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Effectiveness of Adult Rehabilitative Mental Health Services in Mental Health Recovery

Katie L. DeFelice
St. Catherine University

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by

Katie L. DeFelice, LSW

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Committee Members
Michael Chovanec, Ph.D., LICSW (Chair)
Steve Carlson, Psy.D.
Martha Quick, MSW, LGSW

The Clinical Research Project is a graduation requirement for MSW students at St. Catherine University/University of St. Thomas School of Social Work in St. Paul, Minnesota and is conducted within a nine-month time frame to demonstrate facility with basic social research methods. Students must independently conceptualize a research problem, formulate a research design that is approved by a research committee and the university Institutional Review Board, implement the project, and publicly present the findings of the study. The project is neither a Master's thesis nor a dissertation.

Abstract

Adult Rehabilitative Mental Health Services (ARMHS) is a Minnesota based psychiatric rehabilitation program for adults whose ability to function in daily life has been impaired due to the symptoms of mental illness. The goals set and actual outcomes achieved by clients during participation in ARMHS were examined in a secondary data analysis using the CHIME recovery model (Connectedness, Hope, Identity, Meaning in life, and Empowerment) to determine the effectiveness of the program in assisting clients recover from mental illness. Outcomes described were largely mapped to the areas of *Connectedness, Meaningful activity,* and *Empowerment*, which may be related to the behavioral orientation of goal development. Overall, the majority of outcomes described successful achievement of goals, supporting ARMHS as an effective service for assisting in recovery from mental illness. Implications for this study are the continued need to use consumer driven measurement tools like CHIME to assess recovery from the perspective of the client rather than assessments driven by the medical model. The improvement of outcome evaluation forms to integrate more accurate ways of measuring the components of recovery would improve the type and quality of data collected during the reassessment process.

Acknowledgments

I would like to thank the clients with whom I have worked over the years for the strength, resilience, and relentless persistence they have demonstrated in their journeys. You inspire and motivate me to better my practice.

To those whom much is given, much is expected.

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Introduction

There are few, if any, whose lives have not been touched by mental illness, as it affects all races, religions, and people of every economic background. Many services exist to assist people experiencing symptoms to increase their functioning and recovery their lives, including Adult Rehabilitative Mental Health Services (ARMHS) in Minnesota. Examining the outcomes achieved by clients through their participation in ARMHS, as described by clients themselves and their mental health practitioners, offers valuable insight into the effectiveness of ARMHS in recovery from mental illness.

The National Alliance on Mental Illness (NAMI) (2013) states, "Mental illnesses are medical conditions that disrupt a person's thinking, feeling, mood, ability to relate to others, and daily functioning. Just as diabetes is a disorder of the pancreas, mental illnesses are medical conditions that often result in a diminished capacity for coping with the ordinary demands of life" (p. 1). These biological disorders of the brain can present with a wide range of symptoms and vary in intensity from mild to severe. Disorders such as depression, bipolar, schizophrenia, post-traumatic stress disorder, and anxiety disorders are commonly known mental illnesses and can have a significant impact on an individual's functioning. According to the 2011 National Survey on Drug Use and Mental Disorders conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA), 19.6% of adults aged 18 and older, or approximately 45.6 million people, reported any mental illness and 5.0% of adults, or 11.5 million people, had a serious mental illness.

The exact causes of mental illness are still under investigation, as there is no single determining factor in the development of a mental disorder. Historically, society viewed those with mental illness as flawed in character, morally lacking, and tainted in some way, resolving

that impaired functioning must be due to some personal fault of the individual or to alcohol or drug use. These characterizations have resulted in significant stigmatization and social rejection of people who suffer from mental illness (Overton & Medina 2008). However, scientific evidence has been found that supports the interplay between genetics and psychosocial environment, changing the way society views the causation (Feldman & Crandall, 2007). Uher (2013) found that naturally occurring variations in genetic makeup could cause people to be more vulnerable to the effects of psychosocial environmental stressors, such as abuse, increasing potential for the development of symptoms. Despite changing views, mental illness continues to carry heavy stigma and suffer social rejection related to perceptions of an individual's personal role in symptom development, potential dangerousness, and rarity of the illness (Feldman & Crandall, 2007).

Hospitals, clinics, social service agencies, and private providers across the country have made the treatment of mental illness a priority in their service delivery systems. In Minnesota community dialogue around mental illness and its treatment has been widespread and productive in garnering the support of the State. Mental health services are readily available, including a variety of inpatient, outpatient, and community-based services, which are largely covered by the State funded health insurance program, Medical Assistance (MA). Of particular interest to this study are community-based services, which are steadily growing due to their cost effectiveness and positive outcomes (Knapp, 2003; Tepper, Berger, Bryne, et. al., 2013). The community-based rehabilitative service options offered in Minnesota are ARMHS, assertive community treatment (ACT), and day treatment. These programs are oriented around the reduction and/or management of mental health symptoms, with the end goal of reducing an individual's need for higher intensity services in a more restricted setting such as a hospital, and maintain their ability

to live in the community as independently as possible (Minnesota Department of Human Services, 2013).

Adult Rehabilitative Mental Health Services (ARMHS) provides one-on-one services to adults with a diagnosable mental illness who are experiencing difficulties in their daily functioning and will be the focus of this analysis. Common impairments include social isolation, inconsistent or lack of contact with service providers, economic strain and poverty, conflict in and around housing, homelessness, and difficulty with activities of daily living. The role of the mental health practitioner is to act as a teacher, coach, and advocate for the client, and to promote the concept of recovery from mental illness, inspire hope, and develop a plan with the client for change.

Practitioners will often teach and practice basic living and social skills, coping skills, relaxation techniques, problem-solving skills, and decision-making skills with clients. ARMHS is highly individualized and aims to empower clients to identify their own goals and strengths. A strength of the ARMHS program is the flexibility that it offers in terms of goals setting, as anything the client wants to achieve can be the focus of services. For example, many clients want to make new or improve current relationships, or access services such as therapy or medical care. Others want to gain financial stability by learning to budget their money or return to work. The steps needed to achieve these goals will be unique to the individual being served. Clients are educated about their diagnosis, learn specific skills for coping with symptoms and stress, and work with their practitioner to break down their goals into smaller steps to make them more manageable.

To be eligible to receive ARMHS, the client must be age 18 years and older, have a diagnosable mental illness, and be a recipient of MA. Eligibility for MA is income-based,

generally serving poor and disabled individuals. Therefore, ARMHS participants are largely disadvantage economically and experience the numerous difficulties inflicted by poverty. The client must also be experiencing impairment in at least three areas of functioning, which is assessed at their intake with a mental health professional.

Social work values align well with the practice principles of ARMHS. The population served through the program is generally impoverished and largely marginalized due to the stigmatizing nature of mental illness. The social work principle of social justice demands service for populations of this nature. Valuing the dignity and worth of every individual is central to social work, including self-determination. ARMHS embodies these values by putting clients in charge of their own goals and pace for services (NASW Delegate Assembly, 2008).

The theoretical stance from which clinical social work is practiced, including biopsychosocial, systems perspective, and strength-based approaches, make social workers particularly well suited to provide ARMHS. The role demands an open non-judgmental approach for skill development, case management, and community resource utilization, as well as a specialized knowledge of diagnostics, assessment and treatment planning, and integration of evidenced based practices. Social workers also fill positions at every level within the mental health delivery system. The National Association of Social Workers (2013) cited SAMHSA, Federal law, and the National Institute of Health in reporting social workers as the largest group of clinically trained professionals engaged in mental health service delivery. Social workers outnumber the combined total of psychiatrists, psychologists, and psychiatric nurses in the field.

The principle aim of this study was to evaluate the effectiveness of ARMHS in recovery from mental illness. To achieve this end, a secondary data analysis of client goal outcomes was completed using data from a local Twin Cities ARMHS agency. A descriptive analysis of the

sample was completed in order to better understand the population being served and the outcomes described during routine goal evaluations were examined using a recovery oriented model to determine the effectiveness of ARMHS is assisting with recovery from mental illness.

Literature Review

Mental illness can effect cognitive, affective, and behavioral functioning, resulting in impairments in many areas of life. Below is a review of some of the literature surrounding the prevalence of mental illness in the United States and its impact on functioning. The concept of recovery and other community mental health services available in Minnesota were explored. An in-depth examination of ARMHS was also conducted.

Prevalence

The National Survey on Drug Use and Health conducted by SAMHSA (2013) is a widely recognized source for statistical data on the prevalence of mental illness in the United States. The survey sampled 153,873 addresses, making the data highly generalizable on a national level. In 2012, there were 43.7 million adults aged 18 and older who reported any mental illness (AMI), defined as "currently or at any time in the past 12 months having had a diagnosable mental, behavioral, or emotional disorder (excluding developmental and substance use disorders) of sufficient duration to meet diagnostic criteria specified within the Diagnostic and Statistical Manual of Mental Disorders" (SAMHSA, 2013). Women were more likely than men to have any mental illness, as were unemployed adults compared to adults with part-time or full-time employment. Economically, 26.8% of adults with AMI had family incomes below Federal poverty level and 21.8% had incomes between 100 and 199% of Federal poverty level. Over 30% of adults enrolled in Medicaid had AMI. Of those on probation in the last year 33.6% had AMI, as did 33.4% of adults on parole or supervised release.

The survey goes on to describe statistics regarding adults with serious mental illness (SMI), defined by SAMHSA (2013) the same as AMI, but "result[ing] in serious functional impairment, which substantially interferes with or limits one or more major life activities." In

2012, there were 9.6 million adults with SMI, or 4.1% of the population, with the highest concentration in the 26 to 49 year old age group. Among this group, women continued to be more likely than men to have SMI, as were unemployed adults compared to adults with part-time or full-time employment. Economically, 7.2% of adults had family incomes below Federal poverty level, 5.2% had incomes between 100 and 199% of the Federal poverty level. Eight and a half percent of adults on Medicaid had SMI. Additionally, 10.8% of adults on probation within the last year had SMI and 12.1% of adults on parole or supervised release had SMI as well.

Impact of mental illness

The following literature review will describe some of the difficulties most commonly experienced by individuals with mental illness, such as employment and housing problems, the use of substances, and medical problems.

Employment is a major challenge for many people with mental illness, as symptoms can make it difficult to get along in social situations on the job, reduce concentration to the point of not being able to complete tasks, cause confusion and forgetfulness, and significantly lower tolerance for day-to-day stresses (Mechanic, Bilder, & McAlpine, 2002). Without adequate management, the experience of symptoms can be sufficient cause to leave a job or prevent an individual from seeking employment. The experience of loss around employment and changes to life goals can further reduce self-esteem and alter perceptions of one's abilities (Honey 2003).

Stigma is also a barrier to employment, as some employers see individuals with mental illness as non-employable or the accommodations needed to hire them as costly or inefficient (Overton & Medina 2008; Scheid, 2005). Society perpetuates the stigma of mental illness through the portrayal of unpredictable or even dangerous behavior from the mentally ill in television and movies, which influences employer and employee perceptions. The mental health

service system that is intended to serve this population and aid in the recovery process may also be supporting stereotypes that people with mental illness cannot perform in skilled jobs, as evidenced by commonly encouraging entry-level and low skilled jobs in vocational rehabilitation programs (Mechanic et.al., 2002; Overton & Medina 2008).

In relation to housing, ability to pay rent is a major driving factor. Many individuals with mental illness live at or below poverty level, making it extremely difficult to find affordable rent and adequate conditions. Although subsidized housing is an option for affordable living, it is in short supply due to the high level of demand and applicants can wait years for an opening to become available. The cumbersome application process can also be complex and frustrating for people given their reduced levels of functioning. People with disabilities, who in large part experience mental illness, are overrepresented in the populations living in inadequate unsubsidized housing, and pay 50% or more of their incomes toward rent (Newman & Goldman, 2008). Housing quality is also a major determinate of public health, with poor housing conditions linked to infectious and chronic illness, mental illness, and poor nutrition and development (Krieger & Higgins, 2002).

Homelessness is disproportionate when mental illness is involved. The US Department of Housing and Urban Development's 2010 Annual Homelessness Assessment Report to Congress identified that on any given night in January 2010 approximately 408,000 individuals were homeless, meaning staying in shelters, transitional housing, or living on the streets. Of that group, 26.2% had a severe mental illness (SAMHSA, 2009). Among elderly homeless, who constitute 4.2% of individuals in shelters, the rate of mental illness soared to 49 percent (SAMHSA, 2010). Without stable living conditions it is extremely difficult to meet basic needs, and mental health services become difficult to access (Jacob & Kuruvilla, 2007).

The co-occurrence of mental illness and addiction are also common, with a rate of addiction three times higher in adults experiencing symptoms of mental illness than in that of the general population. "Among the 45.6 million adults aged 18 or older with [serious mental illness] in the past year, 17.5% met criteria for a substance use disorder (i.e., illicit drug or alcohol dependence or abuse)…[and] in comparison, only 5.8% of adults who did not have mental illness in the past year met criteria for a substance use disorder" (SAMHSA, 2011). A shocking 80% of adults with co-occurring disorders do not receive substance abuse services, and 50% do not receive mental health care services (Harris & Edlund, 2005).

The direct link between medical and mental illness is also well established. In February 2011, the Synthesis Project, an initiative of the Robert Wood Johnson Foundation (2013), published a report entitled *Mental disorders and medical comorbidity.* In this report an extensive analysis was done of existing literature and data to assess the relationship between mental and medical disorders. The report found that "comorbidity between medical and mental conditions is the rule rather than the exception" (p. 4), citing that 58 percent of the adult population has medical conditions, and of that group 29% also have mental disorders. Sixty-eight percent of adults with mental disorders also had a comorbid medical disorder and chronic conditions were found to be the main driving force. More than half of adults with mental disorders reported one or more chronic medical conditions.

It is difficult to know if medical conditions lead to mental disorders or if the effects of mental disorders influence the development of medical conditions because they both share common risk factors. Influential risk factors include exposure to trauma, such as childhood abuse and neglect, domestic abuse, or combat. Chronic stress, such as unmet basic needs, financial hardship, and conflict in relationships increase risk, as well as socioeconomic status, including

low income, poor education, and limited social supports (Robert Wood Johnson Foundation, 2013).

Medical health also tends to decline as people age, making elderly and homebound adults susceptible to increased symptoms of mental illness. As the elderly experience more frequent physical health problems, their ability to engage in activities of daily living, physical activity, connecting with social outlets, and accessing community resources declines, resulting in increased isolation and poorer mental health (Bruce, Van Citters, & Bartels, 2005).

Recovery model

The medical model has dominated the treatment of mental illness for the better part of the 20th century with an orientation around deficit and disease, which supports treatment with medication in order to reduce symptoms (Carpenter, 2002). Although medications continue to play a strong role in symptom management today, the consumer-based recovery movement that started in the 1990's rejects the idea that people are only a diagnosis. They believe each individual is unique, deserving of a meaningful life in which they have the power and dignity to choose their own life goals and work toward them at their own pace (Carpenter, 2002; Scheyett, DeLuca & Morgan, 2013).

Goals of recovery can be both internal and external, meaning changing internal beliefs, attitudes, and feelings, as well as learning new skills and entering into new roles (Carpenter, 2002; Scheyett, et. al., 2013; Shanks, Williams, Leamy, et. al., 2013). Despite a growing body of literature around the concept of recovery, there remains a lack of consensus as to an exact definition. Some researchers maintain that due to the uniqueness of individuals there can be no one formal definition of recovery, only themes that describe core areas and typical stages in the process (Leamy, Bird, Le Boutillier, et. al., 2011; Scheyett, et. al., 2013). Leamy et. al. (2011),

conducted an extensive analysis of literature on consumers' views of recovery and developed a framework that embodies the recurring themes identified in 87 different studies. The concepts of recovery journey, recovery process, and recovery stages form a three-pronged approach to organizing and understanding recovery in a more systematized way.

Recovery journey encompasses the unique and individualized manner in which people view and experience their recovery from mental illness. Dominant philosophies held in this area include recovery as an active process (50%); an individual and unique process (29%); a non-linear process (21%); recovery as a journey (17%); and recovery as stages or phases (15%) (p.448).

Recovery process is the central pillar in Leamy's approach to recovery and arguably the most measurable of the three concepts when looking at specific life changes. Recovery process embodies the specific changes people make in their lives that support increased functioning, improve wellbeing, and reduce symptoms of mental illness. These target areas were arranged into themes that form the acronym CHIME: *Connectedness, Hope and optimism for the future, Identity, Meaning in life,* and *Empowerment*. Each of the broad CHIME categories have subcategories that provide more definition as to what types of changes or behaviors apply, making recovery process particularity useful for understanding the behaviorally based goals and outcomes in ARMHS. Table 1 shows the breakdown of each CHIME category. Additional elements included in each of the subcategories are explained further in the conceptual framework and Appendix B.

Table 1.

CHIME Categories and Subcategories.

Category 1: Connectedness	**Category 3: Identity**	**Category 5: Empowerment**
1.1 Peer support and support groups	3.1 Dimensions of identity	5.1 Personal responsibility
1.2 Relationships	3.2 Rebuilding/redefining positive sense of self	5.2 Control over life
1.3 Support from others	3.3 Over-coming stigma	5.3 Focusing upon strengths
1.4 Being part of the community		
	Category 4: Meaning in life	
Category 2: Hope and optimism about the future	4.1 Meaning of mental illness experiences	
2.1 Belief in possibility of recovery	4.2 Spirituality (including development of spirituality)	
2.2 Motivation to change	4.3 Quality of life	
2.3 Hope-inspiring relationships	4.4 Meaningful social and life goals	
2.4 Positive thinking and valuing success	4.5 Meaningful life and social roles	
2.5 Having dreams and aspirations	4.6 Rebuilding of life	

The third concept is *recovery stages*, which is comparable to the transtheorectical model, or the stages of change (Prochaska, DiClemente, & Norcross, 1992). This helps identify one's current stance on life and change in relation to common phases people go through when getting ready to make and during the process of making a change. The continuum begins with precontemplation or feeling stuck, demoralized, or overwhelmed by a problem or impairment. Next is contemplation in which glimpses of recovery become evident and there is an awakening of hope that change may be possible. Help is more willingly accepted at this stage. Preparation for change follows and entails increased belief in one's self and abilities to make decisions. Concrete plans are made at this stage as to how the change will take place. Action entails learning new things and embracing a road to recovery, moving from withdrawal to engagement. Steps are actively taken at this stage toward the change. Finally, maintenance and growth are demonstrated through self-reliance, active coping, and efforts towards integrating one's self into the community. Changes made in the action stage are continued on an ongoing basis.

Community mental health services

In Minnesota there are a variety of community mental health services available for the treatment of mental illness and to aid in recovery. It is important to know what these services are and how they differ from ARMHS. The following information was obtained from NAMI's publication on rehabilitation services, *Minnesota's Adult Mental Health Resource Guide: Hope for Recovery* (2013).

Outpatient community mental health centers are intended to provide a wide variety of accessible mental health services to people living in the community regardless of their ability to pay. Community mental health centers offer services such as individual and family therapy, diagnostic assessments, treatment planning, medication management, and psychological testing. Sliding fee scales are utilized to ensure affordability and state medical plans are accepted. Community mental health centers often offer ARMHS as one of the available services, which allows for greater coordination of care between ARMHS and other center services.

Integrated Dual Diagnosis Treatment (IDDT) is an evidenced based practice intended to treat co-occurring mental illness and substance use through specialized case management, counseling, money management, housing assistance, and relationship and social supports. The IDDT model is utilized in select clinics, though the exact number of providers using IDDT is unknown. Although ARMHS does not specifically use IDDT in the provision of services, there are many overlapping elements.

Case management is a community-based service that helps clients gain access to mental health and other services in the community. Case managers monitor, modify, and facilitate the coordination of services. Though participants must have a serious mental illness to qualify for services, standard case managers are not required to have a specialized understanding of mental

illness. Targeted case managers, however, are intended to have a specialized focus on mental illness and the impact of symptoms. Case managers play valuable roles in care and are in short supply given the demand, making them difficult to access at times. When case managers are not available ARMHS practitioners often fill the role.

There are other programs available in Minnesota that provide vital services to clients in an outpatient or community setting, such as day treatment, support groups, independent living skills (ILS), housing case management, vocational programs, and community support programs (CSP). These programs can significantly aid individuals in their recovery from mental illness though increased connection with peers and social supports, assistance returning to the workforce, or support in maintaining housing.

Adult rehabilitative mental health services

In order to better understand the ARMHS program and the role of mental health practitioners, eligibility requirements, intended goals of service, and delivery process were reviewed. In 2001, the Minnesota state legislature approved funding for the expansion of Medical Assistance (MA), Minnesota's state based Medicaid insurance plan, serving more than 15,000 recipients statewide. The expansion included the development of more rehabilitation options for individuals suffering from mental illness in order to increase access to services (Minnesota Department of Human Services, 2013). The goal of the program is to "enable a recipient to develop and enhance psychiatric stability, social competencies, personal and emotional adjustment, and independent living and community skills, when these abilities are impaired by the symptoms of mental illness" (Minnesota Department of Human Services, 2013). Although not specifically stated in any material available on the DHS website, recovery has become the main focus of the program, as evidenced by the State mandated implementation of

the evidence based practice Illness Management and Recovery (IMR), which has been taking place over the past eight plus years.

To be eligible for ARMHS, an individual must be age 18 or older and currently enrolled in MA. They must also have a diagnosable mental illness and be experiencing at least moderate impairment in three or more areas of functioning. To determine diagnosis and functional impairments, the client meets with a mental health professional for an intake interview, during which a full diagnostic assessment is completed. This includes the client's past and present experience with symptoms, treatment, family life, relationships, housing, education, work, use of substances, and legal involvement. The professional then determines if the client has a diagnosable mental illness and makes a referral for ARMHS based on the areas of need identified. A LOCUS (Level of Care Utilization System) assessment must also be completed, which determines the clinical level of care the client needs. ARMHS serves individuals assessed at level 2 and level 3, meaning low intensity and high intensity community based services, respectively. Care at these levels is provided in the community, meaning not in a structured residential environment where the mental health needs of the individual are being monitored and treated.

Once the client is officially referred to ARMHS, a practitioner is assigned to work with the client and arranges to meet with them either in their homes or at a community location. The practitioner then administers the Functional Assessment (FA) to further identify and clarify the client's impairments, strengths, and resources in 13 domains of functioning. The domains of functioning are as follows: mental health symptoms; mental health service needs; use of drugs and alcohol; vocational functioning; educational functioning; social functioning; interpersonal functioning; self care and independent living capacity; medical functioning; dental functioning;

obtaining and maintaining financial assistance; obtaining and maintaining housing; and transportation functioning. With the client's input the practitioner rates identified impairments for level of severity ranging from mild to severe. The role of mental health symptoms as a cause or result of functional impairments is also identified. Functional assessments are completed at the initiation of services and every six months thereafter when the treatment goals are assessed to determine if there has been any change in the client's functioning.

The FA is then used to guide the planning of treatment goals for services. Using a client-centered approach, the practitioner and client explore each domain in which impairment severity was indicated as moderate or higher and develop individual treatment plan (ITP) goals based on those needs. By including the client in the goal planning process and allowing them to choose their goals, it is more likely that internal sources of motivation will be activated to assist the client in making the changes they desire.

For some clients imagining life different than it is at present is very difficult, as hopelessness and acceptance regarding their current circumstances is common. Some clients may need more assistance from their practitioner in brainstorming goal ideas, while others have a clearer vision of what they would like to achieve and what steps are needed to get there. ITPs are broken down into 3 levels of goals: one long-term mental health recovery goal or vision (2-3 years oriented), two medium-term goals (6-12 months oriented), and three short-term objectives per medium-term goal, (1-3 months oriented). The long-term vision is established to encourage hope that things can change and be different, and reinforce that clients are not destined to be victims of their symptoms or circumstances. The medium-term goals and short-term objectives are concrete steps that clients can take within a six-month time period to being working toward

their long-term vision. An ITP is written at the start of services and is refined every six months after the assessment of progress on the goals.

Evaluation of progress toward goal attainment is essential to the recovery process, as it provides opportunity to celebrate successes and determine what changes, if any, need to be made in order for the client to continue to take steps toward their goals. The outcome evaluation is a direct assessment of the most current ITP goals and objectives and attempts to measure the degree of success the client has experienced in accomplishing their goals. The evaluation occurs every six months and is completed by the practitioner in conjunction with the client. The outcome evaluation form has a column for ITP goals and objectives and another seeking a yes or no response as to the completion of the goal or outcome. The third column is where the description of progress made on each of the corresponding goals or objectives is recorded. At the bottom of the form there are three summative questions: (1) If objectives met or not met, please explain; (2) What changes have or will be made so objectives will be obtained?; and (3) How will these changes be implemented? A blank copy of the outcome evaluation form can be found in Appendix B and is the principle source of information for evaluation in this study.

ARMHS is not a time limited program, thus as long as the client continues to meet eligibility criteria and actively work toward recovery goals they can continue to receive services. Some clients choose to voluntarily end ARMHS when they feel they have achieved their desired goals or when they want to try working toward goals on their own. Other clients may want to continue with services despite no longer displaying need or lengthy plateaus in progress. The practitioner needs to remain mindful of the clients progress and can graduate the client from the program when appropriate.

Gap in the literature

There was a gap in the literature regarding ARMHS and the role the program has played in supporting recovery from mental illness. The social work reference librarian at the University of Thomas was contacted to assist in the search for literature on the effectiveness of ARMHS as a community based service, however there were no results. PsycINFO was the primary database used for the search. Three search sets were conducted using the OR operator. The first search set used the terms Activities of Daily Living, Independent Living Programs, Psychosocial Rehabilitation, Rehabilitation, and Rehabilitation Counseling, resulting in 56,161 hits. The second search set used the terms Community Mental Health Services, Mental Health Programs and Mental Health Services and resulted in 39,859 hits. The third search set used the terms Adult Rehabilitative Mental Health Services and ARMHS, and results in zero hits. The first and second search sets were the combined using the AND operator, which resulted in 1851 hits, and when filtered for "Adulthood (18 yrs & older)" resulted in 707 hits. The literature that was available using these search terms described and evaluated a variety of other treatments and methods for various populations, but no literature was found that directly examined ARMHS.

Conclusion

In summary, mental illness affects many vital areas of life and functioning, and sometimes support is needed to regain that functioning and meaning in life. ARMHS is a community-based mental health service intended to increase psychiatric stability and restore functioning that would allow clients to set and achieve goals in their lives. Although there are many studies and journal articles that describe the symptoms of mental illness, its impact on functioning, and strategies for intervention, there is a gap in the literature specifically related to the effectiveness of ARMHS in mental health recovery. This study intends to add to the available

literature on the program and use the CHIME model for evaluating recovery to identify the effectiveness of ARMHS in achieving recovery from mental illness.

Conceptual Framework

At first glance, recovery as a conceptual framework may seem too broad in definition to bring clarity or connection to the multitude of ways people choose to make change in their lives. However, the CHIME framework offers a systematized way of assessing recovery per the consensus of consumers of mental health services. See Appendix C for a complete breakdown of each of the categories, subcategories, and descriptors.

Connectedness embodies the relationship that clients experience with others, including family, friends, and other people who have gone through experiences similar to those of the client, be it experiencing mental illness, the loss of a loved one, or suffering from a common medical condition for example. Forming new relationships or improving on existing ones are equally valid depending on the client's desires. Connecting with professional supports who are trained and posse a level of expertise and experience can be helpful in recovery as well, ranging from mental health professionals, to case managers, PCAs, or volunteer companions. Having a professional to rely on can help clients find direction in their recovery and stick to it. Also, increasing feelings of connectedness to the community as a whole is important considering the social nature of human beings. By and large people want to belong to the larger group, feel like they are welcomed and valued members of their community, and have something to contribute to the world around them.

Hope and optimism for the future are less concrete than connecting through relationships, yet just as important. May people suffering from mental illness feel extreme hopelessness about their situations, unable to see how anything could be different than how it is in the present and likely reliving their failed attempts at change in the past. Hopelessness depletes the energy people carry inside to strive toward a vision of life they want. Planting and nurturing the seed of

hope is vital to the recovery process, giving rise to the possibility that the future does not have to replicate the past and that change can happen. Hope can come from many sources and develops at a different rate for each client depending on their internal and external strengths and resources.

The area of *Identity* encompasses developing a definition of self and values held. Overcoming stigma associated with mental illness is included here because so many people end up defining who they are and what they can do based on a diagnosis. The recovery movement rejects mental illness as a definition of personhood and embraces individual strengths, interests, and talents. Therefore, an important part of recovery is rediscovering those aspects of the self and strengthening one's own image of the self to include them.

Meaning in life is crucial to wellbeing and casts a wide net in mental health recovery activities. Engaging in new or reactivating previously set goals and roles in life are important to developing and maintaining a sense of purpose and direction. Improving quality of life in areas such as school, work, and material and physical wellbeing also provide purpose and satisfaction with self. Rebuilding helpful habits and routines aid in the sense of stability and self-sufficiency. Developing and strengthening spirituality is another way of finding meaning in existence.

Empowerment is the final category to the CHIME framework and is also very broad, encompassing a wide variety of skills, coping strategies, and choices that people get to make about their own lives. By focusing on what people already do well and building up those strengths and resources an internal sense of capacity is fueled, leading to increased autonomy and independence.

The five categories of the CHIME framework provide the lens through which client goals and outcomes in ARMHS are assessed in this study. Instead of focusing on client problems or areas of impairment in functioning, the CHIME framework focuses on what leads to successful

recovery, encompassing a solution focused strengths based perspective. It allows for variation in how recovery is achieved.

Methodology

Research design

A qualitative secondary data analysis was conducted using goal outcome evaluations in order to examine the effectiveness of ARMHS in client recovery from mental illness. The outcome evaluations contained the views of both the practitioner and client on the client's progress toward attaining treatment goals and used open-ended questions as the principle technique for qualitative data collection. Specifically, this study mapped client goals and objectives to the categories of CHIME to determine which recovery areas were focused on at the time of goal establishment. Outcome descriptions were also mapped to the CHIME categories to determine the areas of recovery in which clients were actually experiencing change.

A secondary data analysis was well suited for this inquiry because the data was already collected and available. The agency providing the data for this study was motivated to do so in order to gain a better understanding of the types of outcomes clients are experiencing and if the outcome evaluation tool is effective in measuring recovery.

Research setting

Data for this study was collected from a local Twin Cities for-profit agency that exclusively provides ARMHS. The clinical director provided written consent for the use of the agency's data. There are approximately 30 employees, 25 of whom are practitioners working directly with clients, and the agency serves approximately 500 active clients at any given time. At the time this study was conducted, the agency had a total of 2,969 client records available for use. The client population served is age 18 years and older and from a variety of racial, ethnic, and religious backgrounds. Mental health diagnoses of participating clients cover a spectrum of mental illnesses such as mood, anxiety, and psychotic disorders. Some members of this clinical

population have Axis II diagnoses such as personality disorders, traumatic brain injuries, and developmental delays. The interaction between each client's specific set of symptoms, developmental progress, life experiences, biological vulnerabilities, and cultural background results in wide-ranging functional impairments that demand individualized treatment planning.

Sample

Participants needed at least one six-month reassessment completed in which an outcome evaluation was administered. The administration of the outcome evaluations took place on or after 11/1/12 to ensure they were in an accessible electronic format. In an effort to establish a baseline for the quantity of services received prior to the administration of the outcome evaluation, a minimum of 12 sessions within the preceding six-months was required. Participants did not need to be actively receiving services at the time of data collection. Only outcome evaluations completed by someone other than the researcher were valid for selection and participants could not have been on the researcher's caseload at any point presently or in the past to avoid bias. If more than one outcome evaluation matching the selection criteria for a single client was identified, only the most recent outcome evaluation was selected for use.

Protection of human subjects

Confidentiality was maintained throughout the collection, analysis, and dissemination process. All information taken from the secure medical records system was de-identified by replacing any mention of client names with the word "client" and records were labeled with medical record numbers only.

Instrument

Minnesota Department of Human Services does not provide agencies with standardized forms, therefore all of the forms used were unique to the agency providing the data. Three instruments were used to collect both qualitative and descriptive data. The outcome evaluation was the principle source of qualitative data regarding the goals each client set and the types of outcomes clients experienced as a result of their work in ARMHS. Demographic information was taken from the client information page, including age, gender, and race in order to provide a description of the sample population. Finally, the most recent diagnostic assessment was used to obtain the full five Axis diagnosis of each client, including all diagnoses of mental illness, personality disorder, number of medical conditions, types of environmental stressors, and global assessment of functioning (GAF) scores. All instruments and data used in this study are based on the Diagnostic and Statistical Manual of Mental Disorders (DSM) IV-TR (American Psychiatric Association, 2000). The ARMHS program has not yet transitioned to the new DSM-V codes and methods for diagnosing, therefore DSM-IV-TR language will be maintained.

Data collection

To generate a random sample the True Random Number Generator from www.random.org was used to select 25 random numbers from the full range of medical record numbers in use at the agency, from 1 to 2,969. The numbers generated were matched to the corresponding electronic medical record number to identify potential participants and then each record was compared to the sampling criteria. To obtain 25 eligible participants 253 random numbers were generated and their corresponding records were reviewed.

The majority of records reviewed had no available electronic clinical charting data, indicating the client had not been seen after 11/1/2012 when the agency transitioned from paper

charts to electronic records. These records were automatically disqualified. Other reasons for disqualification included not having received services for at least six months to warrant the administration of an outcome evaluation; not meeting the required minimum number of sessions prior to the outcome evaluation being administered; or services ending prior to the six-month evaluation being administered.

The data from client information pages was transferred to a single spreadsheet with separate columns for age, gender, and race. Diagnostic information was similarly transferred from each client's diagnostic assessment to a single spreadsheet with columns for Axis I through Axis V diagnoses. Data from three fields of the outcome evaluation were transferred to a spreadsheet with separate tabs for each client record. The collected fields included the goals and objectives, the yes/no responses on goal achievement, and the outcome descriptions. The column headings within each tab were labeled to match the fields on the outcome evaluation as previously described.

Data analysis

The demographic information was analyzed using descriptive statistic. A basic tally was used for gender and race, as well as the average age and age range. A tally was also used to determine the frequency with which diagnoses were made and types of environmental stressors experienced. Averages and ranges were calculated for the number of co-occurring medical conditions and GAF scores.

The CHIME framework was used to examine the established goals and objectives, as well as the outcomes experienced. The goals and objectives were reviewed for key words, phrases, and overall intention and then mapped to the best-fit CHIME category. Each group was

then reviewed a second time using the corresponding subcategories to ensure best fit and data was re-categorized as needed.

The responses to the yes or no question regarding completion of the goals were tallied to obtain the overall number of goals and objectives met or unmet. They were also used to sort the outcome descriptions into two groups of *met* and *unmet*. Once grouped, the outcome descriptions were reviewed for key words, phrases, and overall essence of client progress and were mapped to the corresponding CHIME category and subcategory in the same manner. It is worth noting that the goals and objectives were only mapped to one single CHIME category. However, some outcome descriptions contained details of progress made in other areas outside the scope of the original goal or objective. When this occurred the data was broken up and mapped to the corresponding CHIME category. Therefore, the total number of outcomes was not equal to the total number of established goals and objectives. The number of entries in each CHIME category was then tallied for both met and unmet outcomes and dominate trends were identified.

Findings

Sample

The 25-client sample consisted of 16 women and 9 men, and ranged in age from 26 to 79 years old, with an average age of 50 years old. Twenty clients identified as white, 3 as black/African American, 1 as Native American, and 1 did not report on race. Eighty-eight Axis I diagnoses were given between the 25 participants, with an average of 4 diagnoses per participant and a range of 2 to 11 diagnoses for the sample. The most prevalent diagnoses were posttraumatic stress disorder, schizoaffective disorder unspecified, tobacco use disorder, and generalized anxiety disorder, as described in Table 2. Almost 50% of the sample was diagnosed with an Axis II disorder, primarily borderline personality disorder, and the other half either had no diagnosis or diagnosis was deferred, as illustrated in Table 3. Only 2 out of the 25 participants did not have any medical conditions on Axis III, while the other 23 participants averaged 4 conditions per person and with a range from 1 to 11 conditions. Table 4 illustrates social isolation, health concerns, and economic difficulties as the dominant environmental stressors from Axis IV. The average number of stressors identified was 5 and ranged from 2 to 11 for the sample. In Axis V, global assessment of functioning (GAF) scores ranged from 40 to 58 with an average of 49.

Table 2.

Axis I Diagnoses (dx) by Code, N=25

Diagnostic code	Description	Number of time dx given	% of total sample
295.70	Major Depressive Disorder recurrent, mild	1	4%
296.31	Major Depressive Disorder recurrent, moderate	5	20%
296.32	Major Depressive Disorder recurrent, severe	4	16%
296.33	Bipolar I, most recent episode unspecified	1	4%
296.7	Panic Disorder Without Agoraphobia	1	4%
299.80	Asperger's Disorder	2	8%
300.00	Anxiety state, unspecified	1	4%
300.01	Generalized Anxiety Disorder	9	36%
300.02	Panic Disorder With Agoraphobia	2	8%
300.21	Social phobia	3	12%
300.23	Obsessive-Compulsive Disorder	1	4%
300.3	Alcohol abuse, continuous	2	8%
303.90	alcohol abuse	7	28%
304.20	Cocaine dependence	2	8%
304.30	Cannabis dependence	1	4%
304.40	Amphetamine dependence	1	4%
304.80	Polysubstance dependence	1	4%
305.01	Tobacco use disorder	11	44%
305.1	Cannabis abuse, continuous	1	4%
305.20	Cannabis abuse	1	4%
305.21	Posttraumatic Stress Disorder	15	60%
307.50	Eating Disorder Not Otherwise Specified	1	4%
309.81	Schizoaffective disorder, unspecified	14	56%
314.00	Attention deficit disorder without mention of hyperactivity.	1	4%

Table 3.

Axis II Diagnoses (dx) by Code, N=25

Diagnostic code	Description	Number of times dx given	% of total sample
v71.09	No diagnosis	8	32%
799.99	Diagnosis deferred	6	24%
301.83	Borderline Personality Disorder	9	36%
301.9	Unspecified personality disorder	2	8%
317	Mild mental retardation	1	4%

Table 4.

Axis IV Stressors in the Environment, N=25

Description of stressors	# of times stressor reported	% of total sample
Socially isolated	19	76%
Health concerns	15	60%
Economic difficulties	14	56%
Family/relationship discord	10	40%
Housing difficulties	8	32%
Victim of abuse/violence	7	28%
Social skills deficit	7	28%
Significant loss/change	6	24%
Education deficit	6	24%
Occupational problems	5	20%
Legal problems	3	12%
Conflict with entitlement system	2	8%
Substance problems	2	8%
Dental problem	1	4%
Transportation problem	1	4%

Recovery goals and objectives mapped to CHIME

The outcome evaluations reported the goals and objectives that clients established to work on through ARMHS as well as the progress clients made on their goals over the previous six months. All 25 participants had two main goals projected to be accomplished within six to twelve months. For all participants expect two, each of the goals were broken down into three objectives, projected to be accomplished within one to three months. Two participants had four objectives listed for one goal each. There were a total of 50 goals and 152 objectives for a total of 202 established recovery goals for the sample.

The goals and objectives were reviewed for key words as well as their intention or essence while mapping them to the five categories of the CHIME framework using Appendix C. This mapping was intended to identify the areas of recovery targeted when the goals were initially established. Table 5 illustrates the distribution of goals and objectives by CHIME

category and subcategory. Results for the number of goals and objectives mapped to each of the CHIME categories were as follows: *Connectedness,* 23 of 202 (11%); *Hope,* 0 of 202 (0%); *Identity,* 2 of 202 (1%); *Meaning,* 84 of 202 (42%); and *Empowerment*, 93 of 202 (46%), indicating that the primary emphasis of recovery at the time of goal setting was centered on *Connectedness, Meaning in life* and *Empowerment*.

Table 5.

Number of Goals/Objectives Mapped to CHIME Categories and Subcategories

Connectedness (23 of 202 total goals/objectives)		
Subcategories of Connectedness	# of Goals	# of Objectives
1.1 Peer support and support groups	2	1
1.2 Relationships	4	6
1.3 Support from others	1	7
1.4 Being part of the community	1	1
Hope (0 of 202 total goals/objectives)		
Subcategories of Hope	# of Goals	# of Objectives
2.1 Belief in possibility of recovery	0	0
2.2 Motivation to change	0	0
2.3 Hope-inspiring relationships	0	0
2.4 Positive thinking and valuing success	0	0
2.5 Having dreams and aspirations	0	0
Identity (2 of 202 total goals/objectives)		
Subcategories of Identity	# of Goals	# of Objectives
3.1 Dimensions of identity	0	0
3.2 Rebuilding/ redefining positive sense of self	0	2
3.3 Over-coming stigma	0	0
Meaning in life (84 of 202 total goals/objectives)		
Subcategories of Meaning in life	# of Goals	# of Objectives
4.1 Meaning of mental illness experience	0	0
4.2 Spirituality	0	1
4.3 Quality of life	10	11
4.4 Meaningful social and life goals	9	7
4.5 Meaningful social and life roles	1	4
4.6 Rebuilding of life	2	39
Empowerment (93 of 202 total goals/objectives)		
Subcategories of Empowerment	# of Goals	# of Objectives
5.1 Personal Responsibility	13	57
5.2 Control over life	7	16
5.3 Focusing upon strengths	0	0

Connectedness

Twenty-three goals and objectives were mapped to the area of *Connectedness*, and two subcategories were dominant. The first was subcategory *1.2 Relationships*, and the goals and objectives focused on forming new or improving existing relationships. Examples include "maintain current friendships by having healthy contributions" and "keep good boundaries with others and stay away from those who are using." The second subcategory was *1.3 Support from others,* focusing mostly on connecting with professional supports for assistance either with finances, therapy, housing, or some other need. Examples include, "get a Senior Volunteer Worker through ACCAP to take [client] out in the community 1 x per week" and "locate a payee (ordered by Social Security) to help manage [client's] finances/pay bills on time."

Hope

The category of *Hope* had zero goals or objectives mapped to it. This category examined more abstract or non-behaviorally based concepts like optimism for the future and belief in recovery. ARMHS promotes behaviorally based and measurable goals and objectives, so it was not unexpected that nothing mapped to this category.

Identity

Two objectives were mapped to the category of *Identity* and the subcategory for both was *3.2 Rebuilding/redefining positive sense of self*. Both revolved around building self-esteem. The objectives in this area were "do positive activity for self 1x per week" and "learning self-esteem and assertiveness skills as needed." Though these seem more vague that some of the other goals and objectives established, it seems fitting for the ambiguity of the category in general, as identity is not always measurable or tangible.

Meaning in life

Meaning in life accounted for 84 out of the 202 goals and objectives established by the sample, making it one of the strongest areas of recovery for goal setting. The dominant subcategories were *4.3 Quality of life, 4.4 Meaningful life and social goals, 4.6 Rebuilding of life. Quality of life* emphasized finding work and increasing financial stability, *meaningful life and social goals* involved pursing personal goals like paying the mortgage on time and taking piano lessons, and *rebuilding of life* focused largely on organization of mail, belongings, and calendar, as well as routine development around caring for the home and self. There was significant overlap between the subcategories of *meaning in life*, which made it challenging to maintain consistency during mapping.

Empowerment

Empowerment was the strongest CHIME category for established goals and objectives, with 93 of 202 items mapped to it. Dominant subcategories included *5.1 Personal responsibility* and *5.2 Control over life.* The goals and objectives in each of these subcategories varied greatly because they were broad and included many different areas of life. In *personal responsibility* symptom reduction, learning coping skills, and steps for improving psychical and mental health were prominent. Examples include reducing suicidal ideation, learning to cope with anxiety and going to the gym to lose weight. Goals within *5.2 Control over life* predominately focused on picking mental health providers and treatment options, as well as making independent choices about other aspects of life, such as living independently. Examples include “research which [clinic] option would be best APR or North Point” and "becoming more self-sufficient and independent living in the community".

Outcomes experienced mapped to CHIME

Per the outcome evaluations, for the 202 total goals and objectives there were 127 responses of "Yes" (63%), indicating achievement or completion of the goal or objective and 75 responses of "No" (37%), indicating the goal or objective was not met (see Table 6). However, 18 of the 75 goals and objectives that were marked "No" as not being met had corresponding outcome descriptions that indicated between 50-90% of the goal had been achieved, meaning that significant progress had been made on the goal, but it was not fully completed.

Table 6.

Achievement of Goals/Objectives per Yes/No Responses

Total number of goals/objectives	202	
Met the planned goal/objective ("Yes")	127	63%
Did not meet the planned goal/objective ("No")	75	37%

The outcome descriptions for the goals and objectives were more complex to interpret than the simple yes or no answers that preceded them. Of the 202 goals and objectives being assessed, there were 176 outcome descriptions that provided insight as to the client's progress or status after six months of receiving services. Twenty-six outcome descriptions were either left blank or were too vague to determine what types of results were experienced. This means 87% of responses provided enough information to be included in the mapping process.

There were some outcome descriptions that were very basic and spoke directly to the established goal, while other outcome descriptions were more expansive and explored other areas of progress in addition to the originally established goal intended for assessment. This meant that some outcome descriptions contained results about multiple areas of progress and those descriptions were divided in order for each area of progress to be analyzed independently. Some descriptions also contained reports of both met and unmet outcomes. For example, within one outcome description it was noted how the client sought out support from a friend to fix her

computer and developed a routine around going online, but did not work on her novel due to fatigue from medical illness. Obtaining support from the friend mapped to *Connectedness* as "met", developing a routine around going online mapped to *Meaning in life* as "met," and not working on the novel was mapped to *Meaning in life* as "unmet. This phenomenon resulted in 21 additional outcomes for analysis, increasing the total to 197 outcomes mapped to the CHIME framework. Sixty-four percent of the outcomes described were successfully met and 36% of the outcomes were described as unmet (see Table 7).

Table 7.

Number of Outcomes Describing Met and Not Met Goals Mapped to CHIME

	Met	% of all outcomes	Not Met	% of all outcomes
Category 1: Connectedness				
1.1 Peer support and support groups	0	0%	0	0%
1.2 Relationships	13	7%	4	2%
1.3 Support from others	16	8%	4	2%
1.4 Being part of the community	2	1%	0	0%
	31	16%	8	4%
Category 2: Hope and optimism about the future	0	0%	0	0%
2.1 Belief in possibility of recovery	0	0%	0	0%
2.2 Motivation to change	0	0%	0	0%
2.3 Hope-inspiring relationships	0	0%	0	0%
2.4 Positive thinking and valuing success	0	0%	0	0%
2.5 Having dreams and aspirations	0	0%	0	0%
	0	0%	0	0%
Category 3: Identity	0	0%	0	0%
3.1 Dimensions of identity	11	6%	0	0%
3.2 Rebuilding/redefining positive sense of self	0	0%	0	0%
3.3 Over-coming stigma	0	0%	0	0%
	11	6%	0	0%
Category 4: Meaning in life				
4.1 Meaning of mental illness experiences	0	0%	0	0%
4.2 Spirituality (including development of spirituality)	0	0%	0	0%
4.3 Quality of life	20	10%	13	7%
4.4 Meaningful social and life goals	0	0%	0	0%
4.5 Meaningful life and social roles	0	0%	0	0%
4.6 Rebuilding of life	17	9%	3	2%
	37	19%	16	9%
Category 5: Empowerment				
5.1 Personal responsibility	20	10%	17	9%
5.2 Control over life	28	14%	29	15%
5.3 Focusing upon strengths	0	0%	0	0%
	48	24%	46	23%
Grand Totals	127	64%	70	36%

Connectedness

Initially there were 23 goals and objectives established in this category. However, outcome descriptions identified 31 unique responses indicating accomplishments made in this area. There were also 8 outcome descriptions indicating unmet goals and objectives. The subcategories of *1.2 Relationships* and *1.3 Support from others* had totals of 13 and 16 met outcomes respectively for each area. Examples of *Relationship* outcomes experienced include starting conversations with people at work and saying no to friends when they ask for money to have better boundaries. Examples for outcomes experienced in *Support from others* include successfully connecting with an ACCAP volunteer and going out into community weekly, as well as using a community agency for legal representation in a divorce.

Hope

The second category *Hope* had zero outcomes identified. Hope is a challenging concept to measure and was not described as an experienced outcome. It could be inferred that participants likely felt an increase in hope as they saw changes occurring in their lives, however it was not described in the outcome evaluations and therefore could not be included.

Identity

The third category *Identity* originally had 2 objectives mapped to the subcategory *3.2 Rebuilding/redefining positive sense of self.* Surprisingly, there were 11 outcomes identified for the same subcategory as being successfully met, indicating change was experienced in this area despite not having originally set out to do so. Examples of the positive outcomes experienced include the use of a self bill of rights, using self-empowering statements daily, and feeling capable of not going back to smoking cigarettes.

Meaning of life

The fourth category *Meaning of life* was the second largest category in terms of established goals and objectives (84 total), yet there were only 53 descriptions that reported any type of outcome in this area. Thirty-seven descriptions reported met outcomes and 16 descriptions reported unmet outcomes. Subcategory *4.3 Quality of life* had 20 met outcomes mapped to the area, with examples such as obtaining General Assistance benefits, finding a job, and enrolling in classes at a local community education program. Subcategory *4.6 Rebuilding of life* had 17 met outcomes mapped to the area, with examples such as using a cell phone calendar to track appointments, following a daily schedule for completing tasks and chores, and reading mail daily.

Empowerment

The fifth category of *Empowerment* had 93 established goals and objectives initially mapped to the area, and resulted with 48 descriptions of met outcomes and 46 descriptions of unmet outcomes, for a total of 94 outcomes mapped to the category. The subcategory *5.1 Personal responsibility* was divided with 20 met outcomes and 17 unmet outcomes. Examples of successful outcomes in this area included skill development such as using relaxation to cope with physical pain and creating a rewards systems for weight loss, as well as task oriented self-help such as following through on obtaining a new identification card and opening a new bank account closer to home for easier access. Subcategory *5.2 Control over life* contained the other 57 outcomes in this category, with 28 met outcomes and 29 unmet outcomes. Examples of met outcomes include making the choice to not drive without a license to avoid costly tickets, obtaining independent housing, and learning about mental health diagnoses.

Discussion

Sample

A detailed demographic report of all clients served at the agency from which the sample was collected could not be obtained for comparison. Therefore, the sample data will be compared to national trends identified in the literature review. The participants involved in this study were randomly selected, which increases the generalizability of the results. There were 16 women and 9 men who participated in this study, which correlates with women nationally experiencing mental illness more frequently than men (SAMHSA, 2013). The sample ranged in age from 26 to 79 years old, with an average age of 50, which was slightly higher than the national reports of concentrations of severe mental illness between 26 and 49 years old (SAMHSA, 2013).

The types of social stressors experienced by the group were also in line with the literature, including significant financial, housing, and employment problems. The literature indicates that of adults with any mental illness a total of 48.6% have incomes below 200% of Federal poverty level (SAMHSA, 2013). During the diagnostic assessment 14 of the 25 participants indicated some type of economic difficulties, accounting for 56% of the sample, which is higher than the national average but follows the trend. However, to qualify for ARMHS clients must be enrolled in the State based health insurance plan Medical Assistance (MA), which is a means tested program, indicating that the incomes of recipients are near or at the poverty level. The exclusion of non-MA enrolled adults with mental illness from services changes the sample pool to favor low incomes and could skew the data toward representing higher poverty rates.

Finding affordable and quality housing was also identified in the literature as a major challenge for individuals with mental illness and disabilities (Newman & Goldman, 2008; Krieger & Higgins, 2002), with rates of homelessness at 26.2% for adults with severe mental illness (SAMHSA, 2009). In this sample, 8 out of 25 participants, or 32%, indicated housing difficulties as a life stressor during their diagnostic assessment, which included homelessness and other housing problems. Assuming participants have lower incomes based on eligibility for MA, this could be a factor in the reported rates of housing difficulties.

Problem obtaining and maintaining employment were also identified in the literature as impacting individuals with mental illness due to bothersome symptoms (Honey, 2003), low levels of stress tolerance (Mechanic et.al., 2002), and stigma (Overton & Medina, 2008; Scheid, 2005). Five participants indicated occupational problems, which accounts for 20% of the sample, which although significant, may still not be representative of the scope of the employment problems experienced. Some participants unable to return to the workforce at this time due to the effects of mental illness or other causes may not be looking for work and therefore potentially did not report it as a current stressor despite the correlation between their symptoms and inability to work.

The common co-occurrence of mental illness and substance use was also prevalent in the sample, with 16 diagnoses of substance abuse or dependence, not including tobacco use, which accounted for an additional 11 diagnoses. The most common diagnoses were alcohol abuse with 9 occurrences (36%) and cannabis dependence and abuse with 3 total occurrences (12%). In comparison to the national average, which indicates 17.5% of adults with serious mental illness experience substance use disorders (SAMHSA, 2011), the sample experienced significantly higher rates with 64% of participants receiving a substance use disorder diagnosis, not including

tobacco use disorders. It is unknown how many sample participants were receiving outside treatment for their co-occurring substance use disorders, however some were utilizing their ARMHS services to address their use as evidenced by goals relating to and making choices about sober friends.

The comorbidity of mental and medical disorders was also disproportionately high for the sample compared to national figures. The literature indicates that 68% of adults with mental illness experience medical conditions and 50% experience one or more chronic health conditions (Robert Wood Johnson Foundation, 2013). In the sample used for this study, only 2 participants out of 25 did not indicate any medical conditions in their diagnostic assessment, meaning the other 92% reported at least one medical condition and averaged 4 medical conditions per participant. Some participants reported as many as 11 medical conditions. The high rates of medical problems experienced by the sample may be in relation to factors such as poverty and housing (Krieger & Higgins, 2002), and accounted for several of the goals established through services such as seeking out treatments and increasing activities that promoted physical wellness.

Recovery goals and objectives mapped to Hope and Identity

The majority of goals and objectives established by participants in this study mapped to the areas of *Connectedness, Meaning of life,* and *Empowerment*. This finding was somewhat expected considering that the concepts of *Hope* and *Identity* are more ambiguous in nature and generally are less behaviorally oriented. *Connectedness, Meaning of life,* and *Empowerment* however incorporate more behaviorally driven components, such as making new friends, pursing goals, learning skills, and increasing independence. ARMHS practitioners are trained help clients identify goals that are highly behaviorally oriented to increase the practitioner's and the client's ability to assess the outcome of goals during reassessment. Although the implicit mission of the

practitioner is to increase internal strengths like hope, sense of self, and self-confidence through working on behaviorally oriented goals, those internal structures are not the direct focal point of the work. It is largely through the accomplishment of goals in the other areas of recovery that indirectly influence *Hope* and *Identity.*

Recovery goals and objectives mapped to Connectedness, Meaning in life, and Empowerment

The goals and objective mapped to *Connectedness, Meaning in life,* and *Empowerment* shared several trends. As previously mentioned, the vast majority of the goals were highly behaviorally oriented. The nature of the ARMHS program promotes this type of goal setting due to its measurability and these three categories of the CHIME framework account for these types of recovery activities. The goals and objective established also related well to the concepts identified in the literature review. Improving health, finding work, reducing the experience of symptoms, improving financial stability, and finding housing were all prevalent areas of functioning in which participants wanted to make change.

Outcomes experienced mapped to Hope and Identity

Although participants originally established only 2 objectives that mapped to the area of *Identity*, the increased number of outcomes mapped to this area (11 total) is indicative of the underlying effectiveness of ARMHS in cultivating a renewed sense of self for clients. There are several factors that may have influenced the identification of *Identity* oriented concepts. First, practitioners are likely to point out to clients the progress they have made during the outcome evaluation process and engage clients in conversations about their role in accomplishing goals. Through these conversations clients tend to make more statements about increased feelings of self-confidence and reliance, which may have resulted in outcome descriptions that indicate a more positive sense of identity.

However, the format of the outcome evaluation document used to collect data on client progress does not specifically ask about the sense of self experienced by the client and asks only for the outcome reached on the behaviorally oriented goals. Unless the practitioner administering the outcome evaluation takes the initiative to probe and document the client's response or comments about identity, the form does not specifically collect that information.

Although no outcomes were mapped to the area of *Hope,* it is likely that the same case as above can be made for this category. The outcome evaluation does not specifically ask about belief in recovery or hope for the future despite changes that may have occurred for the client through the course of working on other goals. It is only if and when the practitioner asks specifics questions regarding hopefulness and documents them that they are accounted for.

Outcomes experienced mapped to Connectedness, Meaning in life, and Empowerment

The behavioral nature of outcomes described mapped more readily to the areas of *Connectedness, Meaning in life,* and *Empowerment*. Some assumptions based on the literature could be made about these categories that may provide additional context as to why outcomes experienced by participants were concentrated in these areas, other than behavioral.

The sample had an average age of 50, significant comorbid substance use and medical issues, difficulties with housing, occupational problems, and limited economic means. Substance use can get in the way of developing and maintaining healthy relationships, interfere with completion of daily tasks and pursuit of life goals, cause legal problems, increase risk for abuse and victimization, and decrease one's capacity to tolerate the stress of daily life. Significant medical conditions can increase isolation due to frequent medical appointments, limited mobility, and decreased desire and/or ability (perceived or actual) to engage in the activities of daily living (Robert Wood Johnson Foundation, 2013; Bruce et.al., 2005). Unaffordable or

inadequate housing can result in frequent moves reducing the sense of connection with neighbors and surrounding community and increase isolation when affordable housing is located far from resources and supports (Newman & Goldman, 2008). Not participating in the workforce reduces opportunities to interact with peers and make connections or friendships with others, as well as reduces one's sense of purpose and contribution to society as a whole (Mechanic et.al., 2002; Honey, 2003). Finally, limited financial capacity decreases ability to care for one's self and/or family and can contribute to poor physical and mental well-being (Jacob & Kuruvilla, 2007).

Looking back to the statistics of the sample, 64% experienced Axis I diagnoses of substance use disorders and 92% reported at least one medical condition with a group average of four conditions per participant. Significant portions of the sample reported Axis IV environmental stressors during the diagnostic assessment, including social isolation (76%), economic difficulties (56%), family/relationship discord (40%), housing difficulties (32%), victim of abuse/violence (28%), social skills deficit (28%), and occupational problems (20%). The problems reported by the sample match the problems reported in the literature that result from the impacts of mental illness, which supports why goals were established in these areas. Ninety-four percent of descriptions for both met and unmet outcomes were mapped to the *Connectedness, Meaning in life,* and *Empowerment,* which is warranted given that these areas of recovery directly address the active process of change participants underwent to address these life problems.

One hundred and sixteen outcome descriptions reported positive results on client progress toward goal achievement, representing 59% of all outcomes. However, of the 70 outcomes described as unmet, 18 (26%) of those outcomes indicated being partially met between 50 to 90%, representing discrepancy in the reporting process. Other outcomes described as 50% or

more completed were indicated as met, so it would seem that either the practitioner or the client influenced how the outcome was recorded. Had those 18 outcomes been included with the met outcomes, it would have increased the success rate to 68%.

Considering the other two pillars of the recovery framework, recovery journey and recovery stages, and that this study only examined a cross section of data at one point in time, a success rate of 59% is significant. Each client will go at their own pace and encounter barriers and roadblocks along the way. The outcomes examined demonstrate that more than half of participants experienced solid success in achieving small steps that lead to larger goals.

Researcher reaction

It was initially surprising to discover that the outcomes experienced by participants did not always match what they were originally trying to accomplish. This led to a different number of outcomes than the original number of goals and objectives established and mapping of outcomes to different CHIME categories. This is likely the result of several factors both internal and external to the client. An external factor is the treatment plan and how goals are written. Practitioners assist clients in defining goals and objectives and finding ways to measure change. However, for goals that are difficult to measure, such as having more confidence, practitioners may encourage clients to identify what they will be *doing* differently when they have more confidence. This changes the direct focus of the goal to a behavior with the intention of indirectly changing a component of *Identity.* This leads to a high concentration of recovery efforts to be in the more behaviorally oriented areas of *Connectedness, Meaning in life,* and *Empowerment.*

In some cases the goals/objectives were written very specifically, such as how often a client would exercise per week, which increased the likelihood that the outcomes were also very

specific. In other cases the goals were vague or general in nature, such as improving relationship with kids, which increased the likelihood that outcomes were also described vague. The format of treatment plans limits the number of steps or objectives for achieving a goal to three, which encourages the writing of objectives that likely involve multiple steps. This opens the door for a variety of outcomes to be described because many things may need to be worked on in order to achieve the broadly written objective. In essence, the human experience of life and change is too complex for the simplistic medical model driven treatment plan used to establish goals and objectives. Outcomes describing multiple areas of work and progress are expected from a recovery perspective in order to achieve change.

Another external factor is the practitioner's reporting of the client's progress. Some practitioners were very detailed in their description of outcomes, commenting specifically on the goal being evaluated and adding additional supporting information. Others neglected to comment directly on the goal and made more general comments, such as "used assertiveness skills," rather than identifying in what way the skills were used. This may have increased the number of skills oriented outcomes mapped to *Empowerment*.

Factors internal to clients that influenced the outcome experienced included the right to change their minds about what they wanted to work on. Some clients decided that they no longer wanted to work on a particular goal and therefore the outcome was indicated as not met. Another way to look at these types of outcomes would be to consider it as an achievement in self-determination in the context of the client exercising their right to choose their goals. There were also a variety of ways in which percentages were used as part of the outcome description to indicate how much progress had been made on a particular goal. In some case that progress was more than 50%, yet the outcome description indicated the goal was not met or the yes/no

response was indicated as No. When the response included a portion of what *was* accomplished, it was mapped to the met outcomes and what remained to be worked on was mapped to the unmet outcomes. However, individual practitioners reported differently and did not always include partial accomplishments, only describing what did not get met. This may have left some achievements unaccounted for and perhaps reflects the internal experience of the client in that they focused less on what *was* accomplished and identified more strongly with their deficits.

Limitations and recommendations

This study was limited in its view of the impact of ARMHS on mental health recovery because it was a cross section in time rather than a longitudinal study that tracked process over the course of the recovery journey and through the various stages that are experienced during the process. A longer term study may have demonstrated increased goal attained over time, increasing the overall rates of success and strengthening the data to support the effectiveness of ARMHS.

Additionally, the CHIME framework is a relatively new model for assessing mental health recovery and there is limited literature available to describe best practices for applying the framework. The subcategories also seemed to overlap significantly between the five main categories, which made mapping challenging and potentially inconsistent. Application of the model could be enhanced if each category and subcategory were explained in further detail and the areas that seemed to overlap were differentiated or combined

Another limitation of this study was only one researcher analyzed the data, which opened the door to potential bias and inconsistency in mapping. Having at least one other researcher to analyze the data would clarify any confusion about overlapping categories, reduce researcher bias, and provide a point of comparison to ensure accuracy.

The outcome evaluation form presented several limitations as well, namely that the format was too simplistic by only asking for an open ended description of progress rather than targeted questions. The form did not include any additional questions about components of hope or identity, which are more difficult concepts to set goals around and less likely to be included in outcome descriptions. Adjustments could be made to the outcome evaluation form to potentially include scaled and open ended questions around clients' experiences of hope and identity in order to gauge all aspects of recovery. Changing the yes/no question on the form that is supposed to indicate if the goal was met or not to a scale would also increase reporting accuracy by allowing room for partial accomplishment of goals.

Implications for social work

The CHIME framework presents a new way of examining recovery from mental illness derived from the viewpoint of consumers, which aligns with social work's client-centered approach to services. The pervasive use of the medical model in assessment, service delivery, and evaluation can omit factors important in the recovery model. It is essential for social workers to continually practice awareness of how the medical model influences practice and views of client problems and progress, and find ways to integrate more recovery oriented views and practices. Additional social work research should consider using the CHIME framework to increase knowledge about recovery, identify programs or factors that support it, and share best practices for how to better use the framework itself for evaluation. Longitudinal studies would allow the recovery process to be examined overtime and produce more generalizable results, as well.

Conclusion

The purpose of this study was to examine the effective of ARMHS in mental health recovery. Strengths of the sample used in this study included random selection of participants, which increases generalizability of results, and requiring 12 or more sessions prior to administration of the outcome evaluation, which provides a baseline for the quantity of services received by participants. The study fills a gap in the literature on the effectiveness of ARMHS through examination of actual client outcomes using a recovery focused model of assessment rather than a medical model. The study also represents a beginning effort to use the CHIME model of recovery to evaluate program outcomes and fills a gap in the literature on the framework's use as well.

Overall, the evidence was compelling in support of ARMHS as an effective program for assisting clients in their recovery from mental illness. The outcome evaluations described largely positive results and demonstrated the complex and non-linear nature of recovery. The use of the CHIME framework confirmed that the types of goals ARMHS works on with clients are relevant to mental health recovery and in line with the functional areas of need identified in the literature. A longitudinal study that tracks the progress of clients in their recovery journeys would likely strengthen the evidence that supports ARMHS as an effective program.

However, the CHIME model was challenging to use, as there was little description in the literature as to the definition of the sub-categories and how specifically to apply the model. This left most categories open to the interpretation of the researcher, and several of the categories seemed to overlap with one another, complicating the mapping process. *Hope* and *Identity* are also difficult concepts to define in the context of goal setting in ARMHS and therefore less likely to appear in outcome descriptions despite positive changes occurring in these areas of recovery.

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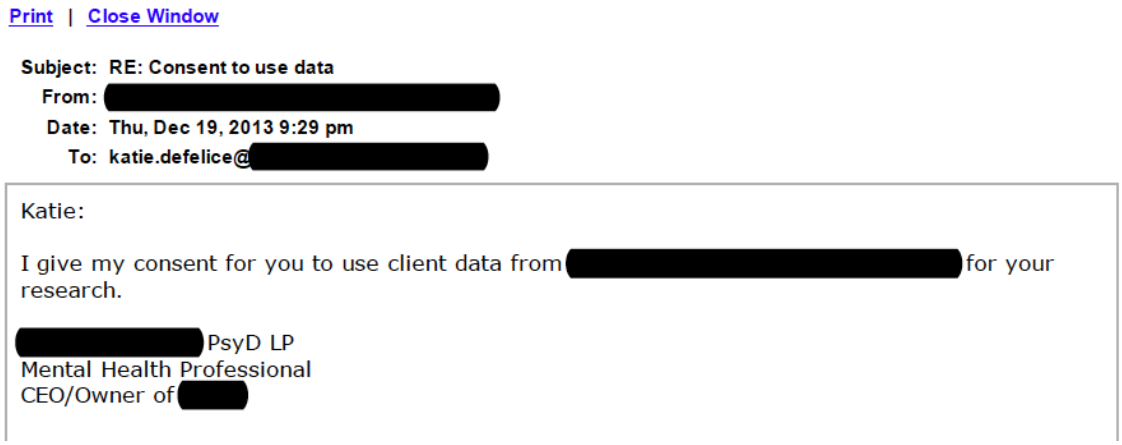
Appendix A

Consent to use agency data for research



Print | Close Window

Subject: RE: Consent to use data
From: [redacted]
Date: Thu, Dec 19, 2013 9:29 pm
To: katie.defelice@[redacted]

Katie:

I give my consent for you to use client data from [redacted] for your research.

[redacted] PsyD LP
Mental Health Professional
CEO/Owner of [redacted]

Appendix B

Outcome evaluation form

Adult Rehabilitative Mental Health Services

CLIENT OUTCOME EVALUATION FOR ARMHS

Client: Jane A. Doe

GOAL	OUTCOME REACHED?
1. Description of goal #1	Yes/No - Description of progress
OBJECTIVE	
• 1. Step toward goal	Yes/No - Description of progress
• 2. Step toward goal	Yes/No - Description of progress
• 3. Step toward goal	Yes/No - Description of progress
GOAL	**OUTCOME REACHED?**
2. Description of goal #2	Yes/No - Description of progress
OBJECTIVE	
• 1. Step toward goal	Yes/No - Description of progress
• 2. Step toward goal	Yes/No - Description of progress
• 3. Step toward goal	Yes/No - Description of progress

If objectives met or not met, please explain:

What changes have or will be made so objectives will be attained?

How will these changes be implemented?

Mental Health Practitioner _____ Date _____

Mental Health Professional _____ Date _____

Appendix C

Recovery Process – CHIME breakdown by category

Category 1: Connectedness

1.1 Peer support and support groups

1.1.1 Availability of peer support

1.1.2 Becoming a peer support worker or advocate

1.2 Relationships

1.2.1 Building upon existing relationships

1.2.2 Intimate relationships

1.2.3 Establishing new relationships

1.3 Support from others

1.3.1 Support from professionals

1.3.2 Supportive people enabling the journey

1.3.3 Family support

1.3.4 Friends and peer support

1.3.5 Active or practical support

1.4 Being part of the community

1.4.1 Contributing and giving back to the community

1.4.2 Membership of community organizations

1.4.3 Becoming an active citizen

Category 2: Hope and optimism about the future

2.1 Belief in possibility of recovery

2.2 Motivation to change

2.3 Hope-inspiring relationships

2.3.1 Role-models

2.4 Positive thinking and valuing success

2.5 Having dreams and aspirations

Category 3: Identity

3.1 Dimensions of identity

3.1.1 Culturally specific factors

3.1.2 Sexual identity

3.1.3 Ethnic identity

3.1.4 Collectivist notions of identity

3.2 Rebuilding/redefining positive sense of self

3.2.1 Self-esteem

3.2.2 Acceptance

3.2.3 Self-confidence and self-belief

3.3 Over-coming stigma

3.3.1 Self-stigma

3.3.2 Stigma at a societal level

Category 4: Meaning in life

4.1 Meaning of mental illness experiences

4.1.1 Accepting or normalizing the illness

4.2 Spirituality (including development of spirituality) 36 (41%)

4.3 Quality of life

4.3.1 Well-being

4.3.2 Meeting basic needs

4.3.3 Paid voluntary work or work related activities

4.3.4 Recreational and leisure activities

4.3.5 Education

4.4 Meaningful social and life goals

4.4.1 Active pursuit of previous or new life or social goals

4.4.2 Identification of previous of new life or social goals

4.5 Meaningful life and social roles

4.5.1 Active pursuit of previous or new life or social roles

4.5.2 Identification of previous of new life or social roles

4.6 Rebuilding of life

4.6.1 Resuming with daily activities and daily routine

4.6.2 Developing new skills

Category 5: Empowerment

5.1 Personal responsibility

5.1.1 Self-management

Coping skills

Managing symptoms

Self-help

Resilience

Maintaining good physical health and well-being

5.1.2 Positive risk-taking

5.2 Control over life

5.2.1 Choice

Knowledge about illness

Knowledge about treatments

5.2.2 Regaining independence and autonomy

5.2.3 Involvement in decision-making

Care planning

Crisis planning

Goal setting

Strategies for medication

Medication not whole solution

5.2.4 Access to services and interventions

5.3 Focusing upon strengths