**THE IMPLEMENTATION OF A DUAL DIAGNOSTIC TREATMENT TEAM FOR ADULTS WITH CO-OCCURRING INTELLECTUAL/DEVELOPMENTAL DISABILITIES AND A MENTAL HEALTH DIAGNOSIS**

by

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**ABSTRACT**

Approximately one in five adults living in the United States currently suffer from mental illness. Within the Intellectually/Developmentally Disabled population, however, the rate of mental illness is much higher at approximately three to four times the rate. This combination of diagnoses is sometimes referred to as ‘dual diagnosis’. The term ‘dual diagnosis’ has traditionally been used to describe people with a co-occurring mental health diagnosis and a substance abuse problem. In this paper, however, it will be used to discuss those people with an intellectual or developmental disability (I/DD) and a mental health (MH) diagnosis. This population has many needs that are often not fully met. The Allegheny County Department of Human Services (ACDHS) has partnered with Community Care Behavioral Health (CCBH) and Northwest Human Services (NHS) to implement a new service delivery model called the Dual Diagnostic Treatment Team (DDTT) to better serve this unique population. Conventionally, this population has been treated for its mental health separately from its intellectual and/or developmental disabilities. The DDTT is a service delivery model that integrates services tailored to individuals with I/DD and an MH diagnoses. DDTT hopes to ensure effective utilization management, improve service outcomes by providing coordinated person-centered care, and attain best practices for treating dual diagnosis. This paper provides a description of the purpose, rationale, design, and public health significance of the program, an evaluation of the implementation process thus far, proposes methods to evaluate outcomes, and recommends future tasks to ensure feasibility.

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# Introduction

According to the National Institute of Mental Health (NIMH), approximately one in five adults living in the United States currently suffer from mental illness (NIMH, 2012). Within the Intellectually/Developmentally Disabled population, however, the rate of mental illness is much higher. The National Alliance for Direct Support Professionals (NADSP) states that, according to the National Association for Dual Diagnosis (NADD), “… the rate of mental illness among people with I/DD is three-to four-times greater than the general population” (Fletcher, 2013). Another paper published in *Social Work Today* estimates the prevalence of dual diagnosis to be at 33 percent (Flick, 2010). Although the number of people with a developmental/intellectual disability might seem small, this population is at a significantly higher risk for mental illness and requires better access to efficient and proper care from trained professionals.

In the past, many people with a mental health diagnosis and/or an intellectual disability (IDD/MH) were separated from their communities and placed in large, publically funded institutions. Today, however, the IDD/MH population is more integrated into society and most participate in community-based treatment models. De-institutionalization has been an overall positive change for most, but issues still exist within new treatment models including insufficient and siloed funding, a lack of community resources, and a need for more highly trained professionals. As a relatively high cost treatment population, new and more efficient practices are needed to cut costs without cutting quality. A lack of professionals trained in both IDD and MH makes it hard to treat clients holistically. The Dual Diagnostic Treatment Team, a new service delivery model, is Allegheny County’s solution to providing quality and affordable care to this unique population.

This paper explains why there is such an intense need for a new practice and service delivery model. It provides an outline of the best practices for treating the intellectually disabled with a mental health diagnosis and discusses how the Allegheny County Department of Human Services has met these practices, how it can improve its Dual Diagnostic Treatment Team model, and how to properly evaluate the program.

##  The need for a new practice and service delivery model

Before the introduction of antipsychotics in 1955 and the movement for the rights of the mentally ill and developmentally disabled, it was typical to place people with one or both diagnoses in large, publically funded institutions. Starting in the late 1960s, a huge transformation in the care of the mentally ill and developmentally disabled began. There was a push towards integration into society, self-advocacy, and individual choice for the mentally and developmentally disabled as the disability, civil, and human rights movement took hold (Bouras, 2002). Because of this, there was a need for more community-based care that was both publically and privately funded. An article published in *Psychiatric Quarterly* in 2008 states that, “A shift from custodial to treatment-oriented programs accompanied the rise of community-based interventions” (Davis, 2008). Although states have begun to implement more community-based service models, many are far from applying best practices.

IDD/MH patients have been linked to high medical costs. High hospitalization rates, duplication of services, as well as the use of multiple funding streams all contribute to a lack of efficiency. Medicaid, Medicare, the state and local government budget and Community Mental Health Services Block Grants, predominantly cover mental health costs (NAMI, 2010). Already, it is clear that funding is not so straightforward for those with a serious mental health diagnoses. Medicaid or Medical Assistance (M.A.) and M.A. state waivers typically pay for medical costs associated with the intellectually disabled. These costs include dental health, primary care, home health visits and specialty-care such as occupational and physical therapy (The Disability Rights Network of PA, 2012). According to Ailey, Johnson, Fogg, and Friese, “Individuals with intellectual disability (ID) represent a small but important group of hospitalized patients… Individuals with ID experience high rates of hospitalization for ambulatory-sensitive conditions… even when in formal community care systems” (Ailey, 2014). The study found that 16.8% of total discharges of ID patients from their study were for hospitalizations of psychoses (Ailey, 2014). By providing consumers with primary care *and* mental healthcare, it is predicted that hospitalization rates will go down and the efficiency of services will be maximized.

The National Association of State Mental Health Program Directors found that out of the 80 percent of ID patients in state psychiatric hospitals that also suffer from mental illness, only 7 percent are treated in specialized units (NASMHPD, 2004). Placing the other 93 percent of these patients in more specialized care and using multi-disciplinary care models should allow for less duplication of services due to better communication and more coordination of care. More specialized care should also lower the rates of hospitalization.

Traditionally, patients have either been placed in the intellectually/developmentally-disabled population or the mentally ill population and their medical needs have been funded by one source. Although this is traditionally a less expensive route, his or her needs are not fully met. By creating programs that treat the dually diagnosed, responsibility and funding are shared, interagency cooperation is increased, and the cost is theoretically lowered by providing all services for one, standardized price (NASMHPD, 2004). Through the use of a multi-disciplinary and community-based model with one direct funding stream, the IDD/MH population will receive higher quality care at a lower cost.

# Background Information

This section describes the dually diagnosed population in more detail and lays out the setting for the implementation of the Dual Diagnostic Treatment Team (DDTT), the new service model that is in its first year of implementation. It also looks at other programs that have been implemented across the nation to treat patients with IDD/MH as well as best practices found in the literature.

## The population and setting

To reiterate, in this paper, a person that is referred to as having a dual diagnosis is one that has both an intellectual/developmental disability as well as a mental health diagnosis. The mental health diagnosis must be fairly severe and persistent. In order to be diagnosed with mental retardation, the person must have an IQ of approximately 70 or below on an individually administered IQ test (Gentile, 2008). A patient that is dually diagnosed commonly suffers from any of the mental health diagnoses that are shared with the rest of the population. These include various anxiety disorders, bipolar disorder, major depression, or schizophrenia as well as other psychotic disorders (Fletcher, 2013).

As stated in the introduction, the prevalence of people with a dual-diagnosis of IDD/MH is conservatively estimated at 33 percent (Flick, 2010). Because this is a conservative estimate, in reality, the prevalence is most likely much higher. Because of a lack of valid studies and concrete quantitative data, it is impossible to give a true estimate of the actual percentage of IDD/MH patients in the United States. This high percentage is thought to be caused by several factors including coexisting central nervous dysfunction, certain medications, increased stress and negative social conditions, higher rates of abuse, and a lack of social supports (Flick, 2010). This paper will focus on the IDD/MH population located in Allegheny County.

## other programs

Before implementing any kind of treatment program, it is important to look at other programs that have been implemented. Looking at other programs will allow Allegheny County to see what worked or didn’t work and will provide an idea of what are considered best practices to ensure that consumers are receiving the best possible care. There are countless other programs across the nation that attempt to address the needs of the dual diagnosis population. Some are very similar to the DDTT program in Allegheny County and others take on a different approach. This paper will briefly address three programs that have been implemented in various states and attempt to compare the model to DDTT and use these other programs to provide the DDTT team with ways to measure meaningful outcomes and to improve services.

### The Adult Development and Psychiatric Treatment Model (ADAPT)

The ADAPT program is located in Harris County just outside of Houston, Texas and was created by the Mental Health and Mental Retardation Authority in 1995. The main focus of the program is to teach individuals how to live in their outside communities as a fully functioning and contributing member of society (Flick, 2010). This program also entails using both individual AND group therapy, which may be a more effective treatment component. The team consists of a psychiatrist, a psychologist, a registered nurse and social worker, and three direct care specialists (Flick, 2010). The staff set up is very similar to that of the other programs described in this paper. The ADAPT program is unique in the sense that it fosters social relationships and events. For example, the program hosts an art show every year with works created by the consumers (Flick, 2010).

The program has shown much success over the past fifteen years. According to *Social Work Today*, “… psychiatric hospitalization rate for participants… has been reduced by 90%, compared to hospitalization rates prior to program participation. These benefits are seen within a length of stay that averages 9.6 months…” (Flick, 2010). This is yet more proof that these combined service delivery models work to improve outcomes.

### The Special Needs Clinic at Johns Hopkins Bayview Medical Center

The Special Needs Clinic at Johns Hopkins Bayview Medical Center was an outpatient medical service that was created in order to better treat patients with developmental disabilities and a mental health diagnosis at a lower cost. One of the main components of this service model is the Champions Psychiatric Rehabilitation Program. This program, “… provides groups that are tailored to the patients’ level of functioning and include Life Skills, Health and Wellness, Interactive Communication, and Work Adjustment groups. There is also a reward-based recreational trip planned weekly” (Hackerman, 2006). This is a vital component of any treatment program as it allows clients to learn communication and skills to function in the outside world. It also should help to foster social relationships between clients and gives them an opportunity for a social outlet.

Two other components of the program that are offered are the group therapy sessions and the Family Support Group. The family support group allows family members of the consumers to discuss important issues they deal with and allows them to express feelings they might have throughout the treatment process (Hackerman, 2006).

The Bayview Medical Center has a diverse clinical staff aimed to treat all facets of the patient. The staff includes three psychiatrists, a coordinator, a nurse clinician, three social work clinicians, a case manager, and three psychiatric rehabilitation therapists. The authors of the article on the clinic stress the importance of the coordinator in making sure that everything goes smoothly and that information and records are kept up to date and organized (Hackerman, 2006).

The Bayview Special Needs Clinic collected a lot of data over time in order to look at how outcomes were being improved. One of the benchmark indicators used is employment rate.

Not only did employment rates increase, but also the data showed that less than 1% of the patients were incarcerated and no patients were homeless over the same year (Hackerman, 2006). Clearly the program has had positive impacts on the dual diagnosis population. Key components such as group and family therapy, having a care coordinator, and providing consumers with life and work skills are part of what made the program such a success.

### ENCOR

ENCOR, the Eastern Nebraska Community Office of Retardation, is a service model that has been recognized since 1985. According to Dr. Frank Menolascino, “ENCOR has developed… community-based models of care which demonstrate how all mentally retarded persons can be effectively and efficiently served, regardless of the complications of mental illness” (Menolascino, 1989). Although this is an older report, ENCOR is still providing services today to the dually diagnosed population. Not all people served within the system have a mental illness but those that do are treated for it. What is interesting about the ENCOR model is that patients are grouped in three levels: level I including the most severe diagnoses up to level III with the least severe diagnoses that may only have a few negative occurrences throughout the year (Menolascino, 1989). The ENCOR program has focused on three goals:

1. Providing staff with the necessary tools, education and skills to better serve the population

2. Reducing the rate of staff turnover

3. Providing services to every client that is dually diagnosed (Menolascino, 1989).

The key component of the ENCOR model is the distribution of patients into various levels of severity. ENCOR believes that each level of patient needs a different type and amount of services and that this is the most efficient and effective way to treat patients. ENCOR also stresses the importance of staff education and support. They noted that, “The key factors in this situation appear to center around staffing consistency, staff competency, and staff attitudes. A challenge which is further complicated by an average staff turnover rate of 21% every 18 months…” (Menolascino, 1989). Through a program called Gentle Teaching that helps to improve the relationship between staff members and patients, staff has been able to better care for clients and clients have had better outcomes (Menolascino, 1989).

## Best practices

Before implementing the Dual Diagnostic Treatment Team, the Department of Human Services contracted with Mercer, a global consulting firm, to do a literature review and conduct interviews with informants to come up with best practices for their service delivery model. This section will go over the various best practices that the DDTT program and Mercer found as well as other best practices gleaned from the current literature. These include patient centered care, multidisciplinary treatment teams, continuous quality monitoring, active care management, and network and workforce development. As the program grows and evolves, and the treatment team realizes what is and what is not working, they will be able to adjust the program accordingly.

### Patient Centered Care

The patient centered care model is not unique to the dual-diagnosis population. The ‘medical home’ is a term used to describe one of the primary patient centered models of care in the United States. In an article published in *MedSurg Nursing*, the medical home is comprised of, “A relationship between the patient and his or her medical provider, a provider who takes charge of total patient care, including arrangements for specialty care, open access to healthcare, ongoing care managed by the same provider to assure coordination and collaboration, quality and safety as key aspects of the system, and transparent and fair payment (Berryman, 2013). Having a patient centered model is especially helpful within the IDD/MH population because of their varied and complex needs and heterogeneous nature (Davis, 2008). Because there are so many varying levels of intellectual/developmental disability and mental health diagnoses, there is no ‘one-size-fits-all’ treatment plan. Therefore, it is important to look at each consumer individually and come up with a plan that is tailored to his or her specific needs.

### Multi-disciplinary and Integrated Approach

Community-based models that treat patients with a dual-diagnosis should use a multi-disciplinary approach. Consumers of these services typically have multiple and complex needs that require several different practitioners. These practitioners may include, but are not limited to, psychiatrists, psychologists, behavioral specialists, and primary care physicians/nurses. Because mental health professionals are not trained to treat the intellectually disabled and because specialists in the intellectually disabled population are not trained in treating mental health, the multi-disciplinary approach allows for all facets of the client to be addressed while keeping all practitioners up to date on the individual’s current treatment and health status. When community-based models do not take this approach, many clinicians are known to engage in diagnostic overshadowing, a phenomenon in which the clinician attributes any behaviors that might be caused by mental illness to the patient’s developmental disability or vice versa (Flick, 2010). The multi-practitioner approach limits the chances of this happening and allows for a proper diagnosis and treatment plan.

As stated earlier in the introduction, IDD/MH clients have multi-faceted health issues that cannot be addressed by one trained professional. Each facet of their health should be treated by a professional that is well versed in that particular subject. Having a treatment ‘team’ that not only consists of each specialist, but that coordinates and communicates with one another in order to create a shared plan and goal for the patient, allows for treatment to be coordinated and to address the patient as a whole. NAMHPD found it necessary that staff, “… be trained to provide a holistic approach that combines behavior management techniques with mental health interventions” (NASMHPD, 2004). This approach also lessens the chances for duplication of services. Because the various practitioners have agreed on a treatment plan and are in constant communication, it is less likely that the same treatment will be utilized more than once.

### Continuous Quality Monitoring

Continuous monitoring of the status of patients and the cost of treatment allows program directors to provide and track outcomes, improve programming, and share data with other entities. Monitoring programs requires careful and thorough data collection as well as statistical analysis. Not only is it important to collect quantitative data, but also qualitative data. As stated by Davis, Barnhill, and Saeed, “Feedback is… a critical component to this model… As a result the quality of programs is continually improved and adapted to meet the ever changing needs of individuals” (Davis, 2008).

### Active Care Management

Active care management involves creating a service plan that is tailored to the individual consumer. Each service plan should include the consumer’s goals as well as the strategies and steps he or she will use to reach these goals. The Department of Public Welfare identified the most important parts of active care management as:

1. A requirement that the organization identifies those members that are most high cost, high risk and is aware of the goals and expectations of interventions

2. Consultation with dual diagnosis experts concerning multiple pharmacological prescriptions

3. The usage of an assessment tool tailored to the dually diagnosed when developing these plans (PA Department of Public Welfare, 2013).

As stated in the section below, direct staff members have access to a mentoring program which makes its easier to consult with an expert psychiatrist. The challenges will come with the identification of the most high risk and high cost patients and making sure that plans are detailed and thorough.

### Network and Workforce Development

It is important to continuously train direct staff on how to best treat their clients. For many of the staff, treating the dually diagnosed is new to them and can often be a stressful population to work with. As illuminated in a publication from *World Psychiatry*, “Staff find working with people with mental retardation and mental health problems stressful. Giving them skills in this area so that, with support, they can manage people with mental health problems enables them to find this work more rewarding” (Bouras, 2002). The article goes on to state that there are many educational opportunities across the nation as well as workshops that can aid in this process (Bouras, 2002). It is vital to any program for staff members to attend workshops and to utilize those materials available to them in order to properly treat and manage patients.

# the dual diagnostic treatment team (ddtt)

Allegheny County is not immune to the challenges that come with the treatment of the IDD/MH population. Three collaborating entities (Northwest Human Services, Community Care Behavioral Health, and the Department of Human Services) have combined forces and are in the process of implementing a program that addresses the unique needs of the IDD/MH population and attempts to use best practices. The service delivery model is called the Dual Diagnostic Treatment Team and is currently in its first year of implementation (the program began in January of 2014). This section describes what the DDTT is and who the clients are.

## what the ddtt is

Building upon the five best practices listed above, Allegheny County formed the Dual Diagnostic Treatment Team in 2014. The Dual Diagnostic Treatment Team is run by three separate entities: Community Care Behavioral Health (the insurer), Northwest Human Services (the provider), and the Allegheny County Department of Human Services (the referral source). The Department of Human Services concentrates its efforts for the program within its Office of Intellectual Disability (OID) and the Office of Behavioral Health (OBH).

It is important to understand the program referral process as well as how all three entities interact amongst each other. There are three referral sources for the program: inpatient behavioral health providers, Allegheny County Office of Behavioral Health, and the Allegheny County Office of Intellectual Disabilities. There are several criteria that clients must meet before being admitted into the program which are explained later on in this section. Community Care Behavioral Health (CCBH) receives and processes all referral forms. They are primarily responsible for making sure that clients are covered by the state of Pennsylvania through Medical Assistance and their Health Choices plan for behavioral health needs (Community Care, 2014). However, during the time that clients are covered for the DDTT program under their Health Choices plan, all other Behavioral Health services are suspended. Community Care is also responsible for filing all Medical Necessity forms and forwarding these forms to Northwest Human Services. Northwest Human Services provides the physical DDTT program components to clients. These services are explained in more detail below. Interagency team meetings are held once a month to discuss progress, issues, and necessary changes or improvements to be made. During these meetings, both qualitative and quantitative data are discussed.

The Dual Diagnostic Treatment Team is not a case management program. It is, however, a new service delivery model for patients that are dually diagnosed with a persistent mental illness and an IQ of 70 or below. According to the description by Northwest Human Services, it is a, “Single multi-faceted service that provides assistance with daily activities, housing, family life, employment, benefits, behavioral supports, health care, medications, co-occurring disorder integrated treatment, and counseling” (Northwest Human Services, 2013). The treatment team consists of eight members: a psychiatrist, a registered nurse, a psycho-pharmacologist consultant, a director, two service coordinators, a behavior specialist, and a program assistant. The program consistently provides services and is also responsible for linking consumers with other services within their community.

The DDTT is available to clients 24/7, 365 days a year in case of a client crisis. The team meets *at least* three times a week in order to discuss each client’s individual progress and goals. This allows the team to change anything in the service plan at any time that seems necessary (Northwest Human Services, 2013). The team is responsible for going into the client’s homes, communities, etc. and treats him or her in the home environment. Clients are handled on an individual basis meaning that all therapy sessions and interactions are one-on–one with the provider.

## The clients

 The team takes on a maximum of twenty individuals at a time. The average length of treatment is twelve to eighteen months but varies by client. A client is never discharged because of ‘non-compliance’. To qualify for DDTT services, the person must be an adult (age 18 or older), have an IQ of 70 or less, *and* must be diagnosed with a major psychiatric disorder. Because the team is publicly funded, clients must be residents of Allegheny County and must also be eligible for the CCBHO/Health Choices managed care organization, as this is the entity that insures the consumers. The client must be at risk of losing his or her housing and other supports. They also must have a high usage rate of crisis services and/or hospitalizations (Northwest Human Services, 2013).

# Evaluation of implementation

The Dual Diagnostic Treatment Team certainly has many of the components that a successful service delivery model needs in order to effectively treat the population at hand. Although there is not a substantial amount of quantitative data to observe and analyze because the program is so new, based off of data from other similar programs, it is clear that these service delivery models do have the potential to improve outcomes in this population. The following section attempts to evaluate how well the program has been implemented as reflected by how closely the best practices mentioned in the literature review were followed. Recommendations are also provided that may help to improve the program in the future.

## effectiveness

The Dual Diagnostic Treatment Team has made great strides in its implementation process. The first run of the program will have completed its main services for the first group of clients by the start of 2015. The DDTT has been especially effective at ensuring that the program implements and utilizes active care management, an integrated approach, and patient centered care (three of the best practices listed at the beginning of the paper).

Active care management is one of the strongest components of the DDTT program. The service care provider team at Northwest Human Services continues to meet several times a week to discuss clients and the progress that each client has made. These meetings are always attended by the eight members of the service provider team. The Dual Diagnostic Treatment Team is also extremely integrated. It consists of a diverse staff including a psychiatrist, a nurse, a service coordinator, behavioral specialists, and social workers.

Lastly, the team has made it a priority to provide patient centered care by coming up with a treatment plan that is tailored to each individual. These treatment plans are created within the first week of the referral date and include a comprehensive assessment plan, an initial service plan, a transition plan from current services to DDTT, and a crisis plan (Northwest Human Services, 2013). The team makes every effort to ensure that each patient’s goals and needs are met. Plans are also changed periodically throughout the client’s time in the program if need be.

## Limitations and barriers

There are a few limitations and barriers within the program that can easily be improved through simple changes within the agencies. The primary limitations found to the implementation of the DDTT program have been a lack of communication between entities, continuous quality monitoring, ensuring that staff members have the support they need through workforce and network development, and allowing for consumer social events as the program expands.

### Lack of Communication

Currently, the Department of Human Services, Community Care Behavioral Health, and Northwest Human Services meet once a month to discuss the DDTT program and its progress. Although this is a good start, more meetings, especially at the beginning stages of the program, would be beneficial to any program that is run by one or more different agencies. An article published in the *Children and Youth Services Review* summarizes the importance of interagency collaboration within the human service field. The authors note that many studies have evaluated the importance of interagency collaboration and that one of the components of successful collaboration is, “… frequent communication and negotiation, the examination of all relevant agency policies concerning the changes needed… and contacts among agencies as expected based on plans…” (Tseng, et.al., 2011). Communication does not have to solely be improved by increasing the number of interagency meetings conducted. Agencies can also remain in contact via phone conferencing, emailing, and data sharing.

### Continuous Quality Monitoring

 Currently, Community Care Behavioral Health has been collecting data on clients and the program. They are currently gathering program metrics each month to monitor successes and areas of need. Below is a figure listing the collected metrics.

|  |  |  |
| --- | --- | --- |
| Active  | Active Caseload | Unique individuals served on last day of reporting month |
| Census | Monthly Census | Unduplicated individuals who received any amount of DDTT services in reporting month |
| Admissions  | New Admissions  | Individuals admitted in reporting month (include booster readmissions) |
|   | Booster readmissions | Individuals with Boosters readmission in the reporting month  |
| Gender | Females admissions | Unduplicated female individuals admitted to during reporting month |
|   | Male admissions  | Unduplicated male individuals admitted to during reporting month |
| System Involvement | OID | Unduplicated individuals admitted during reporting month referred by OID |
|   | OBH | Unduplicated individuals admitted during reporting month referred by OBH |
|   | Forensic  | Unduplicated individuals admitted during reporting month referred by Forensic Services |
|   | State ID Center | Unduplicated individuals admitted during reporting month with history of placement in ID State Center |
| Referral Source | Inpatient Mental Health Unit | Unduplicated individuals admitted during reporting month referred by IMH Unit |
|  | State ID Center | Unduplicated individuals admitted during reporting month referred by State ID Center |
|  | Outpatient MH | Unduplicated individuals admitted during reporting month referred by an Outpatient MH Provider |
|   | MH Case Management | Unduplicated individuals admitted during reporting month referred by a MH Case Manager |
|   | Independent Supports Coordinator | Unduplicated individuals admitted during reporting month referred by an OID Provider |
|   | OID Provider | Unduplicated individuals admitted during reporting month referred by an ISC. |
|   | Other | Unduplicated individuals admitted during reporting month referred by an entity other than those listed above |
| Eligibility | Medicaid | Unduplicated individuals admitted during reporting month with Medicaid eligibility |
|   | Medicaid Pending  | Unduplicated individuals admitted during reporting month with *pending* Medicaid eligibility |
|   | Medicare & Medicaid eligible | Unduplicated individuals admitted during reporting month with Medicaid and Medicare eligibility |
|   | OID Prior to Admission | Unduplicated individuals admitted during reporting month open with OID prior to admission |
|   | OID After Admission | Unduplicated individuals admitted during reporting month open with OID after DDTT admission |
| Crisis Events | Individuals with Crisis Plan | Unduplicated individuals with Crisis Plan |
|   | Unique Crisis Events  | Number of unique crisis events in reporting month  |
|   | Crisis Events per Individual | Unduplicated individuals who experienced 1 or more crisis events in reporting month |
|   | DDTT crisis respondent | Number of unique crisis events in reporting month when DDTT was the respondent |
|   | Resolve crisis Respondent | Number of unique crisis events in reporting month when re:solve was the crisis respondent |
|   | Crisis Plans Modified | Unduplicated individuals with Crisis Plans in reporting month where the crisis plan was modified after event involving ED, inpatient hospitalization, significant life or sentinel event |
| Change in Living Status | Change in Living Situation | Unduplicated individuals who changed living situation in reporting month that moved to a MORE restrictive setting |
|   |   | Unduplicated individuals who changed living situation in reporting month that moved to a different/lateral living situation |
|   |   | Unduplicated individuals who changed living situation in reporting month that moved to a LESS restrictive setting |
|   | State OID Center | Unduplicated individuals receiving DDTT in reporting month who moved to a State OID Center |
|   | CRR | Unduplicated individuals receiving DDTT in reporting month who moved to a CRR |
|   | CLA | Unduplicated individuals receiving DDTT in reporting month who moved to a CLA |
|   | Family | Unduplicated individuals receiving DDTT in reporting month who moved to their family |
|   | Independent living  | Unduplicated individuals receiving DDTT in reporting month who moved to independent living |
|    | Other living situation | Unduplicated individuals receiving DDTT in reporting month who moved to another living situation |
| Acute Services | IMH Hospitalization | Unduplicated individuals receiving DDTT in reporting month admitted to an acute inpatient mental health facility. |
|   | PH Hospitalization | Unduplicated individuals receiving DDTT in reporting month admitted to an acute inpatient physical health facility |
|   | ED Visit | Unduplicated individuals receiving DDTT in reporting month who visited an Emergency Department |
| Primary Care | PCP Visit | Unduplicated individuals receiving DDTT in reporting month who completed a PCP visit |
|   | PCP PH Orders  | Unduplicated individuals receiving DDTT in reporting month who received new or modified orders from their PCP related to a physical health issue  |
|   | PCP BH Orders | Unduplicated individuals receiving DDTT in reporting month who received new or modified orders from their PCP related to a behavioral health issue |
| PH/BH Coordination | Nurse and PCP Coordination | Unduplicated individuals receiving DDTT in reporting month for whom the nurse contacted the PCP for coordination efforts |
|   | Nurse and Other Coordination | Unduplicated individuals receiving DDTT in reporting month for whom the nurse contact another Behavioral Health Provider for coordination efforts |
| Meaningful Work Activity | Non-sponsored Meaningful Work Activity | Unduplicated individuals receiving DDTT in reporting month that are engaged in meaningful paid or unpaid work activity that is NOT sponsored by a social service system |
|  | Sponsored Meaningful Work Activity  | Unduplicated individuals receiving DDTT in reporting month who are engaged in a meaningful paid or unpaid work activity that IS sponsored by a social service system |
| Discharges | Discharges  | Individuals discharged from DDTT in reporting month (include booster discharges) |
|   | Boosters Discharges | Individuals discharged from DDTT Booster in reporting month |
| Post Discharge Aftercare | MH Follow Up Only | Individuals discharged in the reporting month with mental health follow up only |
|   | OID Follow Up only | Individuals discharged in the reporting month with OID services only |
|   | MH and OID Follow Up  | Individuals discharged in the reporting month with both mental health and IDD follow up services. |
| Post Discharge Meaningful Activity | Post Discharge Non-sponsored Meaningful Activity | Individuals discharged in the reporting month that are scheduled to engaged in meaningful activity after discharge which is **NOT** sponsored by a social service system  |
|   | Post Discharge Sponsored Meaningful Activity | Individuals discharged in the reporting month that are scheduled to engaged in meaningful activity after discharge which **IS** sponsored by a social service system  |
| Professional Skills Transfer | DDTT sponsored trainings for other social service providers | Raw number of trainings in the month with an attachment that lists that trainings complete by DDTT staff in the reporting month detailing the training title, training topic, training date, number of attendees, summary of social services professionals in attendances e.g. ISCs, OID Residential staff, Inpatient MH providers, MH Case Management |

Figure . CCBH DDTT Metrics

Along with metrics that are based on the consumers, CCBH is also collecting metrics on Inter-Agency Team (IATM) Representation. This data includes the number of IATM meetings within the recording month as well as which members of the team were present and if the individual and family members were present as well. CCBH should continue to collect this data and begin to share it with NHS and DHS in order to come up with changes for improvement.

Although this is a good start to collection of program metrics, CCBH should move to creating summaries of these reports, analyzing data, and reporting this data back to both funders and to the other two agencies involved in the process. As stated in an article published in Psychiatric Quarterly, “… determining the efficacy of any plan requires continuous quality monitors. The capacity to modify dysfunctional parts of the plan should be based on data generated by quality monitors” (Davis et.al., 2008). The DDTT is certainly collecting much needed data. However, the challenge will be sharing this data with all agencies involved and analyzing it to revise programming.

### Staff Supports

To reiterate, Northwest Human Services is the agency that provides all direct care to consumers of the DDTT program. These eight staff members on the care team are working with multiple consumers at once that have extremely complex needs. In this type of work, “Direct care staff turnover is a major issue for many service delivery programs and support for frontline staff is essential for the retention and morale of quality personnel” (Davis, et.al., 2008). DHS, CCBH, and NHS might want to think about providing staff members as well as caregivers with more support sessions and training such as crisis intervention methods. For example, a study published in the *Journal of Clinical Nursing* implemented an intervention that provided caregivers of individuals with IDD eight weekly support group meetings. They concluded that, “… caregivers benefit from participating in support group interventions” and that, “… the support group should become a routine component of the caregiver of people with intellectual disabilities” (Wei, et.al., 2012). Northwest Human Services does not currently provide any type of support groups for staff members or caregivers, but could benefit from this addition in the future.

Fortunately, staff does have resources available to them for support. The Pennsylvania Department of Public Welfare has identified three workforce development programs offered by the Office of Developmental Programs and the Office of Mental Health and Substance Abuse Services including a Dual Diagnosis Curriculum for direct support professionals, a training program for first responders and the legal system, and a mentoring program that utilizes a psychiatric expert in the area for consultation (PA Department of Public Welfare, 2013). The staff has multiple resources at their fingertips and it is crucial that they are able to continuously access and use them.

### Social Events

The DDTT program mainly focuses on individual therapy and visits to the individual’s home or residential program. Studies have found that social interactions positively impact the mental health of the intellectual and developmentally disabled population. Positive social interactions are extremely important for the intellectually disabled population and its mental well being. NADD informs that,

Persons with intellectual or developmental disabilities experience negative social conditions throughout the life span that contribute to excessive stress. These negative social conditions include social rejection, stigmatization, and the lack of acceptance in general. Social support and coping skills can buffer the effect of stress on mental health. In persons with intellectual or developmental disabilities, limited coping skills associated with language difficulty, inadequate social supports, and a high frequency of central nervous system impairment, all contribute to the vulnerability of developing mental health problems (NAAD, 2014).

Currently, Northwest Human Services does not have any planned social interactions or events for their clients. Consumers might have opportunities for these interactions outside of services provided by NHS, but this is one void that is easy to fill.

## Recommendations and Future Tasks

### Improved Communication

Communication is an extremely important part of any healthcare delivery system in order to function properly. This paper recommends that all three entities involved (Community Care Behavioral Health, The Department of Human Services, and Northwest Human Services) increase the number of meetings they have from once every month to two or three times each month. It is just as important to share non-codifiable information as it is to share codifiable information. A study published in the Journal of Intellectual Disability Research concluded that, “Exchange of ‘explicit’… knowledge between health and care management components of the service is problematic because of a lack of integrated clinical governance… Team meetings and workplace interactions allowed for informal exchange of explicit and ‘tacit’ … knowledge…” (Farrington, 2014). Having more in person meetings between the three large parties will allow for better management of clients, improved service delivery, better data collection, and more superior outcomes overall. The National Association of State Mental Health Program Directors suggest that one way to improve communication is to create a cooperative agreement which allows the agencies to share financial burdens, collaborate on assessment and diagnoses, improve cross-training education, and increase the chance that consumer’s needs are met (NASMHPD, 2004).

### Continuous Quality Monitoring and the Development of an Online Database to Collect and Analyze Data

Currently, Community Care Behavioral Health is collecting certain data and metrics that they can pull from the various organizations that treat their consumers. However, this data is only being collected in an excel sheet and cannot be accessed by the other entities involved or by other similar programs and employees. The second recommendation is to create an online database of clients that are currently and have been enrolled in the program. The online database would help to track each client’s progress and measure outcomes. It would also allow the agencies to see if outcomes were duplicated from year to year and will allow the DDTT to serve as a model for other pilot programs. The START program is another example of a program that provides services to individuals with intellectual and developmental disabilities and behavioral health care needs. This program has created the, “START Information Reporting System (SIRS) … to capture de-identified health information about START clients and has the ability to provide reporting….Analysis of service outcomes provides valuable information on service effectiveness over time and provides a management tool for decision-makers” (Scholz, et. al., 2013). This is an excellent example of how a program for IDD/MH has used technology to better monitor program success and communicate these successes with others. The DDTT could greatly benefit from creating a tool like SIRS in order to better analyze and report on data.

CCBH also spoke about wanting to measure more meaningful outcomes and to look at more of the broader context rather than just at the individual. Some of the questions that were thought of were as follows:

1. How emergency incidents are correlated with staffing turnover

2. How do clients living in residential settings fair in the program versus those in in-home care?

3. How client behaviors are affected pre and post social interactions

4. Can specific training on crisis management lower the number of negative incidences clients are involved in?

Some of these questions will be hard to answer with validity. However, some questions might be feasible to answer with the data being collected including how clients fair based on living situations and the effect of social interactions on client behavior. In order to answer some of these questions, it will be necessary to have more inter agency communication and cooperation in order for the proper metrics to be collected and for interventions to be implemented.

### Creation of a Workforce Development Program and Staff Supports

Although the Dual Diagnostic Treatment Team has access to outside resources that they may use for workforce development, they are lacking in support groups and do not require any training programs. Werner and Stawski illuminate the importance of having a mandatory training course in dual diagnosis for all professionals that are working with this population (Werner, 2012). The study also suggests that increasing knowledge of this population and how to handle consumers properly has been shown to lead to decreased stress and increased staff retention (Werner, 2012). Staff members can also benefit from ongoing support. A study from Psychiatric Quarterly noted that, “… the adequacy of provider and staff training are crucial. It is also essential to provide ongoing support for front line providers in order to avert high levels of provider stress, burnout and turnover” (Davis, 2008). The DDTT might benefit from the creation of a mandatory training program as well as the formation of supports for staff to improve staff retention.

###  Social Events

It is recommended that the DDTT program come up with a way to involve consumers in more positive social interactions outside of the ones they already may have with their caregivers. For example, the ADAPT program coordinators, “… structure daily activities and events that promote independence and foster creativity” (Flick, 2010). One of these events is an art show that features pieces done by the program’s clients. As stated earlier, those with an intellectual disability benefit mentally from positive social interactions. Therefore, it is recommended that the DDTT program create more opportunities for consumers to socialize and be involved in their community.

# Conclusions

Allegheny County is one of the few counties in the United States to have implemented a new integrated service delivery model for the Intellectually/Developmentally Disabled population with a mental health diagnosis. The Dual Diagnostic Treatment Team strives to improve outcomes for this population through patient centered care, a multi-disciplinary and integrated approach, continuous quality monitoring, active care management, and network and workforce development. These best practices are crucial for a successful program.

Although the DDTT program has made sure to include all of these best practices within their model, there are a few aspects that could use some improvement. The program could benefit from improving communication between agencies, creating an online database that tracks outcomes of clients and can be accessed by employees to measure outcomes and see progress from year to year, providing mandatory supports and trainings for employees to prevent burnout and high staff turnover rates, and increasing positive social interactions within the IDD/MH population.

It will be interesting to see how the DDTT’s first group of clients does in the program and if positive outcomes are duplicated from year to year. Although the program is not perfect and will have to make some changes as time goes on, it is going to be a huge benefit to the county not only by improving outcomes with the ID/MH population but also by saving health care dollars spent on unnecessary visits to emergency rooms, improper diagnoses, and duplication of services.

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