

**Predictors of Emergency Room
Utilization and Hospitalization Among
Adults with Intellectual and
Developmental Disabilities (IDD):
Key Findings**

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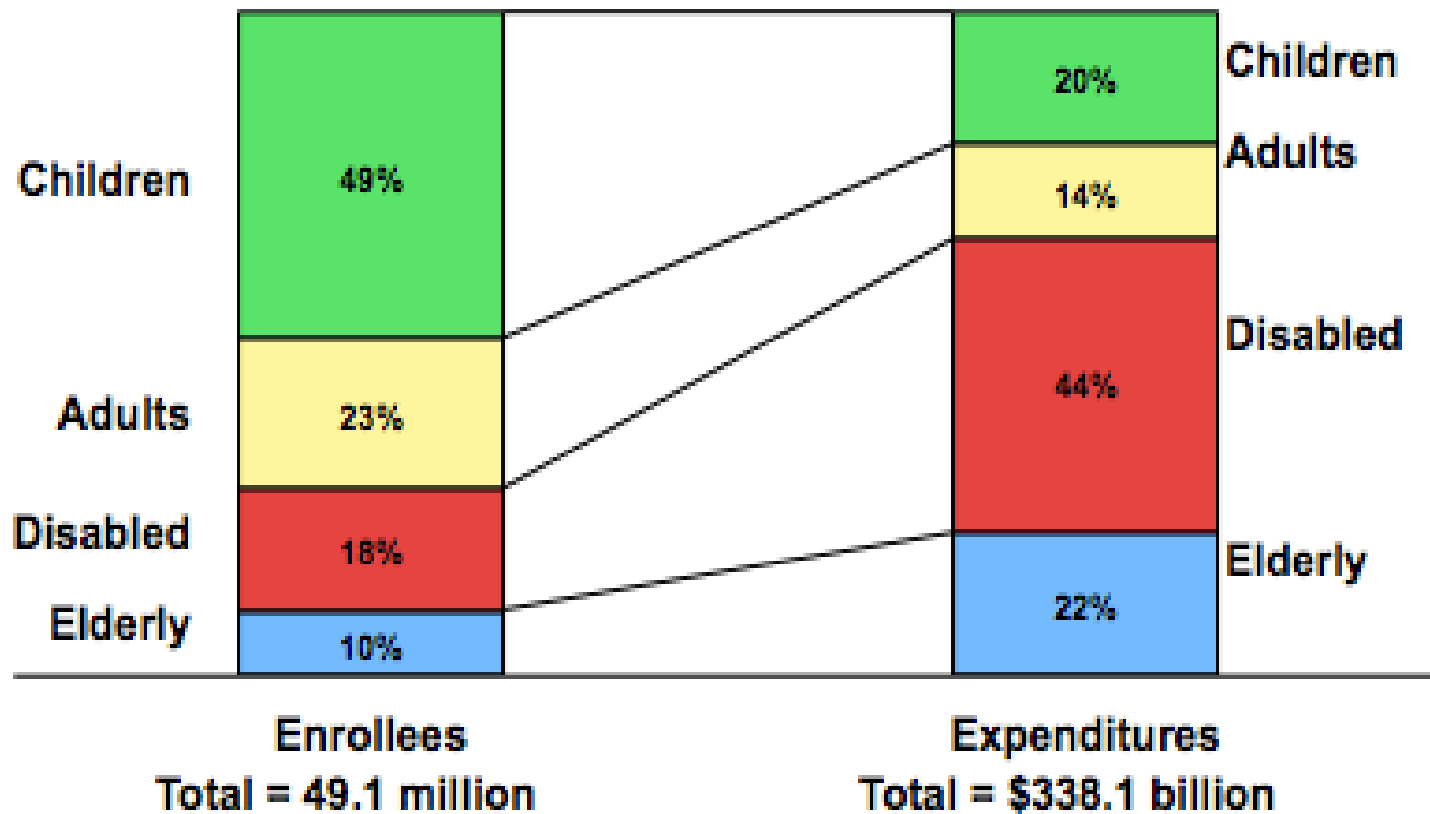
Background

- NYS utilized \$54 billion Medicaid dollars in 2012 – more than any other state in the nation.
- NYS expenditures are twice the national average when examined on a per-enrollee basis.
- NYS Medicaid contribution more than doubled in ten years
 - 2001: **\$9.3 billion**
 - 2011: **\$20.8 billion**

ER and Hospital Utilization

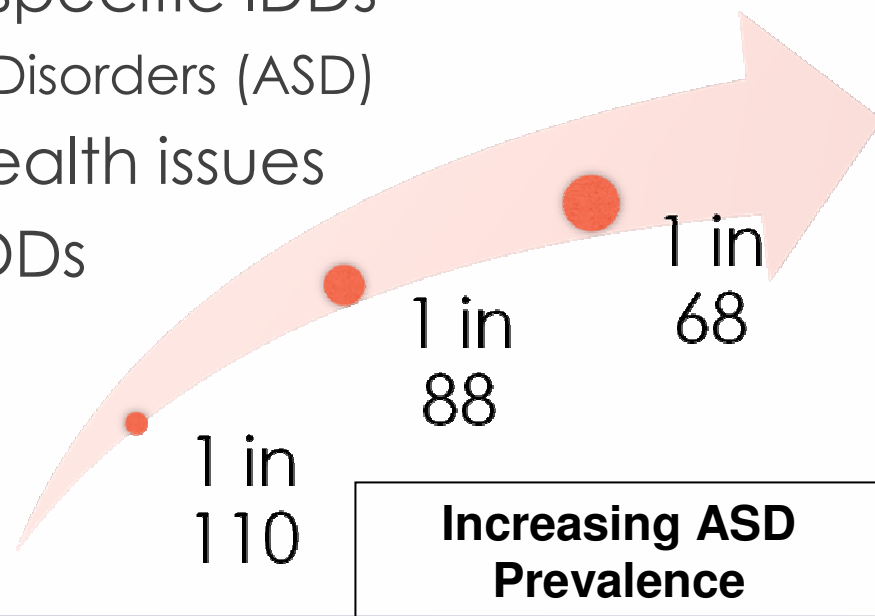
- From 2010 to 2011, hospital expenditures increased by 4.3% to \$850 billion of U.S. National Health Expenditures.
- NYS
 - Ranks 50th in avoidable hospital use
 - 60% of MCD ER visits and 16% of hospital admissions were potentially avoidable
 - Spent \$1.2 billion in avoidable hospital use (in 2011)
- NYC
 - \$830 million (NYC) in MCD cost due to avoidable acute care utilization versus \$344 million (NYS)

Medicaid Enrollees and Expenditures, 2009



Contributors to Rising Cost

- Increasing lifespan
 - People with IDD over 60 will double between 2000 and 2030 (projected 1.2 million)
- Increasing prevalence of specific IDD's
 - 1 in 68 with Autism Spectrum Disorders (ASD)
- High number of chronic health issues associated with specific DDs



Contributors to Rising Cost

- Transition from institutional to community-based living
 - *Olmstead vs. L.C. Olmstead*
- Increased utilization of community-based long-term services and supports (LTSS)
 - 19.3% increase in LTSS and high waitlists
- Fee-for-service payment structure
 - Reimbursed for all services provided

Literature Review

- Higher ER utilization rates (30%) for adults with IDD in upstate NY compared to the general population (20%) (Janicki et al., 2002)
- Walsh et al. (1997) found hospital admissions rose for people with IDD by 56% and expenditures by 206%
- Birenbaum et al. (1990) found people with IDD had hospitalization rates twice the national average and an annual per person cost of \$1000-\$4000 for children with IDD versus \$414 for children in the general population

Data Source

- **Residential Health Care Survey**
 - Conducted by a large non-profit provider in NYC
 - 22-item survey with multiple sub-questions
 - 38 Residential RNs reviewed medical charts of individuals with IDD (n=597)
 - Assessed the healthcare needs and utilization of people receiving residential supports
- **Inclusion criteria:**
 - Reside in a supported living arrangement for the entire 2011-2012 calendar year
 - 21 years and above

PRIMARY AIM

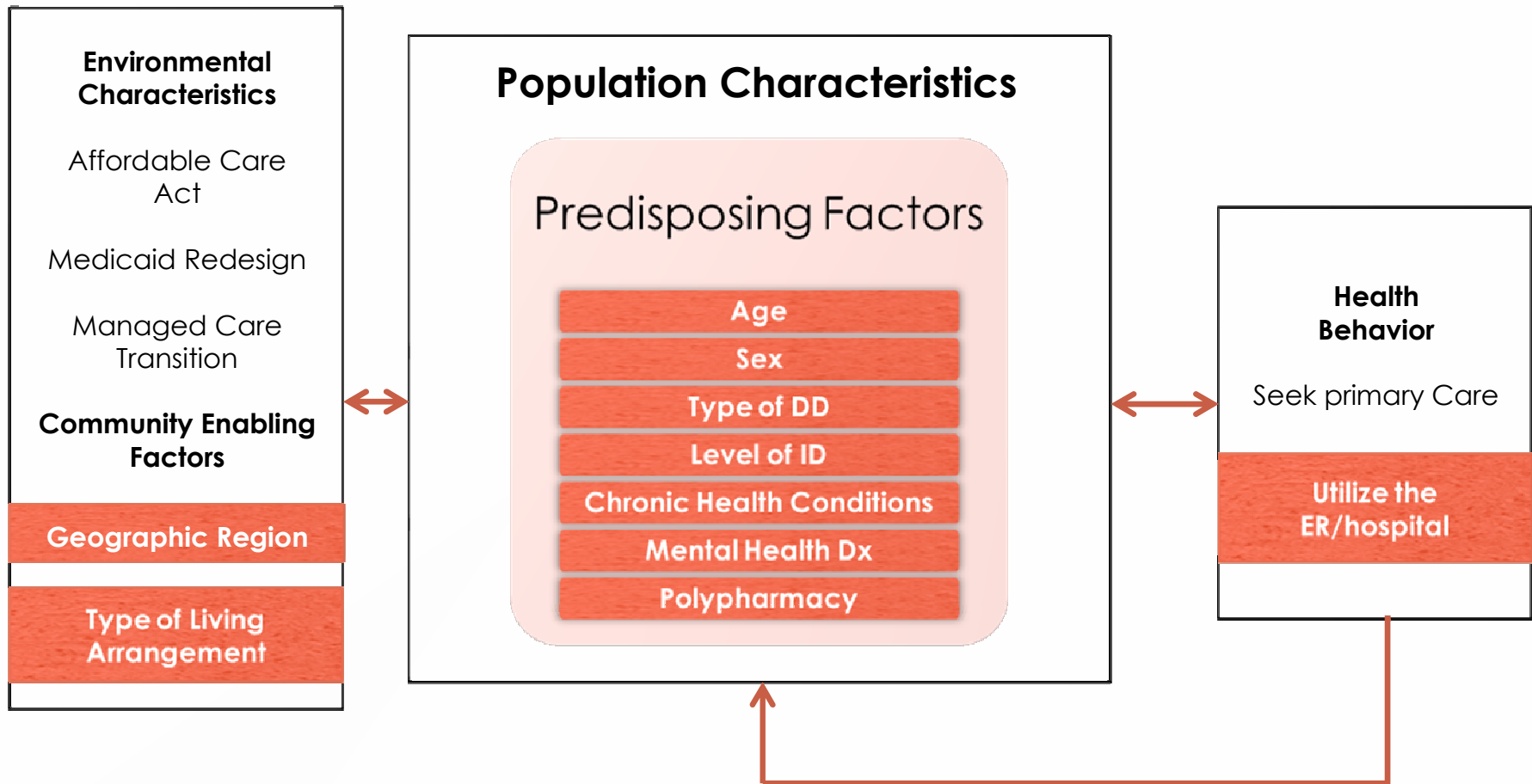
Identify predictors of emergency room (ER) and hospital utilization among adults with IDD

Knowledge of these predictors allows providers to:

- 1) Target intervention towards risk factors**
- 2) Tailor managed care programs**

Decrease utilization costs among people with IDD

Present Study



Predisposing Demographics

Of 597 individuals:

- Male (58%)
- Middle-aged to older adults (49%); mean = 49.0
- Mild to moderate intellectual disability (69%)
- Two or more developmental disabilities (30%)
 - Neurological disorder (e.g., epilepsy) (35%)
 - ASD (20%)
 - Cerebral palsy (10%)
 - Down syndrome (DS) (8%)
- Two or more health conditions (69%); mean = 2.6
- One or more mental health diagnoses (69%)
- Polypharmacy (5 or more meds) (80%)

Environmental Demographics

- **Residential Setting**
 - 63% in IRAs
 - 32% in ICFs
 - 5% in supported apartments
- **Region**
 - 19% lived in Queens and Westchester
 - 18% in Brooklyn and Long Island
 - 15% in Manhattan
 - 10% in the Bronx

Predisposing factors across Setting/Region

- People in more restrictive settings (**ICFs**) had:
 - Higher rates of Neurological disorder, ASD and CP
 - Higher rates of severe and profound ID
 - Higher prevalence of mental illness
 - Increased rates of polypharmacy
- People in **Westchester** had higher rates of Neurological disorder, CP and DS, and a higher number of chronic health conditions.
- People in **Long Island** had higher rates of ASD and mental illness.

Outpatient Services Utilization

- 100% received primary care
- 99% dental services
- 99% specialty care
- 74% blood work
- 60% rehabilitation services

Acute Services Utilization

- High ER utilization rate (38%) among study sample when compared to similar sample in Upstate NY (30%) and the general population (20%)
- Hospitalization occurred less frequently (15%) than Upstate NY sample (16%) and the general population (27%)

Age Group Differences

	Age 21-50 (n=322)	Age 51-83 (n=275)
Diagnosed with... ASD	94 (29%)	23 (8%)
Dementia	3 (1%)	20 (7%)
Alzheimer's	1 (<1%)	14 (5%)
For medical/physical reasons...		
seen in an ER	102 (32%)	127 (46%)
4 or more ER visits	9 (3%)	28 (10%)
Hospitalized	29 (9%)	62 (23%)
Ambulatory without assistance	295 (92%)	206 (75%)
Experienced a fall	66 (20%)	107 (39%)

**What factors independently
predicted emergency room (ER)
and hospital utilization for medical
reasons?**

Medical ER visits (n=229)

	Step 1	Step 2
Bronx	1.20	1.90 [^]
Brooklyn	.51 [*]	.58 [^]
Supported Living	2.59 [*]	2.85 [*]
Age		2.25 [*]
Cerebral Palsy		2.25 [*]
Neurological Disorder		1.55 [*]
Profound ID		2.01 [^]
# of chronic conditions		1.13 [*]
Mental health diagnosis		1.75 ^{**}
Polypharmacy		2.20 ^{**}

[^]p<.10; ^{*}p<.05; ^{**}p<.01; ^{***}p<.001

(Model controlled for all other regions, institutional setting, ASD and DS)

Medical Hospitalization (n=91)

	Step 1	Step 2
Institutional Setting	1.64*	1.44
Age		1.04***
# of chronic conditions		1.19*

^p<.10; *p<.05; **p<.01; ***p<.001

(Model controlled for region, supported living, sex, type of DD, level of ID, mental health diagnosis and polypharmacy)

What factors independently predicted emergency room (ER) and hospital utilization for behavioral/psychiatric reasons?

Behavioral/Psychiatric ER Visits (n=44) and Hospital Admissions (n=18)

	Step 1	Step 2
Westchester	.26*	.33 [^]
Age		.97 [^]
Mental health diagnosis		18.75**

[^]p<.10; *p<.05; **p<.01; ***p<.001

(Model controlled for other regions, living arrangement, sex, type of DD, level of ID, number of chronic health conditions and polypharmacy)

- **Behavioral/psychiatric hospitalization**
 - Unable to determine predictors due to small cell sizes

Combined Regressions

	Step 1	Step 2
ER visits combined		
Bronx	1.26	1.86 [^]
Supported Living	2.40 [*]	2.62 [*]
Age		1.01 [^]
Cerebral Palsy		1.98 [*]
Chronic conditions		1.12 [^]
Mental health diagnosis		2.06 ^{***}
Polypharmacy		1.93 [*]
Hospitalizations combined		
Age		1.03 ^{**}
Chronic Conditions		1.17 [*]
Mental health diagnosis		1.59 [^]

[^]p<.10; ^{*}p<.05; ^{**}p<.01; ^{***}p<.001

Results Snapshot

- **ER utilization predictors:**

- Supported Living
- Age
- Cerebral Palsy
- Mental health diagnosis
- Polypharmacy
- (Bronx and chronic health issues)

- **Hospitalization predictors:**

- Age
- Chronic conditions
- (Mental health diagnosis)

Remaining Questions

- Do people living with family or independently have even higher utilization rates?
- What factors truly led to ER/hospital utilization? Were utilization reasons recorded accurately?
- Despite regular PCP contact, there were high rates of ER utilization
 - How effective are primary care/specialty care services for this population?

Policy-level Interventions

- NYS Global Spending Cap
- Medicaid Managed Care
- Patient-centered Medical Home (PCMH)
- Care coordination
- Accountable Care Organizations (ACOs)
- Delivery System Reform Incentive Payment (DSRIP) Program

Programmatic/Training Interventions

- Screening/early detection at an earlier age (than general pop.)
- Tailored chronic disease management programs
- Peer support models
- Improved access to mental health (MH) services
- Specialized training for MH professionals
- Respite services (START model)
- Crisis prevention, round-the clock “on-call” MH support systems
- Regular medication reviews
- Prescription Monitoring Programs
- Teach individuals medication self-management
- Electronic Health Records (EHRs) and Regional Health Information Exchanges (RHIOs)
- Extended clinic hours, increase use of urgent care
- Telehealth and telepsychiatry
- Specialized training for hospital staff (WIHD - LEND program)
- Coordinated transition planning
- Regional assessment of healthcare access for people with IDD

QUESTIONS?

References

- Andersen, R. M. (1995). Revisiting the behavioral model and access to medical care: does it matter? *J Health Soc Behav*, 36(1), 1-10.
- The ARC. (2014). HealthMeet Training. Retrieved March 22, 2014 from <http://www.thearc.org/page.aspx?pid=3689>.
- Bazzano, A. T., Zeldin, A. S., Diab, I. R., Garro, N. M., Allevato, N. A., & Lehrer, D. (2009). The Healthy Lifestyle Change Program: a pilot of a community-based health promotion intervention for adults with developmental disabilities. *Am J Prev Med*, 37(6 Suppl 1), S201-8.
- Birenbaum, A., Guyot, D., Cohen, H.J. (1990). Health care financing for severe developmental disabilities. *Monographs of the American Association on Mental Retardation*, (14), 1-150.
- Braddock et al. (2011). United States public I/DD spending: 2009. Coleman Institute and Department of Psychiatry, University of Colorado. Retrieved March 10, 2013 from <http://www.stateofthestates.org/documents/UnitedStates.pdf>.
- Braden, K., & NIH. (2002). Appendix D: Health disparities & mental retardation: Programs & creative strategies to close the gap. Washington, DC: Surgeon General's Conference on Health Disparities and Mental Retardation. Retrieved March 20, 2014 from <http://www.nichd.nih.gov/publications/pubs/closingthegap/Pages/sub18.aspx>.
- CDC and NCBDDD. (2009b). U.S. surveillance of health of people with intellectual disabilities: A white paper. CDC/NBCDDD Health Surveillance Work Group.
- CMS. (2011). NHE fact sheet. Retrieved April 4, 2014 from <http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NHE-Fact-Sheet.html>.
- CMS. (2010). 2010 actuarial report. Retrieved February 24, 2013 from <https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/ActuarialStudies/downloads/MedicaidReport2010.pdf>.

References

Center for START Services. (2013). A systems linkage approach: START. Retrieved March 15, 2014 from http://www.centerforstartservices.com/Files/NewsEvents/START_Presentation_Indiana_2013jbb%20edit3.pdf.

The Commonwealth Fund. (2009). Commonwealth Fund state scorecard on health system performance: New York. Retrieved March 29, 2014 from http://www.commonwealthfund.org/~media/Files/HSDC/State%20Scorecard/State_scorecard_combined_New_York.pdf.

Darkins, A., Ryan, P., Kobb, R., Foster, L., Edmonson, E., Wakefield, B. et al. (2008). Care Coordination/Home Telehealth: the systematic implementation of health informatics, home telehealth, and disease management to support the care of veteran patients with chronic conditions. *Telemed J E Health*, 14(10), 1118-1126.

Department of Health & Human Services (DHHS). (2013). Serving people with disabilities in the most integrated setting: community living and Olmstead. Retrieved May 1, 2013 from <http://www.hhs.gov/ocr/civilrights/understanding/disability/serviceolmstead/>.

Heller, T., & Sorensen, A. (2013). Promoting healthy aging in adults with developmental disabilities. *Dev Disabil Res Rev*, 18(1), 22-30.

Humphries, K., Traci, M.A., & Seekins, T. (2009). Nutrition and adults with intellectual or developmental disabilities: Systematic literature review results. *Journal of Intellectual and Developmental Disability*, 47(3), 163-85.

Hung, W.J., Lin, L.P., Wu, C.L., & Lin, J.D. (2011). Cost of hospitalization and length of stay in people with Down syndrome: Evidence from a national hospital discharge claims database. *Research in Developmental Disabilities*, 32(5), 1709-1713. doi:10.1016/j.ridd.2011.02.024

Janicki, M.P., Davidson, P.W, Henderson, C.M., McCallion, P., Taets, J.D., Force, L.T., Sulkes, S. B., Frangenberg, E., & Ladrigan, P. M. (2002). Health characteristics and health services utilization in older adults with intellectual disability living in community residences. *Journal of Intellectual Disability Research*, 46(4), 287-298.

References

Kastner, T., & Walsh, K. (2013). An integrated model of primary health care: The developmental disabilities Health Home. HealthFirst Spring Symposium powerpoint.

The Lewin Group. (2004). Medicaid Managed Care Cost Savings – A Synthesis of Fourteen Studies: Final Report. Falls Church, VA: Prepared by the Lewin Group for America's Health Insurance Plans.

Lin, J., Yen, C., Loh, C., Hsu, S., Huang, H., Tang, C., ... Wu, J. (2006). A cross-sectional study of the characteristics and determinants of emergency care utilization among people with intellectual disabilities in Taiwan. *Research in Developmental Disabilities*, 27(6), 657–667. doi:10.1016/j.ridd.2005.09.001

Lunsky, Y., Balogh, R., & Cairney, J. (2012). Predictors of Emergency Department Visits by Persons With Intellectual Disability Experiencing a Psychiatric Crisis. *Psychiatric Services*, 63(3), 287–290.

Lunsky, Y., Balogh, R., Khodaverdian, A., Elliott, D., Jaskulski, C., & Morris, S. (2012). A comparison of medical and psychobehavioral emergency department visits made by adults with intellectual disabilities. *Emerg Med Int*, 2012, 427407.

Lunsky, Y., Garcin, N., Morin, D., Cobigo, V., & Bradley, E. (2007). Mental health services for individuals with intellectual disabilities in Canada: Findings from a national survey. *Journal of Applied Research in Intellectual Disabilities*, 20(5), 439–447. doi:10.1111/j.1468-3148.2007.00384.x

Morbidity and Mortality Weekly Report (MMWR). (2014). Prevalence of autism spectrum disorder among children aged 8 years - autism and developmental disabilities monitoring network, 11 sites, United States, 2010. *MMWR Surveill Summ*, 63 Suppl 2, 1-21.

New York State DOH. (2013b). Internet system for tracking over-prescribing – Prescription Monitoring Program. Retrieved March 12, 2014 from http://www.health.ny.gov/professionals/narcotic/prescription_monitoring/.

References

New York State DOH. (2011b). Cost, access and quality: How can we transform care delivery and create affordable, quality healthcare? [PowerPoint Slides].

New York State DOH. (n.d.). New York's Pathway to Achieving the Triple Aim: Better Care, Better Health, Lower Costs: Reducing Avoidable Hospital Use through Delivery System Reform.
https://www.health.ny.gov/health_care/medicaid/redesign/docs/ny_mrt_dsrip_reducing_avoid_hosp_use.pdf.

Stancliffe, R.J. & Lakin, C. (2004). Costs and outcomes of community services for persons with intellectual and developmental disabilities. *Policy Research Brief 14(1)*. Minneapolis: University of Minnesota, Research and Training Center on Community Living.

University of Colorado. (2008). State of the states in developmental disabilities: Disability spending in the states (1997-2008). Retrieved May 1, 2013 from <http://www.stateofthestates.org/index.php/all-disabilities/overview>.

Walsh, K., Kastner, T., & Criscione, T. (1997). Characteristics of hospitalizations for people with developmental disabilities: Utilization, costs, and impact of care coordination. *American Journal on Mental Retardation*, 101(5), 505-520.

Weber, V., White, A., & McIlvried, R. (2008). An electronic medical record (EMR)-based intervention to reduce polypharmacy and falls in an ambulatory rural elderly population. *J Gen Intern Med*, 23(4), 399-404.

YAI Network. (2014). Special health programs – Health and Weight Management. Retrieved March 20, 2014 from <http://www.yai.org/agencies/phc/special-health-programs/special-programs-weight-health.html>.