



Statistical Brief #3

Potentially Preventable Hospital Readmissions among Medicaid Recipients with Mental Health and/or Substance Abuse Health Conditions Compared with All Others: New York State, 2007

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Introduction

Previous analyses of hospital inpatient utilization by Medicaid recipients in New York State have shown that a substantial number of recipients were readmitted to the hospital within 30 days of the initial admission. While not all hospital readmissions can be prevented, there is growing consensus that with appropriate inpatient care, post-surgical follow-up and outpatient care, a substantial number are potentially preventable. In 2007, the potentially preventable readmission (PPR) rate for hospitalized recipients in NYS was 9.4 per hundred at risk admissions.¹ The most frequent conditions associated with PPRs were mental health and/or substance abuse, particularly among Medicaid fee-for-service (FFS) recipients.

This brief report focuses on the hospitalized mental health and substance abuse Medicaid recipients in more detail. Recipients were categorized as having mental health and/or substance abuse conditions using the Clinical Risk Group (CRG) software created by 3M™. This software enabled us to determine whether recipient's mental health and/or substance abuse diagnosis was their primary health condition during the year, taking into account all outpatient and inpatient care received in 2007. A more complete description of how this was accomplished is provided at the end of this report.

We compare the Article 28 inpatient population with mental health, substance abuse, and both mental health and substance abuse health conditions with all other hospitalized recipients in terms of their PPR rates, the medical conditions at the initial admission most frequently associated with subsequent PPRs, the medical conditions present at readmission for recipients who experienced a PPR, and the total Medicaid costs associated with these PPRs. We consider only recipients admitted to acute care hospitals, no admissions to Article 31 hospitals were included. An inpatient event was considered managed care if it was an admission for a service included in the managed care benefit package. Carved out services, for example, mental health admissions for Supplemental Security Income Medicaid recipients are considered FFS. Differences between the FFS and managed care populations, defined in this way, and regional differences are also emphasized.

Findings

Recipient Status and Potentially Preventable Readmission Rates

Table 1 presents the number of hospital events that were followed by a PPR (initial admissions), the number of hospital events "at risk" for a subsequent PPR (all inpatient events not excluded according to defined PPR criteria), and the PPR rate (initial admissions divided by at risk admissions) for Medicaid recipients with mental health, substance abuse, both mental health and substance abuse health, and all other medical conditions statewide and for New York City (NYC) and the rest of the state (ROS). Statewide, the PPR rate for all hospitalized Medicaid recipients was 9.4 per 100 at risk admissions, with a higher PPR rate in NYC (9.8) compared to the ROS (8.6).

HIGHLIGHTS

■ Medicaid recipients whose most significant primary health conditions in 2007 were both mental health and substance abuse conditions experienced potentially preventable hospital readmissions (PPR) over 3.5 times more frequently than recipients with neither of these health conditions.

■ Recipients with a history of mental health and/or substance abuse conditions during 2007 were most commonly admitted to the hospital and subsequently readmitted for mental health and/or substance abuse, and HIV infections. Recipients with all other health conditions were most commonly initially admitted and subsequently readmitted for diseases and disorders of the circulatory, respiratory, or digestive systems.

■ Slightly over \$800 million Medicaid dollars were spent on potentially preventable readmissions in 2007: the majority on fee-for-service recipients in New York City. Average costs associated with PPRs for mental health.

¹ Statistical Brief #2, "Potentially Preventable Hospital Readmissions Among the Medicaid Population in New York State, 2007", describes these analyses and the software and logic employed to determine whether or not a readmission was potentially preventable.

substance abuse conditions experienced potentially preventable readmissions much more frequently than recipients with none of these conditions. Statewide, hospitalized recipients with a mental health condition had a PPR rate of 8.0, those with a substance abuse condition a rate of 10.3, and those with both substance abuse and mental health conditions had the highest PPR rate of 17.9 per 100 at risk admissions. On the other hand, hospitalized recipients with no mental health or substance abuse conditions had a rate of only 4.8. PPR rates were higher, regardless of the recipient's health conditions in NYC compared to the ROS, and the highest PPR rates of all were for NYC recipients with mental health and substance abuse conditions, 20.9 per 100 at risk admissions.

Not surprisingly, there were also substantial differences between Medicaid recipients with mental health and/or substance abuse conditions and others in terms of the average number of PPRs they experienced. Most recipients experiencing a PPR in 2007 had only a single PPR. However, recipients with mental health and/or substance abuse conditions experienced multiple PPRs more frequently than recipients with none of these conditions. Only 20.6% of recipients with diagnoses other than mental health and/or substance abuse had more than one PPR, while 30.7%, 31.1%, and 43.3% of recipients with mental health, substance abuse, or both conditions, respectively, had multiple PPRs.

Recipient Status and Medical Condition at Admission

While we were able to categorize Medicaid recipients according to whether or not they had mental health and/or substance abuse health conditions during 2007, we were also interested in the general types of conditions at the initial hospital admission that most frequently led to subsequent hospital readmissions for each type of recipient. We classified the recipient's condition at the initial admission into Major Diagnostic Categories (MDCs). Tables 2 and 3 show initial admissions, admissions at risk for a subsequent PPR, and the PPR rate by MDC. Both tables present this information for all Medicaid recipients and for FFS and managed care recipients. Table 2 presents this information for recipients with mental health and/or substance abuse health conditions, while Table 3 presents the information for recipients with all other health-related conditions.

Table 2 illustrates that for the Medicaid population with mental health and/or substance abuse conditions, by far the most frequent conditions at the hospital admission triggering subsequent readmissions were substance abuse (MDC 20) and mental health (MDC 19) conditions. This was not unexpected but also suggests that substance abuse and mental health conditions

hospital. However, there are other conditions at hospital admission that frequently trigger subsequent readmissions for this population, including HIV infections (MDC 24), immunological disorders (MDC 16), and diseases and disorders of the hepatobiliary system (MDC 7). The frequent hospital use for this population may be associated with the general poor health of recipients with substance abuse and/or behavioral health conditions.

In terms of sheer numbers, FFS recipients with substance abuse and/or behavior health conditions account for the vast majority of hospital admissions that are followed by subsequent readmissions. Initial admissions for FFS recipients account for 75.7% of initial admissions for all Medicaid recipients, while FFS initial admissions associated with mental health and/or substance abuse conditions account for 82.7% and 86.6% of all Medicaid admissions that are followed by hospital readmissions, respectively.

Finally, Table 2 illustrates that the overall PPR rate for recipients with mental health and/or substance abuse conditions was quite high. The PPR rate for all Medicaid recipients was 12.3 and was very similar regardless of the FFS or managed care status of the recipient at admission: 12.2 for FFS admissions and 12.3 per 100 at risk admissions for managed care.

Table 3 describes the medical condition at initial admission of recipients without mental health and/or substance abuse conditions. A comparison of Table 3 with Table 2 reveals important differences between the Medicaid recipients with mental health and/or substance abuse and those without these conditions. First of all, the PPR rates for non-mental health and/or substance recipients were much lower than those with mental health/substance abuse conditions (4.8 and 12.2 per 100 at risk admissions, respectively).

The risk for hospital readmission was much greater for the mental health and/or substance abuse population than for those without these conditions. A second difference involves the types of medical conditions present at the initial admission. For the mental health and/or substance abuse population, the most frequent conditions present at the initial admission were diseases and disorders of the circulatory (MDC 05), respiratory (MDC 04), or digestive systems (MDC 06). Interestingly, the PPR rates associated with these conditions for the non-mental health and/or substance abuse population were approximately half the rates observed for the mental health and/or substance abuse population.

² The AP-DRG Major Diagnostic Category (MDC) was used, rather than the APR-DRG Major Diagnostic Category, because reimbursement in 2007 was based on the AP-DRG

Recipient Status and Medical Condition at Readmission

While the previous section described the medical condition at the initial admission that was followed by a readmission, this section focuses on the medical condition for which the recipient was readmitted. According to the PPR logic, this was either a condition that was a continuation of the condition treated at the initial admission that was not completely resolved, or a condition at readmission that was clinically related to the care received during the previous admission.

Table 4 presents, for Medicaid recipients with mental health and/or substance abuse conditions, the MDC that characterized their condition at readmission, and the number of potentially preventable readmissions with that MDC. The table shows that recipients with mental health and/or substance abuse conditions that are initially admitted to the hospital are most frequently readmitted for these same conditions. Over 40% of all potentially preventable readmissions of recipients with mental health and/or substance abuse conditions were readmitted for these two conditions. For managed care recipients with mental health and/or substance abuse conditions only slightly less than 26% of all PPRs were for these conditions, a much lower percentage than was the case for FFS recipients with mental health and/or substance abuse conditions.

The conditions at readmission for the non-mental health and/or substance abuse populations are detailed in Table 5. Nearly half (47.8%) of all PPRs for Medicaid recipients without mental health and/or substance abuse conditions were associated with diseases and disorders of circulatory, respiratory, or digestive systems. These same three conditions were most frequently associated with readmissions, regardless of the FFS or managed care status of the recipient at the time of readmission. Compared to the population with mental health and/or substance abuse conditions, the Medicaid population without these conditions not only had much lower PPR rates overall, but were also most frequently readmitted for different conditions.

Recipient Status and Cost of Potentially Preventable Readmission

Our data permitted us to determine the Medicaid costs associated with PPRs for FFS recipients. The methodology necessary to calculate the Medicaid costs associated with PPRs for managed care remains to be completed. As a result, we estimated the PPR costs for managed care recipients based on the same level of spending observed for FFS. Because such estimates may not be accurate for particular categories of managed care recipients, such as the mental health and/or substance abuse recipients, we will only describe Medicaid PPR costs for the entire managed care population.

Table 6 illustrates that nearly \$813 million Medicaid dollars were spent statewide on potentially preventable readmissions in 2007. The majority (73.8%) of these dollars were spent on readmissions for FFS recipients. Over 77% was spent on readmissions in NYC. For FFS recipients, mental health readmissions in NYC had an average cost of \$16,153 compared to the average readmission cost of \$12,910 for the entire FFS population. Interestingly, the average PPR costs for substance abuse and substance abuse and mental health recipients were lower (\$11,312 and \$11,740, respectively), perhaps indicating the relatively brief inpatient stays associated with substance abuse readmissions in NYC.

In the ROS PPR costs revealed a different pattern. Average PPR costs associated with mental health readmissions were lower than the average PPR costs associated with substance abuse readmissions (\$8,972 for the former and \$9,186 for the latter). In addition, average PPR costs associated with mental health and substance abuse readmissions were the lowest compared to the other broad categories of recipients in the ROS.

The average PPR costs associated with recipients without mental health and/or substance abuse conditions was comparatively high, since it includes readmissions for very serious conditions with long lengths of stay, as well as readmissions for relatively minor conditions. Still, readmissions for recipients with mental health and/or substance abuse conditions were relatively frequent and expensive, particularly for the NYC FFS population.

Data Source and Methods

The data upon which these analyses were performed were extracts of Medicaid claims and encounter records contained in the New York State Department of Health's OHIP Data Mart. There were two steps involved in the development of this dataset. The first step was the creation of a file containing information for all Medicaid inpatient admissions during 2007. This data set contained information for 917,641 inpatient events during 2007. Statistical Brief #1 describes the creation of this data set. The Potentially Preventable Readmission software created and distributed by 3M™ Corporation was applied to this dataset to identify all potentially preventable readmissions. Statistical Brief #2 describes the logic employed to identify potentially preventable readmissions.

The second step utilized the Clinical Risk Group (CRG) software, created and distributed by 3M™ Corporation,³ to identify each recipient's primary health issue in calendar year 2007. The CRG software used all outpatient, inpatient, and pharmaceutical data to hierarchically identify each recipient's primary health issue in 2007. Based on the primary health issue, the recipients were then categorized into one of four groups: mental only, substance abuse only, combined mental and substance abuse, and no mental or substance abuse. It is important to note that the CRGs classify the recipient but the APR-DRG software classifies events, so there are instances where recipients are classified into last category (no mental health or substance abuse) but may have an event classified by the APR-DRGs to a mental health or substance abuse-related Major Diagnostic Category that the CRGs did not consider to be the primary health issue during the year (e.g. recipient with primary health issue of sickle cell anemia who had a hospital admission for alcohol detoxification). As a result, though this brief demonstrates a strong relationship of PPR events to a recipient's primary health issue of mental and/or substance abuse, the relationship presented is conservative.

Statistical Briefs are produced by the New York State Department of Health, Office of Health Insurance Programs. If you have any questions or comments, please e-mail us at: omcmeds@health.state.ny.us.

³ Introduction to 3M™ Clinical Risk Groups (CRGs), 3M™ Health Information Systems

Table 1. Potentially Preventable Readmission (PPR) Rates per 100 At Risk¹ Admissions by Medicaid Recipient Health Condition at Initial Admission and Region: New York State, 2007

Recipient Health Condition	New York City			Rest of the State			New York State		
	Initial Admissions ¹	At Risk Events ²	PPR Rate	Initial Admissions	At Risk Events	PPR Rate	Initial Admissions	At Risk Events	PPR Rate
Mental Health	6,808	79,815	8.5	3,715	52,116	7.1	10,523	131,931	8.0
Substance Abuse	4,111	35,578	11.6	1,523	19,291	7.9	5,634	54,869	10.3
Mental Health and Substance Abuse	13,043	62,409	20.9	7,833	54,081	14.5	20,876	116,490	17.9
All Others	6,485	132,269	4.9	2,567	56,234	4.6	9,082	188,503	4.8
Total	30,447	310,071	9.8	15,638	181,722	8.6	46,115	491,793	9.4

¹ Non-excluded admissions followed by at least one clinically related readmission.

² All inpatient events that were not excluded according to defined PPR criteria.

Table 2. Potentially Preventable Readmission (PPR) Rates per 100 At Risk Admissions among Medicaid Recipients with Mental Health and/or Substance Abuse Conditions by Major Diagnostic Category (MDC) at Initial Admission and Medicaid Payment Status: New York State 2007

Major Diagnostic Category at Initial Admission	Fee-for-Service			Managed Care			All Medicaid		
	Initial Admissions ¹	At Risk Events ²	PPR Rate	Initial Admissions	At Risk Events	PPR Rate	Initial Admissions	At Risk Events	PPR Rate
20-Alcohol/Drug Use / Alcohol/Drug Induced Organic Mental Disorders	5,976	33,159	18.0	1,247	7,713	16.2	7,223	40,872	17.7
19-Mental Diseases / Disorders	5,951	40,961	14.5	922	7,854	11.7	6,873	48,815	14.1
05-Diseases / Disorders of the Circulatory System	3,342	32,764	10.2	1,582	12,593	12.6	4,924	45,357	10.9
04-Diseases / Disorders of the Respiratory System	2,273	22,044	10.3	774	6,776	11.4	3,047	28,820	10.6
06-Diseases / Disorders of the Digestive System	1,525	16,319	9.3	853	6,866	12.4	2,378	23,185	10.3
01-Diseases / Disorders of the Nervous System	1,210	14,106	8.6	598	4,908	12.2	1,808	19,014	9.5
24-Human Immunodeficiency Virus Infections	1,354	7,230	18.7	181	931	19.4	1,535	8,161	18.8
10-Endocrine, Nutritional / Metabolic Diseases / Disorders	924	9,072	10.2	496	3,888	12.8	1,420	12,960	11.0
07-Diseases / Disorders of the Hepatobiliary System / Pancreas	769	5,391	14.3	461	2,863	16.1	1,230	8,254	14.9
11-Diseases / Disorders of the Kidney / Urinary Tract	922	10,085	9.1	286	2,344	12.2	1,208	12,429	9.7
08-Diseases / Disorders of the Musculoskeletal System / Connective Tissue	773	11,196	6.9	384	4,518	8.5	1,157	15,714	7.4
21-Poisonings, Toxic Effects, Other Injuries / Other Complications of Treatment	688	4,818	14.3	328	2,572	12.8	1,016	7,390	13.7
09-Diseases / Disorders of the Skin, Subcutaneous Tissue / Breast	669	6,593	10.1	301	2,651	11.4	970	9,244	10.5
18-Infectious / Parasitic Diseases, Systemic or Unspecified Sites	774	6,431	12.0	144	964	14.9	918	7,395	12.4
16-Diseases / Disorders of Blood, Blood Forming Organs / Immunological Disorders	519	2,628	19.7	176	1,025	17.2	695	3,653	19.0
13-Diseases / Disorders of the Female Reproductive System	112	1,784	6.3	149	2,207	6.8	261	3,991	6.5
03-Ear, Nose, Mouth, Throat / Craniofacial Diseases / Disorders	170	2,534	6.7	80	1,348	5.9	250	3,882	6.4
12-Diseases / Disorders of the Male Reproductive System	38	573	6.6	17	241	7.1	55	814	6.8

Table 2. (continued)

	Fee-for-Service			Managed Care			All Medicaid		
23-Rehabilitation, Aftercare, Other Factors Influencing Health Status	9	990	0.9	3	369	0.8	12	1,359	0.9
14-Pregnancy, Childbirth / the Puerperium	3	43	7.0	4	81	4.9	7	124	5.6
15-Newborns / Other Neonates with Conditions Originating in the Perinatal Period	2	21	9.5	2	337	0.6	4	358	1.1
02-Diseases / Disorders of the Eye	1	14	7.1	1	5	20.0	2	19	10.5
25-Multiple Significant Trauma	0	11	0.0	1	15	6.7	1	26	3.8
17-Lymphatic, Hematopoietic, Other Malignancies, Chemotherapy / Radiotherapy	0	4	0.0	0	1	0.0	0	5	0.0
22-Burns	0	0	0.0	0	0	0.0	0	0	0.0
Total	28,004	228,771	12.2	8,990	73,070	12.3	36,994	301,841	12.3

¹ Non-excluded admissions followed by at least one clinically related readmission.

² All admissions that were not excluded according to defined PPR criteria.

Table 3. Potentially Preventable Readmission (PPR) Rates per 100 At Risk Admissions by Major Diagnostic Category at Initial Admission among Medicaid Recipients without Mental Health and/or Substance Abuse Conditions by Medicaid Payment Status: New York State, 2007

Major Diagnostic Category at Admission	Fee-for-Service			Managed Care			All Medicaid		
	Initial Admissions ¹	At Risk Events ²	PPR Rate	Initial Admissions	At Risk Events	PPR Rate	Initial Admissions	At Risk Events	PPR Rate
05-Diseases / Disorders of the Circulatory System	1,193	25,175	4.7	655	9,551	6.9	1,848	34,726	5.3
04-Diseases / Disorders of the Respiratory System	750	14,709	5.1	668	14,251	4.7	1,418	28,960	4.9
06-Diseases / Disorders of the Digestive System	616	13,497	4.6	509	10,506	4.8	1,125	24,003	4.7
11-Diseases / Disorders of the Kidney / Urinary Tract	426	7,787	5.5	251	4,107	6.1	677	11,894	5.7
01-Diseases / Disorders of the Nervous System	386	7,673	5.0	267	4,482	6.0	653	12,155	5.4
18-Infectious / Parasitic Diseases, Systemic or Unspecified Sites	326	4,453	7.3	160	2,777	5.8	486	7,230	6.7
10-Endocrine, Nutritional / Metabolic Diseases / Disorders	227	5,926	3.8	244	5,065	4.8	471	10,991	4.3
16-Diseases / Disorders of Blood, Blood Forming Organs / Immunological Disorders	246	2,413	10.2	213	2,025	10.5	459	4,438	10.3
08-Diseases / Disorders of the Musculoskeletal System / Connective Tissue	235	7,957	3.0	179	4,713	3.8	414	12,670	3.3
07-Diseases / Disorders of the Hepatobiliary System / Pancreas	193	3,712	5.2	178	2,668	6.7	371	6,380	5.8
09-Diseases / Disorders of the Skin, Subcutaneous Tissue / Breast	175	4,683	3.7	116	4,009	2.9	291	8,692	3.3
03-Ear, Nose, Mouth, Throat / Craniofacial Diseases / Disorders	102	3,064	3.3	127	4,060	3.1	229	7,124	3.2
13-Diseases / Disorders of the Female Reproductive System	62	1,980	3.1	100	3,527	2.8	162	5,507	2.9
24-Human Immunodeficiency Virus Infections	128	1,380	9.3	33	248	13.3	161	1,628	9.9
15-Newborns / Other Neonates with Conditions Originating in the Perinatal Period	60	959	6.3	85	5,359	1.6	145	6,318	2.3
21-Poisonings, Toxic Effects, Other Injuries / Other Complications of Treatment	37	1,111	3.3	44	1,297	3.4	81	2,408	3.4
12-Diseases / Disorders of the Male Reproductive System	20	711	2.8	15	442	3.4	35	1,153	3.0
14-Pregnancy, Childbirth / the Puerperium	5	123	4.1	1	187	0.5	6	310	1.9
23-Rehabilitation, Aftercare, Other Factors Influencing Health Status	1	460	0.2	5	437	1.1	6	897	0.7
02-Diseases / Disorders of the Eye	0	27	0.0	2	17	11.8	2	44	4.5
19-Mental Diseases / Disorders	2	63	3.2	0	33	0.0	2	96	2.1
17-Lymphatic, Hematopoietic, Other Malignancies, Chemotherapy / Radiotherapy	0	1	0.0	1	4	25.0	1	5	20.0
20-Alcohol/Drug Use / Alcohol/Drug Induced Organic Mental Disorders	0	10	0.0	0	0	0.0	0	10	0.0
22-Burns	0	0	0.0	0	0	0.0	0	0	0.0
25-Multiple Significant Trauma	0	22	0.0	0	13	0.0	0	35	0.0
Total	5,190	107,896	4.8	3,853	79,778	4.8	9,043	187,674	4.8

¹ Non-excluded admissions followed by at least one clinically related readmission.

² All admissions that were not excluded according to defined PPR criteria.

Table 4. Potentially Preventable Readmissions (PPR) among Medicaid Recipients with Mental Health and/or Substance Abuse Conditions by Major Diagnostic Category at Readmission and Medicaid Payment Category: New York State, 2007

Major Diagnostic Category at Readmission	Fee-for-Service PPRs		Managed Care PPRs		All Medicaid PPRs	
	N	%	N	%	N	%
20-Alcohol/Drug Use / Alcohol/Drug Induced Organic Mental Disorders	10,250	22.6	2,007	14.9	12,257	20.9
19-Mental Diseases / Disorders	10,006	22.1	1,460	10.8	11,466	19.5
05-Diseases / Disorders of the Circulatory System	4,970	11.0	2,284	16.9	7,254	12.3
04-Diseases / Disorders of the Respiratory System	3,610	8.0	1,175	8.7	4,785	8.1
06-Diseases / Disorders of the Digestive System	2,297	5.1	1,388	10.3	3,685	6.3
24-Human Immunodeficiency Virus Infections	2,278	5.0	319	2.4	2,597	4.4
01-Diseases / Disorders of the Nervous System	1,664	3.7	868	6.4	2,532	4.3
10-Endocrine, Nutritional / Metabolic Diseases / Disorders	1,506	3.3	730	5.4	2,236	3.8
18-Infectious / Parasitic Diseases, Systemic or Unspecified Sites	1,629	3.6	436	3.2	2,065	3.5
07-Diseases / Disorders of the Hepatobiliary System / Pancreas	1,178	2.6	644	4.8	1,822	3.1
11-Diseases / Disorders of the Kidney / Urinary Tract	1,412	3.1	404	3.0	1,816	3.1
16-Diseases / Disorders of Blood, Blood Forming Organs / Immunological Disorders	1,443	3.2	363	2.7	1,806	3.1
21-Poisonings, Toxic Effects, Other Injuries / Other Complications of Treatment	1,200	2.7	516	3.8	1,716	2.9
09-Diseases / Disorders of the Skin, Subcutaneous Tissue / Breast	861	1.9	335	2.5	1,196	2.0
08-Diseases / Disorders of the Musculoskeletal System / Connective Tissue	692	1.5	417	3.1	1,109	1.9
03-Ear, Nose, Mouth, Throat / Craniofacial Diseases / Disorders	172	0.4	84	0.6	256	0.4
13-Diseases / Disorders of the Female Reproductive System	53	0.1	43	0.3	96	0.2
12-Diseases / Disorders of the Male Reproductive System	29	0.1	20	0.1	49	0.1
23-Rehabilitation, Aftercare, Other Factors Influencing Health Status	20	0.0	10	0.1	30	0.1
02-Diseases / Disorders of the Eye	2	0.0	1	0.0	3	0.0
14-Pregnancy, Childbirth / the Puerperium	0	0.0	2	0.0	2	0.0
15-Newborns / Other Neonates with Conditions Originating in the Perinatal Period	0	0.0	1	0.0	1	0.0
17-Lymphatic, Hematopoietic, Other Malignancies, Chemotherapy / Radiotherapy	0	0.0	0	0.0	0	0.0
22-Burns	0	0.0	0	0.0	0	0.0
25-Multiple Significant Trauma	0	0.0	0	0.0	0	0.0
Total	45,272	100.0	13,507	100.0	58,779	100.0

Table 5. Potentially Preventable Readmissions (PPR) among Medicaid Recipients without Mental Health and/or Substance Abuse Conditions by Major Diagnostic Category at Readmission and Medicaid Payment Status: New York State, 2007

Major Diagnostic Category at Readmission	Fee-for-Service PPRs		Managed Care PPRs		All Medicaid PPRs	
	N	%	N	%	N	%
05-Diseases / Disorders of the Circulatory System	1,457	21.4	705	15.4	2,162	19.0
04-Diseases / Disorders of the Respiratory System	1,100	16.1	809	17.6	1,909	16.7
06-Diseases / Disorders of the Digestive System	739	10.8	646	14.1	1,385	12.1
18-Infectious / Parasitic Diseases, Systemic or Unspecified Sites	680	10.0	338	7.4	1,018	8.9
01-Diseases / Disorders of the Nervous System	465	6.8	326	7.1	791	6.9
11-Diseases / Disorders of the Kidney / Urinary Tract	480	7.0	284	6.2	764	6.7
10-Endocrine, Nutritional / Metabolic Diseases / Disorders	399	5.9	311	6.8	710	6.2
16-Diseases / Disorders of Blood, Blood Forming Organs / Immunological Disorders	412	6.0	281	6.1	693	6.1
08-Diseases / Disorders of the Musculoskeletal System / Connective Tissue	213	3.1	168	3.7	381	3.3
07-Diseases / Disorders of the Hepatobiliary System / Pancreas	208	3.1	160	3.5	368	3.2
09-Diseases / Disorders of the Skin, Subcutaneous Tissue / Breast	191	2.8	149	3.2	340	3.0
21-Poisonings, Toxic Effects, Other Injuries / Other Complications of Treatment	124	1.8	141	3.1	265	2.3
24-Human Immunodeficiency Virus Infections	189	2.8	52	1.1	241	2.1
03-Ear, Nose, Mouth, Throat / Craniofacial Diseases / Disorders	100	1.5	114	2.5	214	1.9
13-Diseases / Disorders of the Female Reproductive System	23	0.3	48	1.0	71	0.6
15-Newborns / Other Neonates with Conditions Originating in the Perinatal Period	17	0.2	33	0.7	50	0.4
12-Diseases / Disorders of the Male Reproductive System	18	0.3	10	0.2	28	0.2
23-Rehabilitation, Aftercare, Other Factors Influencing Health Status	2	0.0	9	0.2	11	0.1
19-Mental Diseases / Disorders	2	0.0	1	0.0	3	0.0
02-Diseases / Disorders of the Eye	0	0.0	1	0.0	1	0.0
14-Pregnancy, Childbirth / the Puerperium	0	0.0	1	0.0	1	0.0
17-Lymphatic, Hematopoietic, Other Malignancies, Chemotherapy / Radiotherapy	0	0.0	0	0.0	0	0.0
20-Alcohol/Drug Use / Alcohol/Drug Induced Organic Mental Disorders	0	0.0	0	0.0	0	0.0
22-Burns	0	0.0	0	0.0	0	0.0
25-Multiple Significant Trauma	0	0.0	0	0.0	0	0.0
Total	6,819	100.0	4,587	100.0	11,406	100.0

Table 6. Total and Average Costs Associated with Potentially Preventable Readmissions (PPR) by Region, Medicaid Recipient Health Condition, and Medicaid Payment Category: New York State, 2007

Fee-for-Service Recipient Health Condition	New York City			Rest of the State			New York State		
	Total PPR Cost	%	Average Cost per PPR	Total PPR Cost	%	Average Cost per PPR	Total PPR Cost	%	Average Cost per PPR
Mental Health	\$116,482,748	76.2	\$16,154	\$36,346,399	23.8	\$8,972	\$152,829,147	100.0	\$13,570
Substance Abuse	\$52,101,548	79.6	\$11,312	\$13,346,674	20.4	\$9,186	\$65,448,222	100.0	\$10,802
Mental Health and Substance Abuse	\$227,936,192	77.8	\$11,740	\$64,875,061	22.2	\$7,557	\$292,811,253	100.0	\$10,457
All Others	\$67,292,285	75.8	\$14,336	\$21,511,948	24.2	\$10,071	\$88,804,233	100.0	\$13,002
Total	\$463,812,773	77.3	\$12,910	\$136,080,082	22.7	\$8,387	\$599,892,856	100.0	\$11,503
Managed Care¹									
Recipient Health Condition	Total PPR Dollars	% of Total Dollars	Average PPR Dollars	Total PPR Dollars	%	Average Cost per PPR	Total PPR Cost	%	Average Cost per PPR
Mental Health	\$40,926,371	81.8	\$16,215	\$9,086,600	18.2	\$8,900	\$50,012,971	100.0	\$13,614
Substance Abuse	\$19,270,436	76.3	\$11,471	\$5,996,332	23.7	\$9,169	\$25,266,767	100.0	\$10,905
Mental Health and Substance Abuse	\$53,466,514	69.0	\$12,075	\$23,994,886	31.0	\$7,452	\$77,461,400	100.0	\$10,177
All Others	\$48,728,896	80.8	\$14,141	\$11,583,357	19.2	\$9,909	\$60,312,253	100.0	\$12,828
Total	\$162,392,217	76.2	\$13,445	\$50,661,174	23.8	\$8,354	\$213,053,390	100.0	\$11,744

¹ Managed care costs are estimated based on fee-for-service costs.