

Penetration and Prevalence

Estimated Prevalence of Mental Illness in Children and Adults, Serious and Persistent
Mental Illness in Adults, and Serious Emotional Disorders in Children
in Multnomah County Relative to OHP Members Enrolled and Served

May 2009



Prepared by: Sara Hallvik
Sr. Research & Evaluation Analyst
Multnomah County Verity
421 SW Oak St, Suite 520
Portland, OR 97204-1817
503/988-5464 x26575

Introduction

In 2003, the Washington State Department of Social & Health Services commissioned a Report to the Legislature on “The Prevalence of Serious Mental Illness in Washington State.”¹ This report contains prevalence calculations of any mental illness and of serious mental illness in adults and serious emotional disturbance in children in Washington State, broken out by general population and individuals below 200% federal poverty level (FPL). We applied these calculations to Multnomah County’s general population and to those below 200% FPL to estimate prevalence in this county.

The definition of Serious Mental Illness (SMI) among adults is based on the medium-band definition used in the Prevalence Estimation of Mental Illness and Need for Services (PEMINS) 1998 study:

*“Respondent has a **major disorder** (such as depression, psychosis, or manic episodes) **and** meets **at least one** of these additional criteria:*

- *Functional limitation that limits major life activities, ability to work, or taking care of personal needs such as bathing;*
- *Mental health (MH) services use or desire for MH services;*
- *Danger to self or others;*
- *Dependence, i.e., inability to support one’s self or provide for one’s own medical care.”²*

The definition of serious emotional disturbance (SED) for youth was taken from the Federal Register (1993, 2998):

*“... ‘children with a serious emotional disturbance are persons:
From birth up to age 18 who currently or at any time during the past year, have had a diagnosable mental, behavioral, or emotional disorder of sufficient duration to meet diagnostic criteria specified within DSM-III-R,
that resulted in functional impairment which substantially interferes with or limits the child’s role or functioning in family, school, or community activities.”³*

Multnomah County Verity and Multnomah Treatment Fund provide services for clients of any level of need, including the SMI and SED definitions above. Estimates of need for any mental health service for children or adults are available by total population and total population below 200% FPL, but not by age or other demographic category. Following the format of the 2003 Washington State Report, this report focuses primarily on SMI and SED need. Multnomah County population estimates were obtained from the U.S. Census Bureau’s July 1, 2007 population estimates.⁴

PEMINS is a household telephone survey, meaning that households in Washington were randomly called and asked about the number of people in that household meeting the definition of mental health need (above). This methodology is reliably accurate, but may result in an overestimate of prevalence in the Medicaid-eligible population, as SMI who qualify for Medicaid are more likely to be at home at the time of the survey telephone call.⁵ Therefore, numbers in this report should be considered for estimation purposes only.

The PEMINS report provides information on the entire population, but we focused specifically on those below 200% FPL, relative to the number of people enrolled and served by Verity and/or Multnomah Treatment Fund (penetration). Multnomah Treatment Fund is paid for by County general funds.

¹ Department of Social & Health Services, “Report to the Legislature: The Prevalence of Serious Mental Illness in Washington State.” Health and Rehabilitative Services Administration; Mental Health Division, 2003.

² Department of Social & Health Services, “Report to the Legislature,” p. 3.

³ Department of Social & Health Services, “Report to the Legislature,” p. 43.

⁴ http://factfinder.census.gov/servlet/DTTable?_bm=y&-geo_id=05000US41051&-ds_name=PEP_2007_EST&-mt_name=PEP_2007_EST_G2007_T001

⁵ Department of Social & Health Services, “Report to the Legislature,” p. 15.

Executive Summary (I)

Mental illness prevalence rates for Multnomah County were estimated by applying the prevalence rates from the Washington State Report to Multnomah County populations. The purpose of this report is to identify unmet mental health need in Multnomah County. This is the estimated amount of unmet need not currently addressed by Multnomah County general funds or Oregon State funds.

All Diagnoses

- **Verity:** 22.5% of Verity members estimated to have any mental health need were not served by Verity (roughly 3,100 people)
 - 15% of 93,632 enrolled Verity clients (14,045 people) are estimated to have any mental health need; 10,881 adults and children (77.5%) were served through Verity in 2008.
- **Non-Verity:** 91.1% of Non-Verity members below 200% FPL estimated to have any mental health need were not served by MTF (roughly 12,100 people) *
 - 15% of 89,819 Non-Verity members below 200% poverty in Multnomah County (13,743 people) are estimated to have a mental health need; 1,339 adults and children (9.9%) were served by the Multnomah Treatment Fund in 2008 *

SMI & SED

- **Verity:** 24.9% of Verity members estimated to have a SMI or SED were not served by Verity (roughly 1,429 people)
 - 6.13% of 93,632 enrolled Verity clients (5,740 people) are estimated to have a serious mental health need; 4,311 SMI adults and SED children (75.1%) were served through Verity in 2008
- **Non-Verity:** 88% of Non-Verity members below 200% FPL estimated to have a SMI or SED were not served by MTF (roughly 4,800 people)*
 - 6.13% of 89,819 Non-Verity members below 200% poverty in Multnomah County (5,512 people) are estimated to have a serious mental illness; 664 (12.0%) seriously mentally ill adults and children with CASI level 3-5 or ISA were served by the Multnomah Treatment Fund in 2008 *

* Non-Verity members below 200% FPL may be insured through other sources, including self-pay, veterans benefits, or other private insurance. Census figures show that 30.0% of all people in Oregon below 200% FPL are uninsured.⁶ Applying this rate to Multnomah County's population, we estimate that **61.3% of non-Verity members below 200% FPL remain uninsured by outside sources.**

Additionally, SMI and SED (CASI 3-5 or Intensive Service Array (ISA)) Verity and MTF data in this report rely on correctly labeled diagnoses in the database. If there are active SMI or SED who are not labeled as such, this inaccurate or missing diagnosis information could account for a portion of the observed under-treatment of people with SMI or SED.

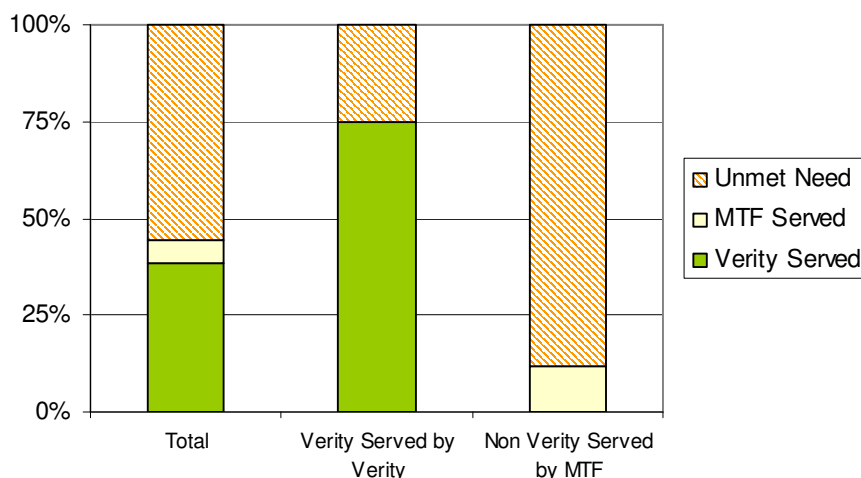
Penetration: Of 93,632 Verity members, 10,881 members (11.6%) received services. Based on current research, a penetration rate of 8% to 10% for a general population managed care organization is considered "excellent."

⁶ U.S. Census Bureau's Annual Social and Economic Supplement, 2006-2008: www.census.gov

Executive Summary (II)

Estimated prevalence rates for Multnomah County were calculated by applying prevalence rates from the Washington State Report to Multnomah County populations. Estimated mental illness prevalence among Verity members was calculated using the prevalence rate for those below 200% FPL from the Washington State Report. Combined, Verity and MTF Are Meeting 44.2% of Estimated SMI & SED⁷ Need and 44.4% of Estimated Mental Health Need (all diagnoses).

ES1: SMI & SED Need Met (Verity and Non-Verity Members Below 200% FPL)



Combined, 44.2% of estimated SMI & SED need is being addressed by Verity and MTF.

Among Verity Members, 75.1% of estimated SMI & SED need is being met by Verity.

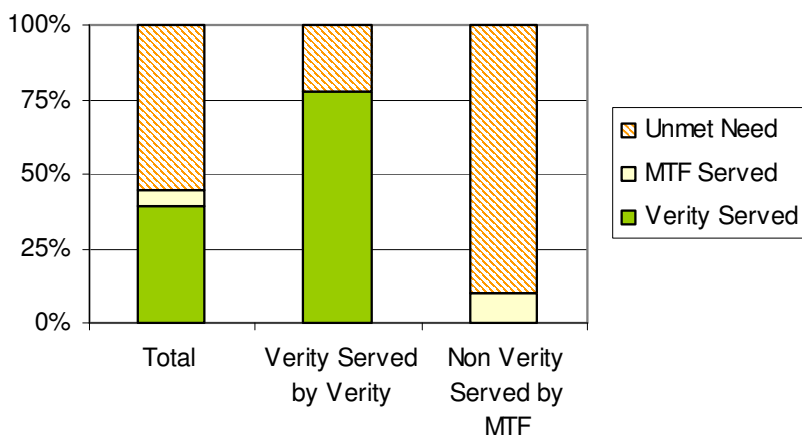
Among non-Verity members below 200% FPL, 12.0% of estimated SMI & SED need is being met by MTF.

ES2: Total Need Met (Verity and Non-Verity Members Below 200% FPL)

Combined, 44.4% of estimated total mental health need is being addressed by Verity and MTF.

Among Verity members, 77.5% of estimated total mental health need is being met by Verity.

Among non-Verity members below 200% FPL, 9.9% of estimated total mental health need is being met by MTF.



⁷ **Adult:** Respondent has a major disorder (such as depression, psychosis, or manic episodes) and meets at least one of these additional criteria: 1) Functional limitation that limits major life activities, ability to work, or taking care of personal needs such as bathing, 2) Mental health (MH) services use or desire for MH services, 3) Danger to self or others, 4) Dependence, i.e., inability to support one's self or provide for one's own medical care.

Children: ... 'children with a serious emotional disturbance are persons: From birth up to age 18 who currently or at any time during the past year, have had a diagnosable mental, behavioral, or emotional disorder of sufficient duration to meet diagnostic criteria specified within DSM-III-R, that resulted in functional impairment which substantially interferes with or limits the child's role or functioning in family, school, or community activities.

Prevalence Detail

The prevalence of mental illness (any diagnosis) in Multnomah County is displayed in Table 1. **In the general population, 11.63% of the population is estimated to have a mental illness (81,641 people); among those below 200% FPL, 15.0% are estimated to have a mental illness (27,754 people), of which 14,045 are Verity members.** General population statistics are from 2007 Census estimates; 200% FPL population statistics are from 2005-2007 rolled Census/American Community Survey data.⁸ The Washington State Report does not provide age, gender, ethnicity, or education breakouts by all diagnosis of mental illness.

Table 1: Estimated Mental Illness (any diagnosis) Prevalence in Multnomah County

	Pop	Rate	Cases
All Population Including Institution & Group Settings	701,986	11.63	81,641
Non-Verity Members Below 200% Federal Poverty Level	89,819	15.00	13,473
All Verity Members	93,632	15.00	14,045

Table 2: Estimated SMI Prevalence in Multnomah County

Group	All Population Including Institution & Group Settings			All Verity Members			Non-Verity Individuals Below 200% Federal Poverty Level		
	Mult. Co. Pop	Applied Rate	Cases	Mult. Co. Pop	Applied Rate	Cases	Mult. Co. Pop	Applied Rate	Cases
Total	701,986	4.04	28,360	93,632	6.13	5,740	89,819	6.13	5,512
Age									
1-17	159,351	7.00	11,155	49,943	7.00	3,496	-27,205	7.00	0
18-24	56,861	2.59	1,473	9,639	4.25	410	16,738	4.25	711
25-44	223,934	5.27	11,801	15,217	8.05	1,225	55,044	8.05	4,431
45-64	188,834	3.34	6,307	11,150	7.55	842	30,067	7.55	2,270
65+	72,305	2.22	1,605	7,683	0.65	50	15,383	0.65	100
Sex									
Male	341,980	2.54	8,686	40,832	2.94	1,201		2.94	
Female	346,943	5.17	17,937	52,800	8.27	4,367		8.27	
Ethnicity									
White - NH	537,168	4.12	22,131					6.75	
Black - NH	38,119	3.87	1,475					5.95	
Asian	41,928	1.45	608					2.27	
Native	10,406	5.93	617					8.03	
Hispanic	67,471	2.51	1,694					3.23	
Education									
Not HS Grad	66,333	2.65	1,758					5.23	
HS Grad	466,204	4.08	19,021					6.24	
Poverty (Washington)									
Below 200%							185,026	5.96	11,028
Above 200%	516,960	3.20	16,543						

The estimated prevalence of serious mental illness (SMI) in Multnomah County is displayed in Table 2. Population statistics are from 2007 Census estimates.⁹ Ethnicity, Gender, and Education information was not available for people below 200% FPL, so are blacked out in the appropriate columns.

In Washington, the statewide rate of serious mental illness is 3.2% in the general population and 5.96% among those below

200% FPL. However, prevalence estimates in King County are higher, due to the number of services available and its position as a population center. Multnomah County shares these characteristics, so we applied prevalence estimates from King County to Multnomah County's population. **In the general population, 4.04% of the population is estimated to have a mental illness (28,360 people); among those below 200% FPL, 6.13% are estimated to have a mental illness (11,252 people), of which 5,740 are Verity members.**

The number of non-Verity individuals below 200% FPL was calculated by subtracting Verity members from the total population below 200% FPL in Multnomah County (not shown). Among children age 1-17, this left -27,205 non-Verity children below 200% FPL, signifying that more children were enrolled in Verity than were estimated to live in families with incomes below 200% FPL. In certain circumstances, foster children are Verity-eligible even if the foster family's income is above 200% FPL. These children would not have been counted by the Census, but enrolled in OHP. Additionally, other OHP eligibility criteria do not exactly match the 200% FPL income requirement, enabling children not counted by the census to be enrolled in Verity. This combination of factors could explain the discrepancy.

⁸ U.S. Census Data: <http://www.census.gov/> American Community Survey rolled 2005-2007 population estimates

⁹ U.S. Census: www.census.gov: 200% FPL population statistics are from 2005-2007 rolled Census/American Community Survey data.

SMI prevalence estimates are available by age, gender, ethnicity, and education. **By age**, youth prevalence is calculated on serious emotional disturbance (SED), estimated at 7% across all youth from birth through age 17 above and below FPL. We estimate 3,496 Verity enrolled youth have a serious emotional disturbance, contributing to a total of 11,155 youth in Multnomah County with a serious emotional disturbance.

SMI by Gender: Women have higher estimated prevalence of SMI than men, but this difference is much more pronounced among those below 200% FPL. In the general population, 5.17% of women (17,937 women) and 2.54% of men (8,686 men) are estimated to have a serious mental illness. Among those below 200% FPL, 8.27% of women and 2.94% of men are estimated to have a serious mental illness.

SMI by Ethnicity: People who identify as Native have the highest rate of serious mental illness. In the general population, SMI prevalence is estimated at 5.93% of Natives, 4.12% of Whites, 3.87% of Blacks, 2.51% of Hispanics, and 1.45% of Asians. Estimated prevalence of serious mental illness increases among all ethnicities below 200% FPL, to 8.03% of Natives, 6.75% of Whites, 5.95% of Blacks, 3.23% of Hispanics, and 2.27% of Asians. Ethnicity breakouts are not available by 200% FPL, so case estimates are not available in this category.

SMI by Education: People with a high school diploma have slightly higher estimated prevalence of serious mental illness. In the general population, 2.65% of people without a high school diploma (1,758 people) and 4.08% of people with a high school diploma (19,021 people) are estimated to have a serious mental illness. Among those below 200% FPL, 5.23% of people without a high school diploma and 6.24% of people with a high school diploma are estimated to have a serious mental illness. Education breakouts are not available by 200% FPL, so case estimates are not available in this category.

Table 3: SMI Prevalence by Geographic Region

Area	Population	Land Area	Pop. Density	SMI Prevalence	
				Total Population	<200% Poverty
Multnomah	701,986	435.2	1613.0		
Pierce	762,223	1,678.9	454.0	4.03	6.41
Spokane	448,081	1,763.6	254.1	4.04	5.74
King	1,832,835	2,126.0	862.1	4.04	6.13
Northeast	59,058	6,082.6	9.7	3.8	6.04

Estimated prevalence rates of SMI vary by geographic region, displayed in Table 3. Population figures are from the U.S. Census.¹⁰

SMI by Population Density: Despite differences in population size and density, King County (1,832,835 people,¹¹ 862 people per square land mile) rates were applied to Multnomah County (701,986 people, 1,613 people per square land mile) because of similarities in service offerings and county make up. Pierce County (Tacoma) is similar in size to Multnomah County, with similar SMI prevalence in the general population of (4.03%) and slightly higher estimated SMI prevalence in the population below 200% FPL (6.41%) relative to King County. Spokane County is significantly smaller and less dense than Pierce or King Counties with similar estimated SMI prevalence in the general population (4.04%) and slightly lower estimated SMI prevalence in the poor population (5.74%) relative to Pierce and King Counties.

By contrast, Northeast is a rural area encompassing Pend Oreille, Stevens, and Ferry Counties with a total population of 59,058 and 9.7 people per square mile. Northeast maintains a slightly lower SMI prevalence among the total population (3.8%), yet slightly higher prevalence among those at or below 200% FPL (6.04%). While Multnomah County encompasses substantial areas of rural land the overall population density of the county negates any applicability of these rural SMI prevalence estimates. Rural rates are reported here for contrast purposes only.

¹⁰ U.S. Census American FactFinder: 2005-2007 Estimates, while Land Area measurements, in square miles, are from the U.S. Census American FactFinder: 2000 Data by County. Population Density is calculated by dividing total population by total land area.

¹¹ U.S. Census American FactFinder: King County, WA ACS Demographic and Housing Estimates: 2005-2007

Penetration Detail

Verity

In 2008 in Multnomah County, 10,881 people of all diagnosis types (outpatient and SMI need) accessed services through Verity. This is a slight increase from 10,540 in 2007.

Additionally, 4,311 unique seriously mentally ill adults and

children with serious emotional disturbance (CASII 3-5 and Intensive Service Array (ISA)) accessed services through Verity. This is down by 686 clients from 2007. ISA services include Intensive Treatment Services (ITS) or Intensive Community Treatment Services (ICTS). In total, 10,881 Verity clients of all diagnosis levels accessed services in 2008, including outpatient, SMI, ITS/ICTS, and those with other exceptional needs, an increase of 341 over 2007. Total enrollment declined from 95,188 in 2007 to 93,632 in 2008. Outpatient services include CASII 1-2 (youth), LOCUS 1-3 (adult), and assessment and screening/triage referral types (PH Tech referral extract). Service level is calculated by the highest level utilized during the year.

Table 4: Verity Penetration by Age, Gender, and Year

Verity Members Served and Enrolled 2007								
Age	Outpatient	SMI	ITS/ICTS	Other Exceptional Needs	TOTAL SMI/ISA SERVED	TOTAL SERVED	TOTAL MEMBERS	PENETRATION
1-17	1,554	1,938	336	376	2,274	4,204	50,758	8.3%
18-24	495	134	5	82	139	716	9,940	7.2%
25-44	1,505	1,077	0	324	1,077	2,906	15,965	18.2%
45-64	992	1,329	0	361	1,329	2,682	11,129	24.1%
65+	267	178	0	32	178	477	7,396	6.4%
Sex								
Female	3,134	2,322	170	171	2,492	5,797	53,692	10.8%
Male	1,679	2,334	171	559	2,505	4,743	41,496	11.4%
Total	4,813	4,656	341	730	4,997	10,540	95,188	11.1%

Verity Members Served and Enrolled 2008								
Age	Outpatient	SMI	ITS/ICTS	Other Exceptional Needs	TOTAL SMI/ISA SERVED	TOTAL SERVED	TOTAL MEMBERS	PENETRATION
1-17	1,626	1,751	347	357	2,098	4,081	49,943	8.2%
18-24	552	96	4	92	100	744	9,639	7.7%
25-44	1,632	791	0	405	791	2,828	15,217	18.6%
45-64	1,159	1,138	0	375	1,138	2,672	11,150	24.0%
65+	331	184	0	38	184	553	7,683	7.2%
Sex								
Female	3,447	1,922	150	682	2,072	6,201	52,800	11.7%
Male	1,853	2,038	201	588	2,239	4,680	40,832	11.5%
Total	5,300	3,960	351	1,270	4,311	10,881	93,632	11.6%

Table 5: Multnomah Treatment Fund Penetration by Age, Gender, and Year

Multnomah Treatment Fund Served 2007						
Age	Outpatient	SMI	ITS/ICTS	Other Exceptional Needs	TOTAL SMI/ISA SERVED	TOTAL SERVED
1-17	49	79	9	38	88	175
18-24	61	74	0	10	74	145
25-44	243	354	0	4	354	601
45-64	141	295	0	8	295	444
65+	4	17	0	3	17	24
Sex						
Female	256	361	6	16	367	639
Male	242	458	3	47	461	750
Totals	498	819	9	63	828	1,389

Multnomah Treatment Fund Served 2008						
Age	Outpatient	SMI	ITS/ICTS	Other Exceptional Needs	TOTAL SMI/ISA SERVED	TOTAL SERVED
1-17	59	97	7	38	104	201
18-24	84	36	0	19	36	139
25-44	289	272	0	19	272	580
45-64	139	230	0	24	230	393
65+	3	22	0	1	22	26
Sex						
Female	294	292	3	21	295	610
Male	280	365	4	80	369	729
Totals	574	657	7	101	664	1,339

50 people from 2007. MTF Table 5 has no penetration column because people receiving services through MTF are not enrolled; they are non-Verity members who meet eligibility criteria and are served by MTF, funded by county general funds.

Multnomah Treatment Fund

In 2008, 1,339 people of all diagnosis types (outpatient and SMI need) accessed services through Multnomah Treatment Fund (MTF). This is a slight decrease from 1,389 in 2007.

In 2008, 664 unique children and adults with a serious mental illness or serious emotional disturbance accessed services through the MTF. Clients represented in Table 5 (MTF) do not duplicate clients under Table 4 above (Verity clients). 2008 SMI penetration is down 164 people from 2007. In total, 1,339 MTF clients accessed services in 2008, including outpatient, SMI, ITS/ICTS, and those with exceptional needs, a reduction of

Prevalence vs. Penetration

The prevalence of mental illness and severe mental illness among adults below 200% FPL and severe emotional disturbance among children below 200% FPL exceeds the penetration, or number of adults and children receiving services through Multnomah County Verity or Multnomah Treatment Fund.

Table 6: Prevalence and Penetration

Any Mental Health Diagnosis													
	All Verity Members			Non-Verity Individuals Below 200% FPL			Total Estimated Cases	Total Served	Verity Need Met by Verity	Non-Verity Need Met by MTF	Total Need Met	Verity Served	MTF Served
Group	Mult. Co. Pop	Applied Rate	Cases	Mult. Co. Pop	Applied Rate	Cases	Cases	2008	2008	2008	2008	2008	2008
Total	93,632	15.00	14,045	89,819	15.00	13,473	27,518	12,220	77.5%	9.9%	44.4%	10,881	1,339

Serious Mental Illness or Severe Emotional Disturbance													
	All Verity Members			Non-Verity Individuals Below 200% FPL			Total Estimated Cases	Total SMI Served	Verity Need Met by Verity	Non-Verity Need Met by MTF	Total Need Met	Verity Served	MTF Served
Group	Mult. Co. Pop	Applied Rate	Cases	Mult. Co. Pop	Applied Rate	Cases	Cases	2008	2008	2008	2008	2008	2008
Total	93,632	6.13	5,740	89,819	6.13	5,512	11,252	4,975	75.1%	12.0%	44.2%	4,311	664
Age													
1-17	49,943	7.00	3,496	27,205	7.00	0	3,496	2,202	60.0%	100.0%	63.0%	2,098	104
18-24	9,639	4.25	410	16,738	4.25	711	1,121	136	24.4%	5.1%	12.1%	100	36
25-44	15,217	8.05	1,225	55,044	8.05	4,431	5,656	1,063	64.6%	6.1%	18.8%	791	272
45-64	11,150	7.55	842	30,067	7.55	2,270	3,112	1,368	135.2%	10.1%	44.0%	1,138	230
65+	7,683	0.65	50	15,383	0.65	100	150	206	368.0%	22.0%	137.3%	184	22

An estimated 14,045 Verity members have any mental health need, and 10,881 members (77.5%) are receiving services through Multnomah County Verity. This leaves an estimated 3,164 Verity members in Multnomah County in need of services. Of non-Verity members below 200% FPL, MTF is serving 9.9% of the estimated need. Combined, Multnomah County is meeting 44.4% of total mental health need.

An estimated 5,740 Verity members have a serious mental illness or serious emotional disturbance, and 4,311 SMI/SED members (75.1%) labeled as such are receiving services through Multnomah County Verity. This leaves an estimated 1,429 SMI/SED Verity members in Multnomah County in need of services. Of non-Verity members below 200% FPL, MTF is serving 12% of the estimated need. Combined, Multnomah County is meeting 44.2% of total SMI/SED need.

Non-Verity members below 200% FPL may be insured through other sources, including self-pay, veterans benefits, or other private insurance. Based on the U.S. Census Bureau's Annual Social and Economic Supplement, 2006-2008, 30.0% of all people in Oregon below 200% FPL are uninsured. Applying this rate to Multnomah County's population, we estimate that 61.3% of non-Verity members below 200% FPL remain uninsured by outside sources.¹²

¹² Calculated by: $93,632 + 89,819 = 183,451$ – Number of people in Multnomah County below 200% FPL; $183,451 \times .30 = 55,035$ – Estimated number of people in Multnomah County without insurance; $55,035 / 89,819 = 61.3\%$ -- Percentage of non-Verity people in Multnomah County without other insurance