

Imminent Medicaid Enrollment Lapses after Inpatient Mental Health Treatment in Young Adults

Michael Abrams, MPH✉; Maryann Davis, PhD¹; Lawrence Wissow, MD²; Eric Slade, PhD³

✉mabrams@hilltop.umbc.edu; The Hilltop Institute at the University of Maryland, Baltimore County

¹University of Massachusetts School of Medicine, ²Johns Hopkins Bloomberg School of Public Health, ³VA VISN5 MIRECC & University of Maryland, Dept. of Psychiatry

Background

Adolescents and young adults with mental health issues who are nearing or just past the transition to adulthood are at increased health risk compared to the general population.¹ In the U.S., many such individuals are covered by Medicaid (the state/federal health care system for persons with exceptionally low income and wealth).² These triply vulnerable persons (young, poor, and mentally ill) often lose their Medicaid coverage when they reach the ages of 18 or 21 years (the latter age threshold is relevant to foster care youth). Here we explore the extent of that problem in Maryland’s Medicaid program, and we study observable person-level characteristics that correlate with changes in risk for Medicaid coverage disruptions in this age-transitional population.

Methods

We used Maryland Medicaid claims and authorization data from October 2005 to September 2006 to identify all persons age 18 to 26 years who were discharged from an inpatient stay where their primary diagnosis was a mental disorder. We then summarized their Medicaid data to capture their demographic, enrollment categories, enrollment spans, diagnostic, and service utilization information in the 180 days prior to—and 365 days after—that index inpatient event. With that person-level data, we considered correlates to incomplete (<365 days) Medicaid enrollment in the 365 days post-discharge (note that we use the term “disenrolled” to label persons with such incomplete enrollment). Population patterns or correlations were observed and statistically evaluated in three ways:

1. Simple groupwise analyses (disenrolled vs. fully enrolled)
2. Multivariate probit regression with disenrollment post-discharge (yes or no) as the dependent variable, and all variables referenced in the Table as independent variables
3. Classification and regression tree (CART) analysis, using IBM SPSS version 21 (Armonk, New York) to identify non-overlapping subgroups and their relative risks of disenrollment³

Results

All results are presented to the right. The three statistical methods largely agree, but the most weight is given to the probit regressions as they simultaneously adjust each parameter estimate for other variables in the model, whereas the simple groupwise analyses are unadjusted, and the CART reports hierarchical, mutually exclusive subgroups only.

Thirty-two percent of the entire population (n=1,176) had a Medicaid disenrollment of at least one day in the post-discharge year, whereas slightly fewer (28 percent) had disruptions lasting at least one month. Moreover, using one month as a threshold for disenrollment did not appreciably alter the results presented here.

References

1. Arnett, *American Psychologist*, 55:469, 2000 ; Gore, *Lancet*, 60512, 2011; Dickey, *Psych Serv*, 53:7:861, 2002
2. Pullmann, *Med Care Res & Rev*, 67:657, 2010; Pottick, *J Beh HSR*, 35:4:373, 2008; Manteuffel, *J Beh HSR*, 35:4:469, 2008
3. Toshke, *Obesity Res*, 13:1270, 2005; Steadman, *Law & Human Beh*, 24:83, 2000
4. Kaiser Comm. on Medicaid & the Uninsured, Pub. # 8057, 2010; Hemmeter, *HSR*, 46:1224, 2011
5. Pullmann, *Med Care Res & Rev*, 67:657, 2010; Abrams, *Psych Serv*, 63:815, 2012
6. Maryland Dept of Hlth & Mental Hygiene, Quick Ref. Guide to Medicaid Care Program Coverage Groups & HealthChoice Elig., 2006
7. Abrams, *Psych Serv*, 63:815, 2012 815, 2012; Cunningham, *Hlth Affairs*, 31:2432, 2012; Takach, *Hlth Affairs*, 31: 2432, 2012; Druss, *Psych Serv*, 61: 11: 1087, 2010
8. Mills, Health Insurance Coverage in the U.S. in 2002, US Census Bureau, 2003; Sommers, *HSR*, 40:1:59, 2005

Table. Unadjusted Groupwise, and Multivariate Probit Comparisons

Variable	Simple Unadjusted Analyses				Probit Regression ^a	
	Continuously Enrolled	Disenrolled	χ ²	p	df/dx	95% conf. int.
N	797	379	-	-	-	-
Sex (% male)	49	50	.12	.73	.057	-.0079, .12
Age 18 or 20 years (%)	21	35	24	<.001	.13**	.046, .22
Age (years) M±SD	22.2±2.3	21.9±2.3	t=2.1	.04	.015	-.00072, .030
High income (%)	9.7	18	16	<.001	-.015	-.092, .063
Mental Health Diagnosis (%) ^b						
Schizophrenia	30	19	25	<.001	-.0056	-.097, .086
Bipolar	30	27			.016	-.065, .097
Depression	19	23			.027	-.058, .11
Other	21	31			reference	
Other Conditions (%)						
Substance use disorder	10	8.7	.84	.36	-.036	-.13, .055
Recent pregnancy	13	7.4	9.2	.002	-.15**	-.23, -.058
Medicaid Enrollment Category (%)						
Families & children/CHIP	21	57	162	<.001	.38***	.30, .45
Disabled	64	35			reference	
Foster care	6.7	1.3			-.092	-.24, .057
Limited coverage ^c	8.2	6.6			.073	-.077, .22
Past Enrollment and Utilization						
Disenrollment (%)	22	47	76	<.001	.17***	.093, .24
Outpatient mental health visit (%)	88	73	38	<.001	-.073	-.16, .011
Primary care visit (%)	49	29	43	<.001	-.11**	-.18, -.047

^a Overall fit: Log-likelihood= -595, χ²= 293, pseudo-R²= .20, n= 1,176

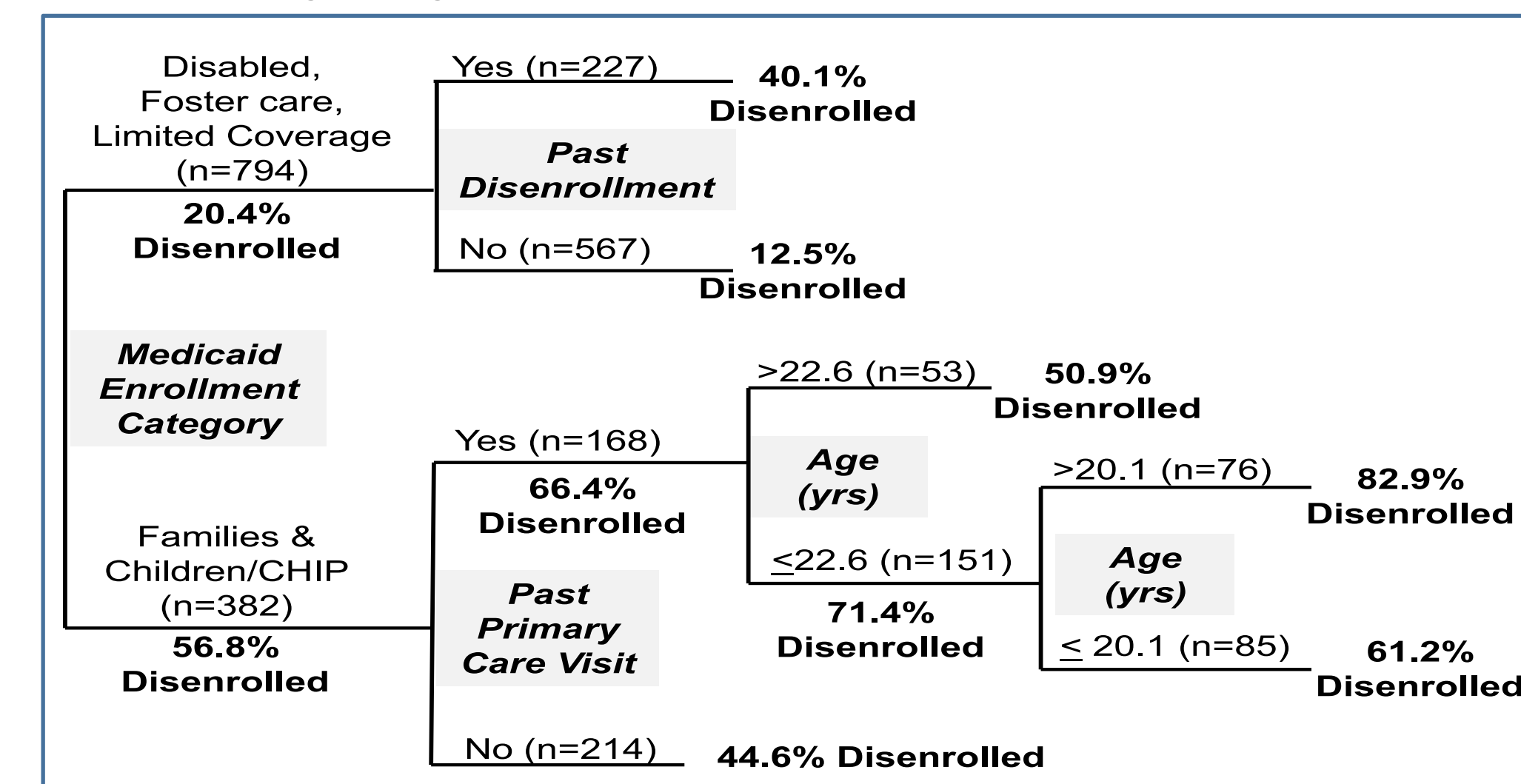
*p<.05, **p<.01, ***p<.001

^bMutually exclusive diagnostic categories

^cMostly pregnant women

Note— non-significant variables not shown are: race, urban/suburban residence, and past inpatient somatic and ER use.

Figure. Regression Tree Results for Branches with >50 Observations



Comments

Observable factors that **increase** risk (per the probit regressions) for Medicaid disenrollment among transition-aged youth with mental health admissions are:

1. Age 18 or 20 years (age “cliffs” for persons about to lose categorical eligibility)⁴
2. Families & Children or Children’s Health Insurance Program (CHIP) enrollment (as these categories are tied to age rather than morbidity)⁵
3. Past disenrollment (during the 180 days before discharge)

Observable factors that **decrease** risk (per the probit regressions) for Medicaid disenrollment among transition-aged youth with mental health admissions are:

1. Recent pregnancy (because such a health state allows enrollment to 60 days post-partum)⁶
2. Primary care visit history (a finding that should encourage integration/coordination of care efforts for those with mental illness)⁷

Our results, though based on observational data only, demonstrate that nearly one-third of young adults with a mental health hospitalization experience Medicaid disruptions, and presumably are uninsured,⁸ in the year following that hospitalization. Moreover, these analyses identify five straight-forward and observable factors that significantly correlate to such disruptions in health care coverage.

Acknowledgements

National Institute of Mental Health Grant# R34-MH081303

Maryland Department of Health and Mental Hygiene, data use