

Vermont Mental Health Performance Indicator Project

Agency of Human Services, Department of Health, Department of Mental Health
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TO: Vermont Mental Health Performance Indicator Project
Advisory Group and Interested Parties

FROM: John Pandiani and Brennan Martin

DATE: June 13, 2008

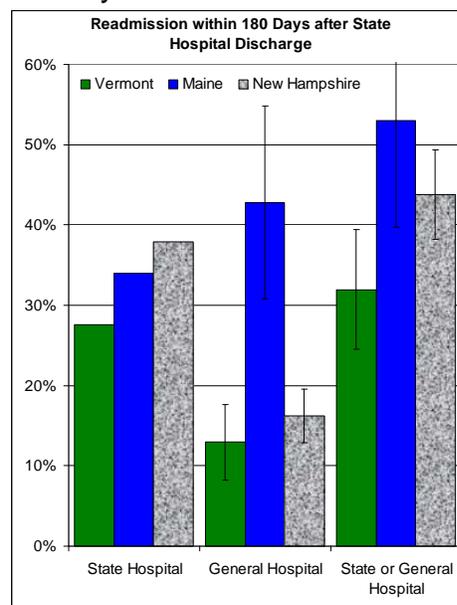
RE: Non-forensic Patients Admitted to Psychiatric Inpatient
After State Hospital Discharge in 3 states.

This week's PIP report provides rates of admission to state and general hospitals for psychiatric inpatient care after State Hospital discharge in three northern New England states: Vermont, Maine, and New Hampshire. PIP reports distributed on January 19, 2007 and January 25, 2008 provided Vermont-specific readmission rates. Readmission rates for Maine, New Hampshire, and Vermont were presented to the Organization of Northeast Mental Health Statistics Improvement Projects in April, 2008. In response to this presentation, this group suggested analysis that focused on non-forensic patients only. This report was prepared in response to that request.

Rates of readmission to psychiatric inpatient care after state hospital discharge have long been recognized as among the core measures of mental health service system performance. The Substance Abuse and Mental Health Services Administration (SAMHSA) National Outcome Measures (NOMS) require that all states report rates of state hospital patient readmissions to state hospitals on an annual basis.¹ An NRI Pilot Study, however, recommended that "this indicator be expanded to include all readmissions to any hospital, not just state psychiatric hospitals. With the increasing use of local general hospital psychiatric units, it will become important over time to expand this indicator beyond the current focus on state psychiatric hospitals."²

The findings reported here are based on analysis of anonymous extracts from state hospital databases and Uniform Hospital Discharge Databases provided by each state. Because these data sets do not share unique person identifiers, Probabilistic Population Estimation (PPE)³ was used to determine the unduplicated number of people shared by discharge data sets and admission data bases.

This analysis found substantial differences in rates of readmission after state hospital discharge in these states. New Hampshire ranked highest in state or general hospital psychiatric readmissions of non-forensic state hospital patients (38%), followed by Maine (34%), and Vermont (28%). Maine ranked highest admissions to general



hospitals after state hospital discharge (43%), followed by New Hampshire (16%) and Vermont (13%). Maine ranked highest in rates of admission to either state or general hospital psychiatric services after state hospital discharge (53%), although this rate was not significantly higher than New Hampshire (44%). Vermont's state and general hospital readmission rate (32%) was significantly lower than either of the other states.

These differences indicate that systems of inpatient care for adults with serious mental illness function differently in the three states. In Maine, non-forensic patients discharged from a state hospital were more than twice as likely to be admitted to a general hospital for psychiatric services as those discharged from a state hospital in either New Hampshire or Vermont.

This analysis also found gender-related differences in rates of readmission to state and general hospitals in Vermont and New Hampshire, but not in Maine. There was almost no evidence of age-related differences in rates of readmission following state hospital discharge in the three states.

The research reported here expanded the scope of readmission research only slightly. In order to more fully understand the functioning of mental health service delivery systems, the focus of attention would need to be broadened to include private psychiatric hospitals and psychiatric services in Veteran's hospitals.

We look forward to your comments and your suggestions for further analyses of these data. As always, you can reach us by e-mail at pip@vdh.state.vt.us or by phone at 802-863-7249.

References

¹ Lutterman T & Gonzales O: The Uniform Reporting System. Chapter 10 in Manderscheid RW and Berry JT (Eds.), *Mental Health United States*, 2004. DHHS Pub No. (SMA) 06-4195. Rockville MD: Substance Abuse and Mental Health Services Administration: 2006, p. 66.

² NASMHPD Research Institute. *Sixteen State Pilot Study State Mental Health Agency Performance Measures, Draft Operational Measure Definitions*. February 2, 2001, p. 34.

³ Banks SM, and Pandiani JA: Probabilistic Population Estimation of the Size and Overlap of Data Sets Based on Date of Birth. *Statistics in Medicine* 20: 1421-1430, May 2001.

**Readmission to State Hospital and General Hospital Psychiatric Services Within 180 Days
After State Hospital Non-Forensic Discharge in Three States**

	Total Number Discharged	State Hospital Rate	General Hospital		State or General Hospital	
			Rate	95% CI	Rate	95% CI
Overall						
Vermont FY 2005 - FY 2006	232	28%	13%	(8 to 18)	32%	(24 to 39)
Maine FY 2006	460	34%	43%	(31 to 55)	53%	(40 to 66)
New Hampshire FY 2005	1352	38%	16%	(13 to 20)	44%	(38 to 49)
Gender						
Vermont						
Male	131	21%	10%	(5 to 15)	25%	(17 to 34)
Female	101	36%	17%	(8 to 25)	41%	(28 to 54)
Maine						
Male	251	34%	41%	(24 to 57)	52%	(33 to 70)
Female	209	33%	45%	(28 to 63)	54%	(35 to 73)
New Hampshire						
Male	707	35%	13%	(9 to 17)	39%	(32 to 46)
Female	645	41%	20%	(14 to 26)	49%	(40 to 57)
Age						
Vermont						
18-34	52	39%	13%	(6 to 20)	40%	(28 to 53)
35-49	36	15%	10%	(1 to 20)	19%	(7 to 32)
50+	43	23%	15%	(7 to 23)	32%	(19 to 44)
Maine						
18-34	73	29%	56%	(28 to 84)	63%	(33 to 93)
35-49	103	35%	48%	(26 to 69)	54%	(31 to 78)
50+	75	36%	28%	(15 to 42)	44%	(28 to 61)
New Hampshire						
18-34	340	40%	17%	(12 to 22)	42%	(34 to 50)
35-49	234	39%	16%	(10 to 22)	46%	(36 to 57)
50+	133	33%	14%	(8 to 21)	43%	(32 to 54)

Based on analysis of state hospital and Uniform (general hospital) Hospital Discharge Data Sets from three states. Because the state hospital and general hospital data sets do not share unique person identifiers, Probabilistic Population Estimation was used to determine caseload overlap.