Imminent Enrollment Lapses in Medicaid After Psychiatric Hospitalization in Young Adults

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ABSTRACT

Objective. Medicaid enrollment impedes access to needed mental health treatment. This study examines predictors of Medicaid disenrollment among young adults discharged from psychiatric hospitalization.

Methods. The sample included 1179 18- to 26-year-olds from a mid-Atlantic state enrolled in Medicaid who experienced at least one psychiatric hospitalization discharge between October 2005 and September 2006. Medicaid administrative data were used to flag disenrollment (i.e., mark any gaps in coverage) during the 90- and 365-day post discharge periods. The administrative data was further used to flag for each subject the following independent variables during the 180-day pre-discharge period:demographics, pregnancy, Medicaid eligibility category, Medicaid disenrollment, claims-based flags reflecting the presence or absence of the following three serious mental illness diagnoses (schizophrenia, bipolar, and/or major depress), and claims-based utilization indicators for the following service categories:outpatient mental health clinic, primary care, emergency room visits, and medical hospitalizations. Probit regression, and classification and regression tree (CART) analyses were used to examine predictors/correlates of disenrollment, and to identify high risk groups.

Findings. Disenrollment increased from 9% within 90 days (N=105) to 32% (N=382) within 365 days. Individuals with any enrollment gaps in the year after discharge averaged just 197 days of Medicaid coverage (SD=106 days). In multivariable probit regressions, individuals in the "families and children" enrollment category and individuals with limited (i.e., family planning, pregnancy to 2 months post-partum, pharmacy assistance, or primary and outpatient mental health care only) Medicaid coverage were more likely to be disenrolled within 90 days than individuals in the "disabled" enrollment category. Disenrollment within 90 days was also related to pre-period disenrollment, age 18-20 years, and Hispanic background. With the exception of age and Hispanic background the same factors predicted a greater probability of disenrollment within 365 days of discharge, while pregnancy and receipt of primary care services during the pre-discharge period significantly correlated to a lower probability of disenrollment within 365 days only. The highest risk group for disenrollment (65% disenrolled) within 365 days were individuals in families and children or limited coverage enrollment categories, not pregnant, and under age 21. CART analyses largely confirmed results from the probits and provide an alternative way to consider low and high risk subgroups of young adults with regards to Medicaid disenrollment.

Conclusions. Nearly a third of Medicaid enrolled young adults lose Medicaid coverage within a year after psychiatric hospitalization for a significant period of time. Those age 18-20, not pregnant, and in the Medicaid enrollment category of Families and Children or in other limited coverage categories (e.g., pregnancy benefits) are at particular risk of disenrollment. Loss of Medicaid coverage among young adults with continued need for mental health services could be reduced by hospital discharge planning, case management, or specific enrollment exceptions that anticipate potential coverage loss and facilitates continued enrollment or alternative coverage planning.

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BACKGROUND

- Young adults are the age group most likely to be uninsured, particularly among those who have received Medicaid in the past (Short, Graefe et al. November 2003)
- 6-12% of young adults have serious mental health conditions (GAO, 2008; Davis & Vander Stoep, 1997)
- Insurance and Medicaid absence and lapses are associated with poor health outcomes/reduced access to health care (Hadley, 2003; Finkelstein et al., 2011)
- Medicaid is the dominant payor of mental health services in the U.S. (Frank and Glied 2006)
- Primary care use may be an important correlate to sustained Medicaid enrollment and mental health care (Druss and Mauer, 2010)

QUESTION

What are the risk markers, available at discharge, for Medicaid disenrollment in the 90 and 365 days post psychiatric hospitalization among Medicaid enrolled young adults?

METHODS

Cohort (n=1,179): 18-26 year olds with some form of Medicaid coverage, with at least 1 psychiatric inpatient discharge between October 2005 and September 2006

Data: Coalesced data from Medicaid claims and enrollment files

Analyses: Compared those fully enrolled to those who had any enrollment gaps using:
- Multivariate probit analysis (Stata)
- Classification regression tree (CART) analysis (SPSS)

Table 1

Sample Characteristics During 180 Days Pre Discharge			
Variable	**%**	**Variable**	**%**
Male Gender	49	Medicaid Enrollment Category:	
Race:		Disabled	53
White	46	Families & Children	30
Black	47	Limited Coverage*	11
Hispanic	3	Foster Care	7
Other	5	Health Care Visits (≥1):	
Diagnostic Flags (mutually exclusive hierarchical as listed):		Primary Care	42
Schizophrenia	26	Outpatient mental health	83
Bipolar	29	Somatic Inpatient	15
Major Depression	20	Somatic ER	41
Other Mental Illness	25	Pregnancy	12
Age 18-20 yrs	40	Substance Use Disorder	10
Urban Setting	83		

*Of this category: 27% family planning only, 31 percent pregnancy, 29% pharmacy assistance or primary adult care (PAC) programs only, 10% undocumented aliens: 4% family planning and pharmacy assistance.

RESULTS

All independent variables from 180-day period pre discharge

DISENROLLMENT WITHIN 90 DAYS

Table 2: Probit Regression 90 Days (9% Disenrollment)

Variable	dF/dx	Std. Err.	P>|z|	95% C.I.	
Male	0.0145345	0.015921	0.36	-0.01667	0.045739
Age>20	-0.0589212	0.017638	<.001	-0.11784	-0.02435
Black	0.0119505	0.016202	0.458	-0.0198	0.043705
Hispanic	0.1434431	0.079877	0.012	-0.01311	0.299999
Other Race	0.0626193	0.093187	0.399	-0.12002	0.245262
Unknown Race	0.0100917	0.046098	0.818	-0.08026	0.100442
Families&Children	0.0829312	0.024075	<.001	0.035745	0.130117
Foster Care	-0.0352297	0.02493	0.284	-0.08409	0.013633
Limited Coverage	0.144208	0.047797	<.001	0.050527	0.237889
Schizophrenia	-0.0283811	0.018772	0.168	-0.06517	0.008412
Bipolar	-0.0167964	0.017894	0.369	-0.05187	0.018275
Major Depression	-0.0007422	0.019169	0.969	-0.03831	0.036828
Substance Use	0.002123	0.025037	0.932	-0.04695	0.051195
Pregnancy	-0.035867	0.017282	0.096	-0.07173	-0.002
Urban	0.0122226	0.01954	0.51	-0.02234	0.046784
Medicaid Disenrollment	0.0469657	0.02033	0.011	0.00712	0.086811
Outpatient MH Visit	-0.0171051	0.02069	0.378	-0.05766	0.023447
Primary Care Visit	-0.0192991	0.017177	0.271	-0.05297	0.014367
Somatic Inpatient Visit	0.0196471	0.024625	0.387	-0.02822	0.067519
Somatic ER Visit	0.0008568	0.016337	0.958	-0.03116	0.032876

Number of obs =1179   LR chi2(20)=97.87   Prob > chi² = 0.0000   Pseudo R2 = 0.1382

90 Day disenrollment significant partial effects (p<0.05)

- Those greater than 20 years (21-26) of age were 6% less likely to disenroll than those age 18-20
- Hispanics were 14% more likely to disenroll than Whites
- Families and children categorical enrollees were 8% more likely to disenroll than those categorized as disabled
- Limited coverage group enrollees were 14% more likely to disenroll than those categorized as disabled
- Those with Medicaid discontinuity in the baseline period (6 months prior to discharge) were 5% more likely to disenroll than those with full enrollment during baseline

DISENROLLMENT WITHIN 365 DAYS
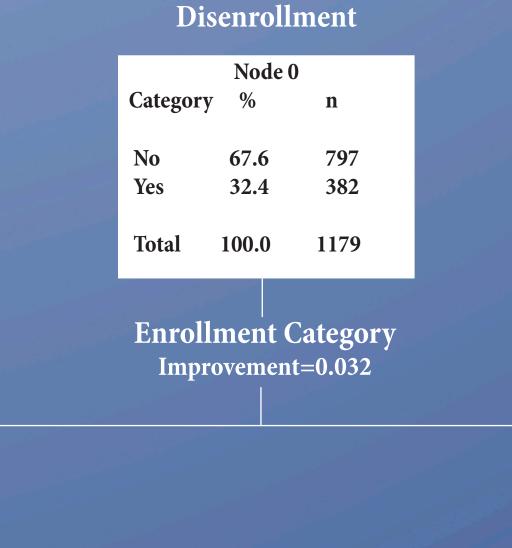
Table 3: Probit Regression 365 Days (32% Disenrollment)

Variable	dF/dx	Std. Err.	P>|z|	95% C.I.	
Male	0.0324268	0.032107	0.313	-0.0305	0.095356
Age>20	-0.0448203	0.031965	0.158	-0.10747	0.017831
Black	0.0074933	0.032211	0.816	-0.05564	0.070625
Hispanic	0.1036643	0.09838	0.27	-0.08916	0.296486
Other Race	0.2065143	0.12733	0.09	-0.04305	0.456077
Unknown Race	-0.0056625	0.082076	0.945	-0.16653	0.155203
Families&Children	0.3224215	0.038005	<.001	0.247934	0.396909
Foster Care	0.0059337	0.068816	0.931	-0.12894	0.140811
Limited Coverage	0.210071	0.057092	<.001	0.098172	0.32197
Schizophrenia	-0.061191	0.042309	0.159	-0.14412	0.021734
Bipolar	-0.0186858	0.03962	0.639	-0.09634	0.058968
Major Depression	-0.000667	0.041581	0.987	-0.08217	0.080831
Substance Use	-0.0335201	0.046721	0.483	-0.12509	0.058051
Pregnancy	-0.166234	0.039106	<.001	-0.24288	-0.08959
Urban	-0.0240597	0.039278	0.536	-0.10104	0.05745
Medicaid Disenrollment	0.1832744	0.057088	<.001	0.110584	0.255965
Outpatient MH Visit	-0.0776008	0.042524	0.06	-0.16095	0.005745
Primary Care Visit	-0.1043909	0.033727	0.002	-0.1705	-0.03829
Somatic Inpatient Visit	-0.0021734	0.042613	0.959	-0.08569	0.081348
Somatic ER Visit	0.0525932	0.042542	0.104	-0.01119	0.116373

Number of obs   1179   LR chi2(20) = 216.95   Prob > chi2   0.0000   Pseudo R2   = 0.1461
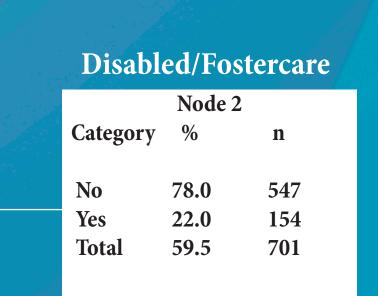
365 Day Disenrollment significant partial effects (p<0.05)

- Families and children category at baseline increases post-discharge disenrollment risk by 32% versus those who are in the disabled category
- Limited coverage categories correlate with 21% increased risk of disenrollment versus those in the disabled category
- Pregnancy in baseline decreases the probability of disenrollment by 17%
- Discontinuous coverage in baseline increase the probability of subsequent disenrollment by 18%
- Primary care visits in the baseline decreases the probability of subsequent discontinuity by 10%

DISCUSSION

Probit Regression Findings:
- Both short (within 90 days) and long term (within 365 days) disenrollment significantly correlated with Families & Children and Limited Medicaid enrollment categories, and Medicaid disenrollment pre-discharge, with stronger correlations to long term disenrollment
- Short term disenrollment also significantly correlated to age <21years and being Hispanic
- Pregnancy and pre discharge primary care visits were also significantly negatively correlated with long term disenrollment

CART Analysis:
- Confirmed differences in short term disenrollment for the Medicaid categories and the pre-discharge discontinuous enrollment
- Did not confirm age or Hispanic correlates, and was poor at predicting post-discharge enrollment at the individual level, especially for short term disenrollment
- Confirmed the differences in long term disenrollment by coverage group (nodes 1&2), pre-enrollment (nodes 5&6), pregnancy (nodes 3&4), and primary care (nodes 9&10)
- Added some significant nested effects for age (nodes 7&8), race (node 15&16), outpatient mental health visits (node 11&12) and somatic ER visits (nodes 13&14)
- Yielded one very high risk group for disenrollment within 365 days; Individuals age <21yrs, in Families and Children or Limited enrollment categories, and not pregnant (64.9% Disenrolled)
- Test of short term disenrollment: No sensitivity (0.0), specificity (1.0)
- Test of long term disenrollment: Moderate sensitivity (.63), high specificity (.89)

Limits: Overspecification (e.g., pregnancy influences categorical eligibility somewhat), omitted variables (e.g., MH inpatient or ER events in pre-period, morbidity indicator), other coverage (e.g., move to other insurance not tracked; free services not tracked), variables not tracked (e.g., failure to apply for continued enrollment).

CONCLUSIONS

1. Few psychiatrically hospitalized young adults (9%) are likely to lose Medicaid coverage within the first 3 months after hospitalization. At one year post-discharge 32% appear disenrolled from Medicaid.
2. However, almost two thirds (65%) of those under age 21, not pregnant in the past 6 months, and enrolled in Medicaid under the Families & Children or Limited Coverage categories will lose coverage within a year of discharge. This is about 10% of all psychiatrically hospitalized young adults.
3. Primary care (especially) and outpatient mental health visits prior to hospitalization appear to be protective factors that reduce disenrollment after inpatient discharge.

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Figure 1: Classification & Regression Tree

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Correct Classification; 0% Disenrollment, 100% Complete Enrollment, 91% Overall

Figure 2: Classification & Regression Tree

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Correct Classification; 42% Disenrollment, 88% Complete Enrollment, 73% Overall