MODELS OF COMPETENT CARE FOR PEOPLE WITH INTELLECTUAL/DEVELOPMENTAL DISABILITIES

by

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ABSTRACT

This literature review aims to review research studies that have investigated strategies for care coordination through various healthcare delivery models for intellectually/developmentally disabled population (I/DD). This brief offers a set of principles to guide innovative service delivery models, including recommended core structural elements. The strategies designed for the program are to provide care coordination support from UPMC Health Plan by integrating services into the present care management of I/DD members.

The main objectives include improving on care coordination through integrated healthcare delivery services by developing models of competent care for I/DD members and positioning UPMC Health Plan as a leader in Medicare-Medicaid integration. The public health significance in this review is to increase the care coordination of health-related practices, services, and programs that affect the care of people with intellectual disabilities.

As per the evidence cited in the literature and taking into consideration the structural elements, linking I/DD providers with a Patient Centered Medical Homes (PCMH) and providing a nurse practitioner (NP) based partnership with the residence facilities would result in less unplanned care, transition of care support and more importantly care coordination, fewer readmissions and attract more low-medical expense ratio (MER) members into the UPMC Health Plan products.

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1.0 INTRODUCTION

The United States have approximately 4.5 million people with intellectual and developmental disabilities that requires intricate services and their needs are met by the various providers. (Lind and Archibald, 2013). I/DD is known as a disability that is manifested before twenty-two years of age, "which constitutes a substantial disability to the affected individual, and is attributable to mental retardation or related conditions which include cerebral palsy, epilepsy, autism, or other neurological conditions when such conditions result in impairment of general intellectual functioning or adaptive behavior similar to that of a person with mental retardation" (The ARC; Adams County). Healthcare services in the United States are continuously moving towards a primary healthcare model, as in many developed countries like the United Kingdom and New Zealand.

Patient centered care, as defined by Institute of Medicine, "Health care that establishes a partnership among practitioners, patients, and their families (when appropriate) to ensure that decisions respect patients' wants, needs, and preferences and that patients have the education and support they need to make decisions and participate in their own care." Patient centered care is becoming an increasingly important service for I/DD as the nation's long-term services and support system is shifting from institutionally-based care to home- and community-based care. (Lind and Archibald, 2013). More focused, integrated systems approach is the demand of the hour that delivers a better value to these high need populations and support for their families. In

the past few years has been a movement of about two-thirds of the Medicaid enrollees into managed care programs; however, the people with disabilities has not been included because of their more complex requirements, concerns about the suitability of provider networks, and the immaturity of health plans in serving this population (Lind and Archibald, 2013).

Not only Medicaid, but Medicare also provides support to the I/DD's. There are approximately 10 million people who are eligible for both Medicaid and Medicare (Dual eligibles). About 7% of duals are individuals with intellectual and developmental disabilities (I/DD). The lack of coordination of service delivery to the dually eligible I/DD's is due to the difference in the 'alignment in the services and funding provided by Medicare and Medicaid' (Lind and Archibald, 2013). Gaps in primary care are common. This is exacerbated by social stigma and the increased time needed (without increased reimbursement) when serving some individuals with disabilities. So, this is an area of interest to integrate Medicare and Medicaid services for dually-eligible people with I/DD. There is significant opportunity to align the interests of all parties, as the chief concern of each party is the wellness and quality of life of the people who are served by these traditionally disparate systems.

This study identifies innovative models for service delivery for I/DD population and aligns the interests of all parties (payors and providers) for the wellness and quality of life of the people who are served by these traditionally disparate systems. This brief offers a set of core principles and structural elements required for the development of competent models for service delivery and incorporates these models into UPMC Health Plan's I/DD members for positioning UPMC Health Plan as a leader in Medicare-Medicaid integration.

1.1 INNOVATIVE MODELS

Many people with intellectual disabilities are provided an array of Medicaid services and supports that help them live more independently in their homes and communities and that promote community living. This I/DD population is generally in need of healthcare services because of limitations in functional status and ability to live independently. These individuals are also served in congregate residential settings. This cohort is more likely to have a dual diagnosis of mental illness and more complex chronic care needs often including behavioral health issues.

People with intellectual disabilities receive services from a complex provider network and these services are reimbursed by multiple Medicare and Medicaid payers. There is significant opportunity to align the interests of all parties as the chief concern of each party is the wellness and quality of life of the people who are served by these traditionally disparate systems. Gaps in primary care are common. This is exacerbated by social stigma and the increased time needed (without increased reimbursement) when serving some individuals with disabilities.

1.1.1 Innovative Models- Principles & Core Structural Elements

Innovative models for service delivery must ensure high quality and patient-centeredness and address following principles (Lind and Archibald, 2013):

Integration: Service delivery systems must be integrated and coordinated to support programs in conjunction with health plans.

Access: Systems must focus on reducing wait times and address better use of resources.

Value and Outcomes: Systems must provide value to the I/DD patients and focus on outcomes desired by I/DDs and their families to achieve their goal.

The regulated budget guidelines of state and federal government compel us to enterprise innovative and cost effective care models for the I/DD. The core structural elements for developing a new model of service delivery are as follows (Lind and Archibald, 2013):

Care coordination: A core component of any delivery system is integrating primary and acute medical care needs, behavioral health needs.

Strengthening provider framework: Integrating a system design that includes critical providers, so that longstanding relationships between ID and their providers are not disrupted.

Health screening and resource allocation: Incorporating a standardized, comprehensive health screening programs for all individuals. These facts can be used for mounting person-centered care plans (Webb and Rogers, 1999).

Performance measurement: Including measures of access, care coordination/transitions, member satisfaction, quality of life, and other key outcomes across a range of services and supports.

Information Technology and Tele Health: Collection and sharing of data on service needs and utilization among the providers and care managers to coordinate and maintain continuity of care. Tele Health set up helps in anywhere care and low cost as compared to ED, Specialist visits.

Reimbursement policies: Restructuring of the reimbursement policies to engage providers to serve people with ID and spend adequate time to address often complex needs. There should be shift from traditional fee-for-service reimbursement toward payments based on episodic care or risk-based arrangements. To ensure adequate access to the services in appropriate amount, duration, and scope, the capitation rate for long-term services and supports should be adequate.

Transition of care support: New models of care should incorporate stable and coordinated transitions in their programs to provide support to the changing needs for services of the I/DD's.

1.2 INNOVATIVE MODELS OF SERVICE DELIVERY

Based on the above structural elements and core values, the following are the evidenced based innovative models for healthcare delivery for I/DD population:

- Patient Centered Medical Homes
- Health Homes
- Specialty Organizations/ACOs
- Managed Care Entities

Patient Centered Medical Homes/Health Homes

The primary care medical home, also referred to as the patient centered medical home (PCMH), advanced primary care, and the healthcare home, is a promising model for transforming the organization and delivery of primary care. They provide coordinated/integrated care through an ongoing relationship with a physician who encourages communication. In this use of information technology is present, which helps in improving patient access and outcomes. Insurance companies could contract with PCMHs to manage primary and acute care and behavioral health services and integrate that care with long-term services and supports from traditional ID providers (AHRQ). In this model individuals with I/DD would be assigned a certified PCMH that has an interdisciplinary team with experience in serving individuals with I/DD. A monthly care management fee in addition to standard fee-for-service reimbursement method could be employed to pay PCMH.

Policy makers realized that lack of adequate primary care services for people with I/DD led to increase in ED utilization and overreliance on specialty care (Davidson and Somers, 1998). If the continuity between primary care and specialty care is managed, there is less likelihood of utilization of ED facilities by I/DD members (David Wood et al., 2007).

Health Homes

In order to expand the medical home model, Patient Protection and Affordable Care Act (ACA) created health homes and included community and social supports. The motive was to enhance integration of physical and behavioral health care to meet the needs of individuals with multiple chronic conditions (State Medicaid Director Letter #10-024, 2010). 'Health homes provide services including comprehensive care management; care coordination and health promotion; comprehensive transitional care; individual and family support; referral to community and social support services; and the use of health information technology to link services' (Lind and Archibald, 2013).

Health homes are designed to be person-centered systems of care that facilitate access to and coordination of the full array of primary and acute physical health services, behavioral health care, and long-term community-based services and supports (Lind and Archibald, 2013). The health home model of service delivery expands on the traditional medical home models that many states have developed in their Medicaid programs, by building additional linkages and enhancing coordination and integration of medical and behavioral health care to better meet the needs of people with multiple chronic illnesses. The model aims to improve health care quality and clinical outcomes as well as the patient care experience, while also reducing per capita costs through more cost-effective care.

DD Health Home model, initially known as Morristown Model, has given a new dimension to the PCMH. A nurse practitioner is employed with the primary care physician, who provides services ranging from care coordination- scheduling appointment, arranging and looking up for laboratory tests or medical procedures, assisting in insurance issues, regular contact with patients, checking for compliance to treatment, updating EMRs, and, helping in transitions; neurological services (eg. seizure management). A nurse practitioner provides most of the care and initially assesses the patient. When care is needed, a patient is referred to the physician. If mental health services are needed, patient visits are arranged and once the patient is stabilized, the patient is followed by a nurse practitioner. For emergency purposes, they remain on call to reach out to the patients at all times. EMR provides medical records to all the NP in order to provide care coordination (Kastner and Walsh, 2012).

The integration of primary care and specialty care is important and is one of the strengths of DD Health homes. This helps in the prevention of overlap of treatment approaches that can interact across specialties like psychiatry and neurology. Long term relationship is established between patients and physicians and patients value the continuity and personalized care available for Home Health. 'According to Criscione et al., 1993, patients with I/DD integrated with DD Health Home and a NP as a care coordinator, had 22.7% shorter hospital stay than the patients related to community care physicians without NP.' As per Criscione et al., 1995, care coordination had an effect on hospital utilization (shorter length of stay by 54.5%) and was valuable addition to primary care services in the model. They stated that if this difference in length of stay was applied to all members with I/DD, coat savings of more than $200,000 (1995) would have been realized.

The underlying principle of the Home Health model is a team approach with integrated care coordination between NP and physicians. NP provides basic care and screening services to the members (Bodenheimer & Pham, 2010; Naylor & Kurtzman, 2010).

Specialty Organizations/ACOs

Health Plans can contract with specialized organizations such as accountable care organizations (ACOs) that will manage the primary / acute care and behavioral health care services as well as traditional ID services. Intellectually disabled members would be enrolled in a qualifying health system that includes providers with expertise serving ID persons. Reimbursement for ACOs can be either fee-for-service with shared savings, partially capitated, or fully capitated (Lind and Archibald, 2013).

Managed Care Entities

Managed care entities have improved access to long-term services and supports, coordination of care, and given beneficiaries more choice of providers. Arizona, Michigan, and Wisconsin have included people with ID in their managed long-term services and supports programs. In Wisconsin, Aging and Disability Resource Centers (ADRC) act as the single point of access to managed long-term services and support system for people with ID and provide coordinated services through managed care (Gettings, 2009). 'This program component entitled "Include, Respect, I Self Direct" (IRIS) uses a tool, the Long-Term Care Functional Screen, that is administered by ADRC staff to determine service needs and calculate the amount of money available for services' (Lind and Archibald, 2013).

Use of the IRIS program has, in the vast majority of cases, given participants more choices, control, and freedom to design service plans that meet their needs and the Department of Human Services is working to fine-tune the assessment system.

Health plans have shifted from capitated payment system to fee-for-service reimbursement model, coupled with reduced rates, to improve performance of managed care entities. But this shift has undermined the success of attempts to align provider's financial interests. The problem managed care entities face these days is that they feel that profit margin from Medicaid and Medicare is low; while the states feel that their administrative expenses are high for HMO plans (Herring & Adams, 2010).

Managed care generally refers to a system of health care services in which organizations (managed care organizations) coordinate the access and delivery of services to ensure desired positive outcomes, while controlling costs. Risk-based managed care describes the care from organizations that provide or contract to provide specified health care services for a defined population for a fixed, prepaid price where the organizations are at financial risk to deliver the services for the fixed price. It can be considered "hands-on health insurance" because it combines the responsibility for paying for a defined set of health services with an active program to control the costs associated with providing those services, while ensuring quality and access. Managed care is intended to eliminate redundant facilities and services and to reduce costs. Health education and preventive medicine are emphasized. Doctors and other health care providers make a profit by providing only the services necessary in treating patients and by maintaining plan members' health. Traditional fee-for-service providers profit instead when people are sick and use health services, and thus have less incentive to keep people.

New Models in Different States

New Jersey:

The Department of Human Services, which includes both the Division of Developmental Disabilities and the state's Medicaid program, is working with four Medicaid managed care plans to develop pilot programs that will help Medicaid providers become PCMHs.

The Arc Monmouth, provider of both physical and behavioral health services in addition to long-term services and supports, will seek recognition from NCQA as a PCMH. 'Amerigroup New Jersey, a Medicaid managed care plan, is going to partner with the Arc Monmouth to cover the costs of becoming a PCMH and track quality and outcomes data'(B. Fitzgerald, 2012).

Rhode Island:

A health home state plan has been developed by Rohde Island for children with special health care needs. 'CEDARR Family Centers currently provide services including Comprehensive Evaluation, Diagnosis, Assessment, Referral, and Re-evaluation to a population of approximately 3,000 children and youth with special health care needs, including an estimated 30 percent who have ID' (Lind and Archibald, 2013).

The four CEDARR centers have already integrated services provided through the Medicaid managed care and fee-for-service systems as well as Rhode Island's local educational agencies and its child welfare system. As the CEDARR centers transition to the health home model they will screen children for other conditions including obesity and depression; engage physicians in care planning and outcomes reporting; and enhance information sharing with Medicaid managed care plans (Choquette and Croke, 2012).

Massachusetts:

Commonwealth Care Alliance (CCA) in Massachusetts, Community Care of North Carolina (CCNC), and Community Health Partnership (CHP) of Wisconsin—provide or contract for case management staff to work in or with PCPs to coordinate care for patients. Summa Health System uses case management resources in three of its programs—the After Discharge Care Management of Low-Income Frail Elderly (AD-LIFE) trial, Promoting Effective Advanced Care for Elderly (PEACE) trial, and SAGE partnership programs—by arranging for local Area Agency on Aging (AAA) case managers to organize long-term services and supports and to meet with Summa Health System geriatrics and palliative care medical staff in order to coordinate health and social services.

Minnesota:

Minnesota's Health Care Homes (HCH) requires PCPs seeking State Health Home certification to identify staff within the practice responsible for care coordination, with flexibility in how this standard can be fulfilled (AHRQ, 2011).

New York:

New York State is developing entities called Developmental Disabilities Individual Support and Care Coordination Organizations (DISCOs). These nonprofit organizations will function as fiscal intermediaries and provide individualized supports and services in addition to care coordination intellectually disabled members. DISCOs will provide supports and services directly or through sub-contracts with other providers. DISCOs will be equipped to serve individuals with all levels of need by providing supports and services directly or indirectly through sub-contracts with provider agencies. The creation of DISCOs has been recommended

by the People First Waiver fiscal sustainability design team to fulfill key roles of the recommended financial platform (People First Waiver, 2011).

Others:

Arizona, Michigan, and Wisconsin have included people with ID in their managed long term services and supports programs. Use of the IRIS program has, in the vast majority of cases, given participants more choices, control, and freedom to design service plans that meet their needs and the Department of Human Services is working to fine-tune the assessment system.

1.2.1 Care coordination between NP and Primary Care Physicians and Specialists to reduce cost and improve patient compliance

In past years, a substantial literature has indicated a variety of pharmaceutical services that can improve the quality of patient care and in some cases reduce costs. The starting highlight was on improving drug distribution and reducing drug errors and expense (Jenkins and Bond, 1996). The next step was to targeting specific inpatient or outpatient strategies such as studying the effects of pharmacokinetic drug monitoring for a variety of agents including aminoglycosides, various other antibiotics, digoxin, theophylline, lithium, and anticonvulsants.

The Pharmacist was involved in monitoring of adverse drug reaction, drug use evaluation, formulary' implementation, and drug history taking, resulting in fewer adverse effects, reductions in inappropriate prescriptions, and increases in patient compliance and cost savings. The estimation of savings ranged from $10,000-230,00/year (Mutchie, et al, 1979) (Knapp, et al, 1979). As for example, pharmacist coordinated outpatient clinic in California was effective in improving patient care by reducing the number of hospitalizations, improving patient

compliance, decreasing drug side effects, improving functional status, and reducing patient care costs (Lobeck, Traxler, Bobinet, 1989) (Bond, Salinger, 1979).

By improving care coordination between NP and Primary Care Physician and Specialist, we will have a positive impact on I/DD by improving patient compliance, better side effect monitoring and profiles, and fewer unnecessary drugs. The cost savings will be realized as a reduction in readmission rates and unnecessary ED/hospital admissions, and improvement in patient satisfaction. By instituting this model of care we can prevent the medication overlap and monitoring for medication interactions and side effects, prescribed by different specialties. Thus, I/DD member with multiple chronic conditions will receive appropriate care, suspending the deleterious side effects of drug overdose.

2.0 UPMC

UPMC is a $10 billion global health enterprise with more than 60,000 employees headquartered in Pittsburgh, PA., and is transforming health care by integrating more than 20 hospitals, 400 doctors‘ offices and outpatient sites, a health insurance services division, and international and UPMC enterprise services (www.upmc.com). UPMC Health Plan is the Insurance Service Division of UPMC, and serves as the centralized hub for a wide array of health insurance plan services.

Products for I/DD

UPMC Health Plan has wide array of products that serve I/DD members. Chief of them are:

- UPMC For You Advantage- HMO SNP
- UPMC Community Care- HMO SNP
- UPMC for Life Options
- UPMC for You

The Allegheny County Department of Human Services, UPMC Health Plan (including UPMC for You), and Community Care Behavioral Health (CCBH) signed a cooperative agreement in 2012. This agreement enables enhanced communication between entities and better coordination of services for those enrolled in Home and Community Based Services (HCBS) as a platform for improving the quality and comprehensiveness of care that these individuals receive.

Considering previously cited principles, core structural elements and innovative service delivery models, the following strategies are designed to provide care coordination support for UPMC Health Plan by integrating services into the present care management of I/DD members and position UPMC Health Plan as a leader in Medicare-Medicaid integration.

2.1 STRATEGIES FOR MANAGEMENT OF UPMC HEALTH PLAN ALLEGHENY COUNTY I/DD POPULATION

These program are designed to provide care management support from UPMC Health Plan to focus on person-centered care throughout the chronic care trajectory of each unique member. The program emphasizes ongoing disability management regardless of setting. It is proposed to integrate a full and flexible array of services across a variety of community settings targeting people at high risk of disability progression**.**

Aims & Objectives

This brief offers a set of principles to guide innovative clinical service delivery models which includes above stated priciples and core structural elements. The strategies designed for the program are to provide care coordination support from UPMC Health Plan by integrating services into the present care management of I/DD members. The target is aimed at growth of low MER population.

- Increase membership with the community
- Improve on care coordination through integrated healthcare delivery services
- Position UPMC Health Plan as a leader in Medicare-Medicaid integration

Population Demographics

There are approximately 1400 members with I/DD in Allegheny County enrolled in UPMC Health Plan. SNP constitutes 39% of this membership. 78% of these members have chronic conditions and account for 45% of all the expenditures. (Figure 1 & 2)

Sixty percent of the members with chronic conditions are between the age group 40-55 years. (Table 3) Members with Hyperlipidemia form the major bulk of chronic conditions category (15.5% of all members) followed by Hypertension (13.7% of all members). These members have associated chronic conditions as well, Diabetes Mellitus and Epilepsy constituting the main share of these. (Table 4) Mental Retardation and Depression are the major Behavioral conditions in these members (8.2% and 4.5% of all the members respectively). (Table 5)

Pharmacy and inpatient are the most expensive services utilized, 40% and 24% respectively. (Table 7)

Main residential providers are Mercy Life Corporation (44), Mon Yough Community Services INC. (31), Passavant Memorial Homes (24), Mainstay Life Services (23), Verland CLA (20), and Citizen Care INC. (19). Main day providers include the Mercy life Center Corporation (29), Achieva Support (28), Mon Yough Community Services INC. (24), Milestones Centers INC. (24), and UPMC Presbyterian Shadyside (16). There are approximately 320 SNP members having membership with residential providers and 140 with day provider organization. (Table 6)

Members in group homes have a different risk profile than those in other community settings, and are older with more chronic conditions. Group home residents have an average of 2.61 chronic conditions, compared to 1.32 average chronic conditions in other community settings.

2.2 RESULTS

Avoidable medical expenses are conservatively estimated at $45 PMPM, or an aggregate $200,000 per year for those in group home settings (3%). Medication errors are most prevalent, accounting for nearly 25% of the overall incidents and occurring in one of every twenty consumers. Emergency room visits and hospitalizations are also frequent, accounting for 20% and 12.5% (including psychiatric hospitalizations) of the incidents, respectively.

To provide care continuum, we can start a quarterly screening program for all the chronic conditions, like screening for lipid profile, HbA1C for diabetics, and NP will coordinate with the primary care facility for the lab test reports and intervene wherever necessary. This way we can prevent utilization of unplanned care and unnecessary ED visits. One of the important functions of the NP would be to coordinate with the pharmaceutical needs of I/DD members by integration of specialty care. By instituting this model of care we can prevent the medication overlap and monitoring for medication interactions and side effects, prescribed by different specialties. Thus, I/DD member with multiple chronic conditions will receive appropriate care, suspending the deleterious side effects of drug overdose. Hence, we can control for the pharmaceutical expenses as well.

For every member the following facilities will be provided:

- Single point of contact
- Transition coordinators
- Telephonic case management
- Coordinated care
- My Health Advice Line

- Medication reviews
- Health promotions/prevention management

2.2.1 Summary & Conclusion

As per the evidence cited in the literature and taking into consideration the structural elements, linking I/DD providers with a Patient Centered Medical Homes (PCMH) and providing a nurse practitioner (NP) based partnership with the residence facilities would result in less unplanned care, transition of care support and more importantly care coordination, less readmissions and attract more low-medical expense ratio (MER) members into the UPMC Health Plan products.

Taking into consideration all the above innovative delivery models, linking I/DD providers with a PCMH and providing a Nurse Practitioner (NP) based partnership with the residence facilities would result in less unplanned care, transition of care support and more importantly care coordination, less readmissions and attract more low-medical expense ratio (MER) members into the UPMC products.

There are limitations in my literature review and organization population analysis. The first and foremost is analysis related to population study which is restricted to I/DD members of UPMC Health Plan enrolled in Special Needs Plan and further segmented to Allegheny county only. To make an effective impact we need to concenterate on requirements of I/DD population in general. Though, this is the first step towards providing person centered care and more importantly care coordination for I/DD members of UPMC Health Plan, we should take into account the changes Affordable Care Act is bringing along and project it on larger scale.

APPENDIX A: TABLES

Table 1. I/DD members as per line of business

Line Of Business	% of Total Members	Members
Commercial	4.81%	64
Medicaid	55.60%	740
Medicare	0.98%	13
Special Needs	38.62%	514
Grand Total	100%	1331

Table 2. Distribution of expenses between members

Members + Chronic Condition	% of Expenses	Expenses
CC +	44.99%	$5,105,000
CC -	55.01%	$6,242,000
Grand Total	100%	$11,347,000

CC+: Members with Chronic Conditions CC-: Members without Chronic Condition

Table 3. Age categorization

Age (years)	% of Total Members	Members + Chronic Condition	Avg. Age
20	7.23%	37	26.03
30	15.82%	81	35.16
40	29.49%	151	44.42
50	29.30%	150	54.29
60	13.67%	70	63.86
70	3.71%	19	72.68
80	0.78%	4	83.00

Table 4. Major chronic conditions

Major Chronic Conditions	% Total Members	% of Total Members with Chronic Conditions	Members
Asthma	3.83%	9.96%	51
CAD	1.58%	4.10%	21
COPD	2.40%	6.25%	32
Diabetes Mellitus	6.76%	17.58%	90
Epilepsy	7.44%	19.34%	99
Hyperlipidemia	15.03%	39.06%	200
Hypertension	13.67%	35.55%	182

Table 5. Major behavioral conditions

Major Behavioral Conditions	% Total Members	% of Total Members with Behavioral Conditions	Members
Anxiety	3.01%	7.78%	40
Depression	4.43%	11.48%	59
Dysthymia	3.38%	8.75%	45
Impulse Control Disorder	3.08%	7.98%	41
Mental Retardation	8.11%	41.01%	108
Mood Disorder	3.01%	7.78%	40
Schizophrenia	3.76%	9.73%	50

Table 6. Residential and Day Care providers

Residential Providers	Members	Day Providers	Members
Mercy Life Corporation	44	Mercy life Center Corporation	29
Mon Yough Community Services INC.	31	Achieva Support	28
Passavant Memorial homes	24	Mon Yough Community Services INC.	24
Mainstay Life Services	23	Milestones Centers INC.	24
Verland CLA	20	WPIC	16
Citizen Care INC.	19	Chartiers Community MH/MR Center INC.	12
Transitional Services INC.	14	Citizen Care INC.	10

Table 7. Distribution of expenses based on measures (PMPM & PGA)

Measure	Type	PGA / Member	PGA / Service	PMPM	Services / Member	% of Total Paid Gross Amount
Pharmacy	Brand	$4,026	$285	$81.92	14.13	25.07%
	Generic	$1,569	$35	$48.80	45.06	14.94%
Emergency Room	ER	$734	$510	$6.76	1.4375	2.07%
PCP	PCP	$365	$61	$11.40	5.971311475	3.49%
Specialist	Specialist	$803	$82	$22.04	9.783216783	6.75%
Inpatient	Medical & Surgical	$17,094	$11,939	$48.13	1.43	14.73%
	Rehabilitation	$7,367	$7,367	$2.36	1	0.72%
	Skilled Nursing	$11,782	$23,564	$12.06	0.5	3.69%
	Behavioral Health	$23,153	$10,524	$14.82	2.2	4.53%
Outpatient	Observations	$2,204	$1,778	$3.53	1.24	1.08%
	Surgical	$1,178	$735	$8.37	1.603603604	2.56%
	Other	$160	$53	$1.83	2.988826816	0.56%
Shock	Other	$122,188	$122,188	$15.64	1	4.79%

APPENDIX B: FIGURES

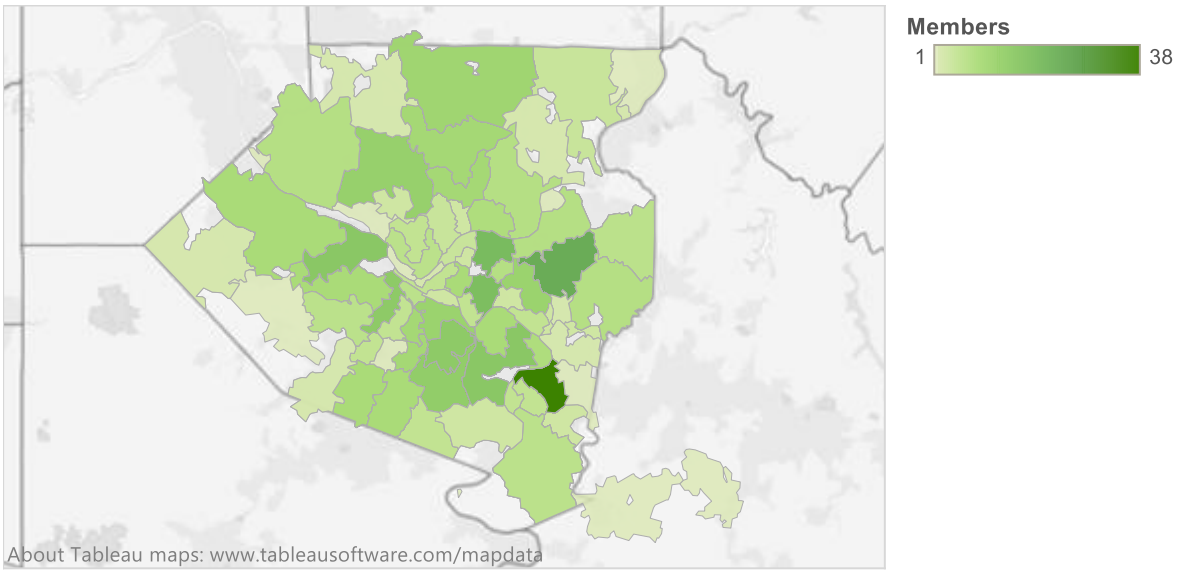

Figure 1. I/DD members in Allegheny County enrolled in UPMC Health Plan

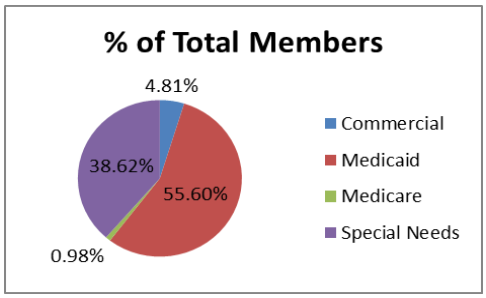

Figure 2. Population diffentiation as per lines of business

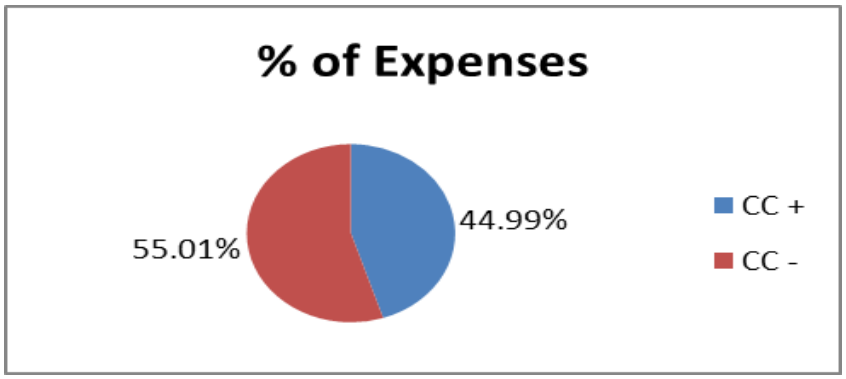

Figure 3. Expense differentiation based on chronic conditions

BIBLIOGRAPHY

1. Agency for Healthcare Research and Quality (AHRQ). What is the PCMH? AHRQ's definition of the medical home, 2011. http://www.pcmh.ahrq.gov/portal/server.pt/community/pcmh__home/1483/what_is_pcmh_. Accessed October25, 2011.

2. Alice Lind and Nancy Archibald; Structuring New Service Delivery Models for Individuals with Intellectual and Developmental Disabilities; Center for Health Care Strategies, February 2013.

3. B. Fitzgerald. "Building a PCMH for the Developmentally Disabled." NJSpotlight, April 23, 2012. Available at: http://www.njspotlight.com/stories/12/0422/2029/.

4. Bodenheimer, T., and H.H. Pham. 2010. Primary Care: Current Problems and Proposed Solutions. Health Affairs 29:799–805.

5. Bond CA, Salinger RJ: Fluphenazine outpatient clinics: a pharmacist's role. J Clin Psychiatry 1979;40:501-3

6. Criscione, Teri; Kastner, Theodore A.; Walsh, Kevin K.; Nathanson, Ruth; Managed health care services for people with mental retardation: Impact on inpatient utilization. Mental Retardation, Vol 31(5), Oct 1993, 297-306.

7. David Wood, Allyson Hall, Peter Wludyka And Jianyi Zhang; Continuity of Care to Prevent Emergency Room Use Among Persons With Intellectual and Developmental Disabilities; Journal Of Policy And Practice In Intellectual Disabilities Volume 4 Pp 219-228, December 2007

8. First Waiver. New York State, Office of People with Developmental Disabilities. Available at: http://www.opwdd.ny.gov/sites/default/files/documents/people_first_glossary_of_terms.pdf.

9. Health Homes for Enrollees with Chronic Conditions. State Medicaid Director Letter #10-024. Centers for Medicare and Medicaid Services. November 16, 2010. https://www.cms.gov/smdl/downloads/SMD10024.pdf.

10. Herring, B., & Adams, E. K. (2010). Using HMOs to serve the Medicaid population. What are the effects on utilization and does the type of HMO matter? Health economics, 20, 446-460.

11. I/DD Definition: Definition of a Intellectual/Developmental Disability (I/DD) http://www.arcadams.org/i-dd-definition.html

12. Institute of Medicine. Envisioning the National Health Care Quality Report. Washington, DC: National Academies Press; 2001.

13. Joint Principles of the Patient Centered Medical Home. American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians and the American Osteopathic Association. February 2007. Available at: http://www.pcpcc.net/joint-principles

14. Knapp DE, Knapp DA, Speedie MK, et al. Relationship of inappropriate drug prescribing to increased length of hospital stay. Am J Hosp Pbarm 1979;36:1334-7

15. Lobeck F, Traxler WT, Bobinet DD: The cost-effectiveness of a clinical pharmacy service in an outpatient mental health clinic. Hosp Commun Psychiatry 1989;40:643-4.

16. Mary D. Naylor and Ellen T. Kurtzman; The Role Of Nurse Practitioners In Reinventing Primary Care; Health Affairs, 29, no.5 (2010):893-899

17. Mary Hisrich Jenkins and C.A. Bond: The Impact of Clinical Pharmacists on Psychiatric Patients; Pharmacotherapy 1996; 16(4): 708-7 14.

18. Mutchie KD,Smith KA, MacKay MW, et al.: Pharmacists' monitoring of parenteral nutrition: clinical and cost effectiveness. Am J Hosp Pharm 1979;36:785-7

19. OJ Webb & L Rogers: Health Screening for people with Intellectual disability: the New Zealand experience. Journal of Intellectual Disability research. Volume 43, Part6 pp 497-503, December 1999.

20. P. Choquette and Alison Croke. Rhode Island Health Home Initiative. Rhode Island Executive Office of Health and Human Services, February 2012. Available at: http://www.chcs.org/usr_doc/ICRC_HH_Slide_binder_March_2012.pdf.

21. R. Gettings, "Reassessing the Impact of Managed Care in the Developmental Disabilities Sector," The National Leadership Consortium on Developmental Disabilities, 2009 1(1). Available at: http://www.nasddds.org/pdf/PolicyInsightsBulletin(March2009).pdf.

22. S. Davidson and S. Somers, eds.; Remaking Medicaid: Managed Care for the Public Good (San Francisco: Jossey-Bass, 1998)

23. T Criscione, K Walsh, T Kastner; An evaluation of care coordination in controlling inpatient hospital utilization of people with developmental disabilities. Mental Retardation, 33 (1995), pp. 364–373

24. The UPMC Story: The History of Life Changing Medicine at UPMC
http://www.upmc.com/about/why-upmc/pages/default.aspx

25. Theodre A. Kastner, and Kevin K. Walsh ; Health Care for individuals with Intellectual and developmental disabilities: an integrated DD health home model; International Review of Research in Developmental Disabilities, Volume 43