returning. She now attends sessions with the psychiatric-mental health nurse practitioner (PMH-NP) for medication management and brief therapy. She cannot afford regular therapy sessions as she has no insurance, but her medication appointments are covered by a state grant for residents without health insurance.

At the first appointment, Christina was given a handout explaining treatment at the center. This included HIPAA regulations and additionally, she was informed by the nurse practitioner (NP) about confidentiality, including what issues allowed for breaking confidentiality: physical or sexual abuse, suicidal or homicidal ideation, and grave impairment with potential for harm to self. It is now three months into the treatment and Christina begins to talk more about her issues including alcohol and drug abuse which began at age 12, a suicide attempt at age 13 that she didn't report, and sexual promiscuity. She says she's sure she knows the reason for the substance abuse and depression and it is connected to why she is distant from her father's family. She begins by saying that her mother worked nights as a nurses aide at a local nursing home and she was always scared at night.



### Dilemma and Initial Thoughts

As a PMH-NP, I have been in this situation before. First, Christina fits the profile of someone who has sexual abuse in her past. Symptoms include mood instability, impulsivity, aggression, suicide attempts, substance abuse and self-injurious behavior including runaway behavior. These are all present in Christina's case. Nurses have a legal requirement to report abuse to the appropriate state agency. All states require reporting of sexual abuse when the person abused is underage. In the state where this case took place, it is "expected and highly recommended" that all abuse be reported no matter how much time has passed and regardless of the current age of the abused person. The agency in which I was employed, expected this level of reporting.

This time, Christina has stayed in treatment longer than previous treatments. Her mood swings are improving and she is following the medication treatment plan. I wonder, should I remind her of the reporting requirements? The dilemma is that if I don't remind her, and then have to report, it may harm the therapeutic relationship and she may again leave treatment. If I remind her, she may choose not to reveal the issue and thereby not get the treatment she needs. At this time, I am her only treatment option as she has no coverage for therapy, only medication management, which can be coded as "medication management with medical psychotherapy" and will be reimbursed by the state grant. How do I proceed?

### Framework for Analysis

Jonsen, Siegler and Winslade (2006) recommend a four topic approach to analyze and resolve ethical dilemmas in clinical practice. Each dilemma is analyzed by looking at: medical indications, patient preferences, quality of life and contextual issues. Underlying these topics are

the moral principles of: beneficence, non-maleficence, respect for autonomy and justice. Each topic will be explored in relation to Christina's case in an effort to resolve the dilemma and take action.

### *Medical Indications*

Christina has a number of treatment issues: bipolar disorder with current depressed mood, a history of drug abuse and possible current use, and probable sexual abuse history. This dilemma concerns the revealing of sexual abuse in a therapeutic relationship and the risk to the NP-patient relationship in reporting the abuse. It also concerns how that abuse is reported, i.e. with or without the patient's knowledge and consent and the subsequent harm to the patient of not receiving treatment. Per state law, because Christina is below the age of 18, any sexual abuse must be reported to the Department of Social Services' Child Protection Services (CPS) Division no matter how long ago it occurred. The risk of reporting the abuse is that Christina will chose not to return for treatment and thus will not get the treatment she needs.

Treatment is medically indicated for sexual abuse. Risks of not getting treatment are inability to form intimate relationships as adults, promiscuity with the risk of sexually transmitted disorders and pregnancy, post traumatic stress disorder, somatization disorder, dissociative disorders, substance abuse, eating disorders, anxiety, anger, depression, and suicide (Berks, 2008, p. 276; Herman, 1997, p.110; Townsend, 2006, chap.40). Treatment can be successful and entails 1) pharmacologic treatment of target symptoms such as anxiety, and 2) individual and group therapy especially cognitive behavioral therapy to: improve self-esteem, decrease feelings of panic and anxiety in close relationships and help the patient identify supportive environments and friends (Townsend, 2006).

The potential to benefit Christina, the principle of beneficence, applies here. The American Nurses Association (ANA) *Code of Ethics for Nurses* states that the primary commitment is to the patient, and the health and safety of the patient is of utmost concern (ANA, 2001). Knowing there is an indicated treatment and a benefit to the patient of that treatment, creates the desire to provide that needed treatment no matter what. But isn't reporting of abuse based on beneficence as well? Isn't it good practice to prevent abuse by reporting it? Could reporting abuse therefore be medically indicated?

### *Patient Preferences*

Christina is a legally emancipated minor and is able to make her own treatment decisions, however in the state for this treatment, all sexual abuse that has occurred to someone who is still under the age of consent (18 years), must be reported by health care providers. Christina has the choice to stay in therapy, but once she reveals sexual abuse, has no choice in terms of the reporting of the abuse. Christina's prior behavior indicates that there is a high risk that she will leave treatment. She is comfortable and close to revealing her "secret". Once she does this, the report will have to be made. One question remains, does she remember that you are required to report abuse? Three months have passed since the discussion about confidentiality and the circumstances under which it must be broken. While autonomy seems to be at issue here, this is a situation where legal issues override the autonomy of the patient and the provider. Perhaps there is choice in how it is reported. For example, could Christina be involved in the decision to report and the report itself?

### *Quality of Life*

The prospects for Christina to lead a healthy, normal life without treatment are not good. Without treatment for sexual abuse, chances for healthy personal relationships are poor.

Depression, suicide attempts, post traumatic stress disorder (PTSD), substance abuse and self-injurious behavior as sequelae of abuse significantly affect quality of life (Joshi, Salpekar, & Daniolos, 2006). In a study by Russell (as cited in Herman, 1997, p.111), two-third of women sexually abused in childhood were sexually victimized as adults. Should Christina leave therapy, she will have to find another provider to treat her bipolar disorder. She will need to find one who takes patients without insurance and then chose not to reveal her abuse and thus still will not get the treatment she needs. Her past and present treatment seeking behavior shows that she wants treatment, she wants to get better. As she is already showing the sequelae of childhood abuse and treatment has the potential to improve the quality of her life, will reporting do harm? As a provider, I am guided by the principle of nonmaleficence.

#### *Contextual Features*

Family issues may be quite important in this situation. First, Christina is an emancipated minor. It takes a court order to be emancipated from your family before the age of consent. This suggests a troubled relationship with her family. If the abuse took place within the family context, a CPS investigation would inform the family of Christina's report. This may further endanger her relationship with her family. Economic issues come into play as treatment is available to Christina now through a state medication management grant and may not be available in the future. Legal issues are also influential; the legal duty to report supersedes the right to confidentiality. Standard 12 in the ANA *Psychiatric-mental health scope and standards of practice* (2007) states that confidentiality is to be maintained within legal and regulatory requirements. Child Protective Services may chose not to investigate if the abuse is long past, but believe that a record of the perpetrator's past behavior may be important in the future to

protect someone else. The law exists to protect the public, to do what is just. It may be that there are already other victims of the perpetrator; it may be that there are future victims to protect.

### Case Analysis and Recommendations

The ethical dilemma is not whether or not to report, but whether to allow Christina to talk about the abuse and then tell her I must report it, or to remind her about my duty to report and risk that she does not proceed with the abuse discussion and get treatment specific to abuse. Either may damage the patient-NP relationship. Either may result in her leaving treatment. With the first scenario, she will be forced to deal with reporting the abuse, restricting any choice for her. She may or may not feel that the provider should have reminded her and may wonder if the provider “knowingly” or intentionally didn’t remind her. If she does wonder that, trust may become an issue. With the second, she has a choice not to talk about the abuse, but that choice prevents her from receiving appropriate treatment. Trust in the provider is maintained, however.

Another alternative is to let her talk about the abuse and then report it clandestinely. That immediately is ruled out as it seriously affects the honesty that must be inherent in the therapeutic relationship, especially with someone who has had her trust violated so significantly by abuse. If investigated by CPS, her trust in the provider would be irreparably damaged with possible feelings of re-victimization by a trusted adult. The principles of beneficence and nonmaleficence would be seriously violated.

The dilemma is deciding how best to proceed. The principle of beneficence on the surface applies to doing the best for this patient. While it is clear that treatment will benefit the patient and improve her quality of life, the legal mandate to report should be remembered as also being based on the principle of beneficence. It benefits society to prevent the abuse of children.

Reporting abuse so that it can be stopped immediately and future abuse can be prevented is vital. It protects individuals, families and society. So, are we to focus on the “greater good” that reporting affords or on the individual? The principles of justice and nonmaleficence come forward at this point. Is it unjust to hurt one child (i.e. potentially force Christina from treatment) to protect all children? But also, is reporting, in this case, in fact, harmful? Reporting abuse may be a way of empowering the abused person to take control (Herman, 1997, p. 176).

There is no way to predict how Christina will react to the knowledge that the abuse she just revealed will be reported or to the information that anything she says about having been abused must be reported. One thing is clear; the latter scenario maintains choice or at least limited autonomy for Christina. It clearly demonstrates concern for the patient and it has the best chance for maintaining trust which is so important for the person who has been abused. If she chooses not to reveal abuse, a hypothetical discussion can ensue about how it would be reported, the reason for reporting mandates (referring to the beneficent intent) and what the risks and benefits of reporting could be. The discussion could move into how she might prepare herself for the ramifications of an investigation. The potential remains for her to take control and decide her course, which in itself could be therapeutic for someone whose trust and autonomy has been violated. This becomes the recommended action. Because of the contextual features of each case, this may not be the course of action in future similar dilemmas, but the process has illuminated the issues involved.

### Conclusion

For the provider, initially, this ethical dilemma involves an individual patient and how best to proceed with the care of that patient. Following the ethical principles familiar to most nurse providers, the ANA publications on ethics and scope and standards of practice, the major

issues that emerge in this case are: respecting the patient by maintaining confidentiality, doing what is best for the patient and collaborating with the patient in care. Right away, these standards are not going to be easily applied. External forces, in this case legal issues shape the dilemma. From a legal standpoint, ethical theories of utilitarianism seem to apply, but they don't feel comfortable, as the health of the patient right in front of you may be compromised. As Kantian theory might posit, there is a rule involved: abuse is always wrong and should be stopped. The intent of the reporting duty is based on that rule; it protects people from abuse. Wouldn't every rational person agree? Again, contextual features alter the value of universal rules in this case. Even the principles of autonomy and justice are questioned. The reporting duty seems to declare that autonomy is not important. Yet, a way to preserve some autonomy was found. What is important in any dilemma and any review of topics is that all of these principles, seen in the context specific to the case, influence the decision. For me, honesty and trust became the pertinent decision points.

The integrity and moral values of the provider are often overlooked. We learn in nursing that there is no place for self interest, "patient first", yet immediately I ruled out two alternatives clearly based on my values. I knew I could not keep the abuse secret in order to help the patient, and I knew I could not hide that I was going to report. I could rationalize that it was in the best interest of the patient not to do these things, but in reality it just felt wrong for me. Additionally, thoughts about "my license" and my self-image and reputation as an honest person and "not a liar", came first to me. My initial reaction was to demonize the reporting duty as if it were the enemy. In going through the model and thinking about the principles, I was able to reframe the reporting duty and that helped me to think of how to proceed as an advocate for the patient and for society at the same time. Honesty and trust could be preserved with the right intervention. Lo

(2005, p. 51) writes that in cases of deception and nondisclosure it becomes “not whether to tell, but how to tell”. In the end, “how to tell” became the intervention.



## References

- American Nurses Association. (2001). *Code of ethics for nurses with interpretive statements*. Washington, DC: American Nurses Publishing.
- American Nurses Association, American Psychiatric-Mental Health Nurses Association & International Society of Psychiatric-Mental Health Nurses. (2007). *Psychiatric-mental health nursing: Scope and standards of practice*. Silver Springs, MD: Nurse Books.org
- Berk, L. (2008). *Exploring lifespan development*. Boston: Pearson Press.
- Herman, J. (1997). *Trauma and recovery*. New York: Basic Books.
- Jonsen, A., Seigler, M., & Winslade, W. (2006). *Clinical ethics: a practical approach to ethical decisions in clinical medicine* (6<sup>th</sup> ed.). NY: McGraw-Hill.
- Joshi, P., Salpekar, J., & Daniolas, P. (2006). Physical and sexual abuse of children. In M. Dulcan & J. Wiener (Eds.), *Essentials of child and adolescent psychiatry*. Washington, DC: American Psychiatric Publishing.
- Lo, B. (2005). *Resolving ethical dilemmas* (3<sup>rd</sup> ed.). Philadelphia: Lippincott, Williams & Wilkins.
- Townsend, M. (2006). *Psychiatric and mental health nursing* (6<sup>th</sup> ed.). Philadelphia: F.A. Davis.

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