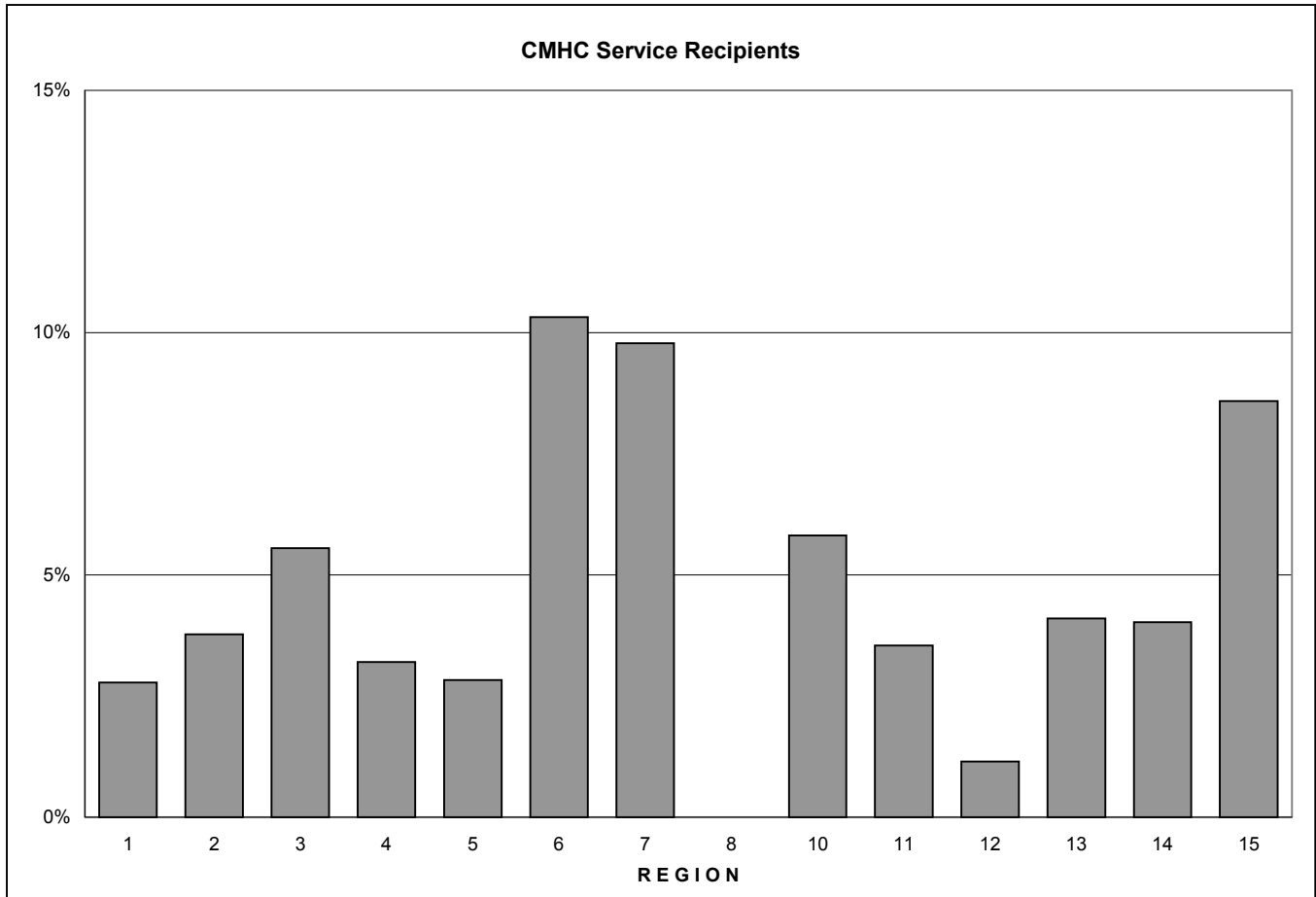


Section 8 Housing Use by the General Population and CMHC Service Recipients with Serious Mental Illness

Kentucky FY 2004

By Age, Gender, And Region



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Introduction and Overview

Access to safe and affordable housing has long been a major concern with regard to adults with serious mental illness who are being served in community settings. The HUD Section 8 housing choice voucher program is the federal government's major program for assisting very low-income families, the elderly, and the disabled to afford decent, safe, and sanitary housing in the private market. This brief report provides an overview of the utilization of Section 8 housing by adults who received community services for serious mental illness in Kentucky and by members of the general population. These utilization rates and a measure of relative utilization are provided for the state as a whole and for each of the states community mental health service areas, overall, and for age and gender categories within each region.

The data used in this analysis include anonymous extracts from a national Section 8 database housed at The Bristol Observatory and anonymous extracts from mental health treatment databases maintained by the state of Kentucky. The Section 8 database, which was obtained from HUD, includes the date of birth and gender, and state and county codes for all individuals residing in Section 8 voucher program housing in the United States on May 2, 2005. The Kentucky CMH data base includes the date of birth and gender, and county codes for all individuals with serious mental illness served during FY2004.

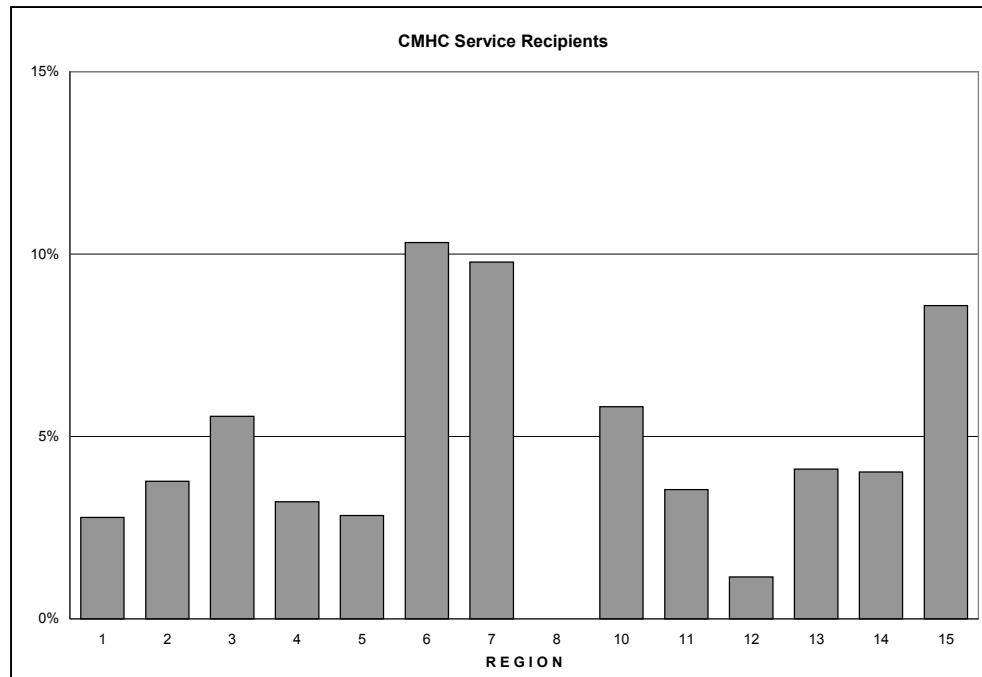
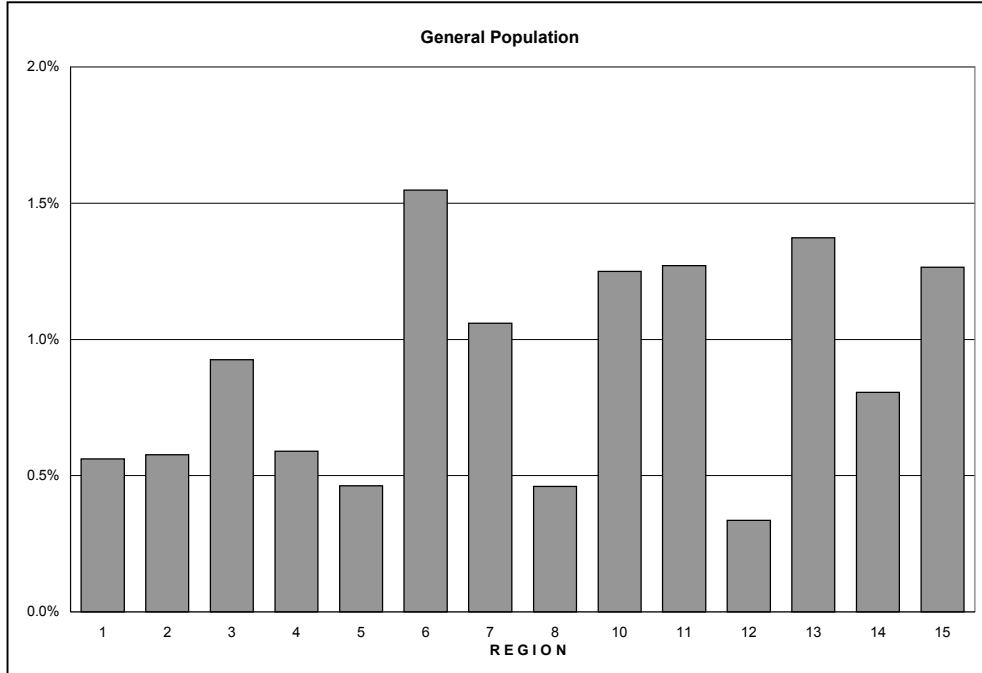
Because the data sets used in this analysis do not share unique person identifiers, Probabilistic Population Estimation (PPE) was used to determine caseload overlap, the number of individuals shared by the mental health and Section 8 data sets. PPE is a statistical data-mining tool that measures the number of people represented in HIPAA compliant data sets that do not share unique person identifiers. PPE reports how many people are represented in and across data sets, but does not reveal who the people are. This approach is unobtrusive and it protects the personal privacy of individuals and the confidentiality of medical records because it does not depend on personally identifying information.

Findings indicate that more than 5.5% of all adults receiving community services for serious mental illness were living in Section 8 housing at the time of the study. Utilization rates varied among Kentucky regions from more than 9% in Regions Six and Seven to less than 1.5% in Regions Eight and Twelve. Women were more than twice as likely as men to be living in Section 8 housing (7.2% vs. 3.4%). Among age groups, adults in the 35-49 age group had the highest utilization rate (6.4%) and older adults (65+) had the lowest utilization rate (2.7%). Among age/gender groups women aged 35-49 had the highest utilization rate (8.3%) while men aged 65 and older had the lowest utilization rates (.9%).

In terms of relative utilization, adults with serious mental illness were more than 5 times as likely as other adult residents of Kentucky to make use of Section 8 housing. Relative utilization for men with serious mental illness was substantially greater than for women (6.7 vs. 4.5). Relative utilization was highest in the 50-64 age group (6.4) and lowest in the 18-34 age group (3.8).

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Section 8 Housing Use Kentucky FY 2004



Based on analysis of data sets provided by Kentucky's Community Mental Health Programs and the US Department of Housing and Urban Development. Subjects include all adults with serious mental illness served by CMHC programs in Kentucky during FY2004 and all individuals residing in Section 8 voucher program housing in Kentucky on May 2, 2005. Because these data sets do not share unique personal identifiers, Probabilistic Population Estimation was used to determine caseload size and overlap. General population estimates are based on data from the United States Census 2000.

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Section 8 Housing Use by the General Population and CMHC Service Recipients with Serious Mental Illness Kentucky: FY 2004

	General Population			Adults with SMI			Relative Utilization Rate
	Total Population	Number in Section 8	Percent in Section 8	Number with SMI	Number in Section 8	Percent in Section 8	
Total	3,046,951	32,686 ± 112	1.1% ± 0.00%	27,918 ± 42	1,574 ± 78	5.6% ± 0.3%	5.3 ± 0.3
Region 1	157,510	885 ± 5	0.6% ± 0.00%	1,366 ± 6	38 ± 4	2.8% ± 0.3%	5.0 ± 0.5
Region 2	154,361	890 ± 6	0.6% ± 0.00%	1,518 ± 7	57 ± 6	3.8% ± 0.4%	6.5 ± 0.6
Region 3	155,001	1,435 ± 9	0.9% ± 0.01%	2,068 ± 10	115 ± 9	5.6% ± 0.5%	6.0 ± 0.5
Region 4	193,083	1,138 ± 6	0.6% ± 0.00%	2,804 ± 10	90 ± 7	3.2% ± 0.3%	5.4 ± 0.4
Region 5	177,804	823 ± 4	0.5% ± 0.00%	2,046 ± 8	58 ± 4	2.8% ± 0.2%	6.1 ± 0.4
Region 6	654,224	10,124 ± 105	1.5% ± 0.02%	4,263 ± 30	440 ± 73	10.3% ± 1.7%	6.7 ± 1.1
Region 7	286,137	3,031 ± 14	1.1% ± 0.01%	1,598 ± 8	156 ± 11	9.8% ± 0.7%	9.2 ± 0.6
Region 8	41,452	191 ± 2	0.5% ± 0.00%	170 ± 2	0 ± 0	----	----
Region 10	162,796	2,033 ± 10	1.2% ± 0.01%	1,926 ± 7	112 ± 6	5.8% ± 0.3%	4.7 ± 0.2
Region 11	121,476	1,543 ± 10	1.3% ± 0.01%	2,214 ± 13	78 ± 12	3.5% ± 0.5%	2.8 ± 0.4
Region 12	91,201	306 ± 2	0.3% ± 0.00%	1,124 ± 5	13 ± 1	1.2% ± 0.1%	3.4 ± 0.2
Region 13	177,872	2,442 ± 10	1.4% ± 0.01%	1,618 ± 6	66 ± 5	4.1% ± 0.3%	3.0 ± 0.2
Region 14	147,152	1,185 ± 5	0.8% ± 0.00%	2,108 ± 8	85 ± 5	4.0% ± 0.2%	5.0 ± 0.3
Region 15	526,882	6,661 ± 30	1.3% ± 0.01%	3,096 ± 10	266 ± 16	8.6% ± 0.5%	6.8 ± 0.4

Based on analysis of data sets provided by Kentucky's Community Mental Health Programs and the US Department of Housing and Urban Development. Subjects include all adults with serious mental illness served by CMHC programs in Kentucky during FY2004 and all individuals residing in Section 8 voucher program housing in Kentucky on May 2, 2005. Because these data sets do not share unique personal identifiers, Probabilistic Population Estimation was used to determine caseload size and overlap. General population estimates are based on data from the United States Census 2000.

Relative Rate is derived by dividing the percent of adults with SMI who are in Section 8 housing by the percent of the general population who are in Section 8 housing. A relative rate of 1.0 indicates no difference. A relative rate that is significantly greater than 1.0 indicates that mental health service recipients are more likely than members of the general population to live in Section 8 housing. A relative rate that is significantly less than 1.0 indicates that mental health service recipients are less likely than members of the general population to live in Section 8 housing. (A relative rate of 2 means twice as likely, a relative rate of .5 means one half as likely.)

Section 8 Housing Use by the General Population and CMHC Service Recipients with Serious Mental Illness Kentucky: FY 2004

	General Population			Adults with SMI			Relative Utilization Rate
	Total Population	Number in Section 8	Percent in Section 8	Number with SMI	Number in Section 8	Percent in Section 8	
Total	3,046,951	32,686 ± 112	1.1% ± 0.00%	27,918 ± 42	1,574 ± 78	5.6% ± 0.3%	5.3 ± 0.3
Male	1,464,021	7,427 ± 27	0.5% ± 0.00%	11,352 ± 27	386 ± 36	3.4% ± 0.3%	6.7 ± 0.6
Female	1,582,930	25,259 ± 109	1.6% ± 0.01%	16,566 ± 32	1,189 ± 70	7.2% ± 0.4%	4.5 ± 0.3
Age							
18-34	969,966	14,651 ± 91	1.5% ± 0.01%	6,895 ± 18	396 ± 44	5.7% ± 0.6%	3.8 ± 0.4
35-49	936,641	10,111 ± 61	1.1% ± 0.01%	11,820 ± 31	754 ± 57	6.4% ± 0.5%	5.9 ± 0.4
50-64	635,551	5,054 ± 23	0.8% ± 0.00%	7,409 ± 20	376 ± 30	5.1% ± 0.4%	6.4 ± 0.5
65+	504,793	2,870 ± 10	0.6% ± 0.00%	1,794 ± 6	48 ± 7	2.7% ± 0.4%	4.7 ± 0.7
Male							
18-34	489,409	3,086 ± 21	0.6% ± 0.00%	3,071 ± 13	119 ± 18	3.9% ± 0.6%	6.2 ± 0.9
35-49	462,480	2,454 ± 14	0.5% ± 0.00%	5,001 ± 20	189 ± 27	3.8% ± 0.5%	7.1 ± 1.0
50-64	308,151	1,301 ± 8	0.4% ± 0.00%	2,748 ± 12	73 ± 14	2.7% ± 0.5%	6.3 ± 1.2
65+	203,981	586 ± 3	0.3% ± 0.00%	532 ± 3	5 ± 2	0.9% ± 0.3%	3.1 ± 1.1
Female							
18-34	480,557	11,565 ± 88	2.4% ± 0.02%	3,824 ± 14	276 ± 40	7.2% ± 1.1%	3.0 ± 0.4
35-49	474,161	7,656 ± 59	1.6% ± 0.01%	6,819 ± 23	566 ± 50	8.3% ± 0.7%	5.1 ± 0.5
50-64	327,400	3,753 ± 22	1.1% ± 0.01%	4,661 ± 17	303 ± 27	6.5% ± 0.6%	5.7 ± 0.5
65+	300,812	2,285 ± 9	0.8% ± 0.00%	1,262 ± 6	43 ± 7	3.4% ± 0.6%	4.5 ± 0.7

Based on analysis of data sets provided by Kentucky's Community Mental Health Programs and the US Department of Housing and Urban Development. Subjects include all adults with serious mental illness served by CMHC programs in Kentucky during FY2004 and all individuals residing in Section 8 voucher program housing in Kentucky on May 2, 2005. Because these data sets do not share unique personal identifiers, Probabilistic Population Estimation was used to determine caseload size and overlap. General population estimates are based on data from the United States Census 2000.

Relative Rate is derived by dividing the percent of adults with SMI who are in Section 8 housing by the percent of the general population who are in Section 8 housing. A relative rate of 1.0 indicates no difference. A relative rate that is significantly greater than 1.0 indicates that mental health service recipients are more likely than members of the general population to live in Section 8 housing. A relative rate that is significantly less than 1.0 indicates that mental health service recipients are less likely than members of the general population to live in Section 8 housing. (A relative rate of 2 means twice as likely, a relative rate of .5 means one half as likely.)

Section 8 Housing Use by the General Population and CMHC Service Recipients with Serious Mental Illness Region 1, Kentucky: FY 2004

	General Population			Adults with SMI			Relative Utilization Rate
	Total Population	Number in Section 8	Percent in Section 8	Number with SMI	Number in Section 8	Percent in Section 8	
Total	157,510	885 ± 5	0.6% ± 0.00%	1,366 ± 6	38 ± 4	2.8% ± 0.3%	5.0 ± 0.5
Male	74,603	202 ± 2	0.3% ± 0.00%	537 ± 4	15 ± 2	2.8% ± 0.3%	10.2 ± 1.1
Female	82,907	683 ± 5	0.8% ± 0.01%	829 ± 5	23 ± 4	2.8% ± 0.5%	3.4 ± 0.6
Age							
18-34	44,957	408 ± 4	0.9% ± 0.01%	379 ± 3	8 ± 2	2.0% ± 0.4%	2.2 ± 0.4
35-49	44,750	268 ± 3	0.6% ± 0.01%	564 ± 4	23 ± 4	4.2% ± 0.6%	6.9 ± 1.1
50-64	34,888	128 ± 2	0.4% ± 0.00%	354 ± 3	7 ± 1	1.9% ± 0.3%	5.3 ± 0.7
65+	32,915	81 ± 1	0.2% ± 0.00%	68 ± 1	0 ± 0	----	----
Male							
18-34	22,517	76 ± 1	0.3% ± 0.01%	172 ± 2	4 ± 1	2.3% ± 0.4%	6.8 ± 1.3
35-49	22,019	70 ± 1	0.3% ± 0.01%	220 ± 2	9 ± 1	4.0% ± 0.5%	12.7 ± 1.7
50-64	16,852	39 ± 1	0.2% ± 0.00%	127 ± 2	2 ± 1	1.6% ± 0.4%	6.7 ± 1.9
65+	13,215	16 ± 0	0.1% ± 0.00%	19 ± 0	0 ± 0	----	----
Female							
18-34	22,440	331 ± 4	1.5% ± 0.02%	207 ± 2	4 ± 1	1.8% ± 0.6%	1.2 ± 0.4
35-49	22,731	198 ± 3	0.9% ± 0.01%	344 ± 4	15 ± 3	4.2% ± 1.0%	4.9 ± 1.2
50-64	18,036	89 ± 1	0.5% ± 0.01%	228 ± 3	5 ± 1	2.2% ± 0.3%	4.4 ± 0.7
65+	19,700	65 ± 1	0.3% ± 0.00%	49 ± 1	0 ± 0	----	----

Based on analysis of data sets provided by Kentucky's Community Mental Health Programs and the US Department of Housing and Urban Development. Subjects include all adults with serious mental illness served by CMHC programs in Kentucky during FY2004 and all individuals residing in Section 8 voucher program housing in Kentucky on May 2, 2005. Because these data sets do not share unique personal identifiers, Probabilistic Population Estimation was used to determine caseload size and overlap. General population estimates are based on data from the United States Census 2000.

Relative Rate is derived by dividing the percent of adults with SMI who are in Section 8 housing by the percent of the general population who are in Section 8 housing. A relative rate of 1.0 indicates no difference. A relative rate that is significantly greater than 1.0 indicates that mental health service recipients are more likely than members of the general population to live in Section 8 housing. A relative rate that is significantly less than 1.0 indicates that mental health service recipients are less likely than members of the general population to live in Section 8 housing. (A relative rate of 2 means twice as likely, a relative rate of .5 means one half as likely.)

Section 8 Housing Use by the General Population and CMHC Service Recipients with Serious Mental Illness Region 2, Kentucky: FY 2004

	General Population			Adults with SMI			Relative Utilization Rate
	Total Population	Number in Section 8	Percent in Section 8	Number with SMI	Number in Section 8	Percent in Section 8	
Total	154,361	890 ± 6	0.6% ± 0.00%	1,518 ± 7	57 ± 6	3.8% ± 0.4%	6.5 ± 0.6
Male	76,551	189 ± 2	0.2% ± 0.00%	602 ± 4	19 ± 2	3.1% ± 0.3%	12.6 ± 1.2
Female	77,810	701 ± 6	0.9% ± 0.01%	916 ± 5	39 ± 5	4.2% ± 0.6%	4.7 ± 0.7
Age							
18-34	52,077	367 ± 4	0.7% ± 0.01%	350 ± 3	6 ± 2	1.8% ± 0.7%	2.6 ± 0.9
35-49	42,760	250 ± 3	0.6% ± 0.01%	659 ± 5	29 ± 4	4.4% ± 0.7%	7.5 ± 1.1
50-64	31,692	166 ± 2	0.5% ± 0.01%	416 ± 3	22 ± 3	5.3% ± 0.7%	10.2 ± 1.3
65+	27,832	107 ± 1	0.4% ± 0.00%	92 ± 1	0 ± 0	----	----
Male							
18-34	28,662	67 ± 1	0.2% ± 0.00%	157 ± 2	1 ± 1	0.6% ± 0.4%	2.6 ± 1.7
35-49	21,404	56 ± 1	0.3% ± 0.00%	277 ± 3	12 ± 1	4.2% ± 0.5%	16.1 ± 2.0
50-64	15,289	37 ± 1	0.2% ± 0.01%	145 ± 2	6 ± 1	4.1% ± 0.5%	16.9 ± 2.3
65+	11,196	28 ± 1	0.3% ± 0.01%	24 ± 1	0 ± 0	----	----
Female							
18-34	23,415	300 ± 4	1.3% ± 0.02%	193 ± 2	5 ± 2	2.8% ± 1.2%	2.2 ± 0.9
35-49	21,356	193 ± 3	0.9% ± 0.01%	383 ± 4	17 ± 4	4.4% ± 1.1%	4.9 ± 1.2
50-64	16,403	129 ± 2	0.8% ± 0.01%	271 ± 3	16 ± 3	6.0% ± 1.0%	7.6 ± 1.3
65+	16,636	79 ± 1	0.5% ± 0.01%	68 ± 1	0 ± 0	----	----

Based on analysis of data sets provided by Kentucky's Community Mental Health Programs and the US Department of Housing and Urban Development. Subjects include all adults with serious mental illness served by CMHC programs in Kentucky during FY2004 and all individuals residing in Section 8 voucher program housing in Kentucky on May 2, 2005. Because these data sets do not share unique personal identifiers, Probabilistic Population Estimation was used to determine caseload size and overlap. General population estimates are based on data from the United States Census 2000.

Relative Rate is derived by dividing the percent of adults with SMI who are in Section 8 housing by the percent of the general population who are in Section 8 housing. A relative rate of 1.0 indicates no difference. A relative rate that is significantly greater than 1.0 indicates that mental health service recipients are more likely than members of the general population to live in Section 8 housing. A relative rate that is significantly less than 1.0 indicates that mental health service recipients are less likely than members of the general population to live in Section 8 housing. (A relative rate of 2 means twice as likely, a relative rate of .5 means one half as likely.)

Section 8 Housing Use by the General Population and CMHC Service Recipients with Serious Mental Illness Region 3, Kentucky: FY 2004

	General Population			Adults with SMI			Relative Utilization Rate
	Total Population	Number in Section 8	Percent in Section 8	Number with SMI	Number in Section 8	Percent in Section 8	
Total	155,001	1,435 ± 9	0.9% ± 0.01%	2,068 ± 10	115 ± 9	5.6% ± 0.5%	6.0 ± 0.5
Male	73,891	299 ± 3	0.4% ± 0.00%	793 ± 5	21 ± 2	2.7% ± 0.3%	6.7 ± 0.7
Female	81,110	1,136 ± 8	1.4% ± 0.01%	1,275 ± 8	94 ± 9	7.3% ± 0.7%	5.2 ± 0.5
Age							
18-34	45,493	584 ± 6	1.3% ± 0.01%	669 ± 5	34 ± 5	5.1% ± 0.8%	4.0 ± 0.6
35-49	47,640	443 ± 5	0.9% ± 0.01%	868 ± 7	59 ± 7	6.7% ± 0.8%	7.2 ± 0.9
50-64	33,552	246 ± 3	0.7% ± 0.01%	434 ± 4	21 ± 3	4.8% ± 0.7%	6.6 ± 1.0
65+	28,316	161 ± 2	0.6% ± 0.01%	97 ± 1	1 ± 0	1.0% ± 0.0%	1.8 ± 0.0
Male							
18-34	22,855	119 ± 2	0.5% ± 0.01%	266 ± 3	6 ± 1	2.3% ± 0.3%	4.3 ± 0.5
35-49	23,465	105 ± 2	0.4% ± 0.01%	346 ± 4	10 ± 2	3.0% ± 0.6%	6.7 ± 1.3
50-64	16,330	56 ± 1	0.3% ± 0.01%	156 ± 2	5 ± 1	3.2% ± 0.3%	9.3 ± 1.0
65+	11,241	19 ± 0	0.2% ± 0.00%	25 ± 1	0 ± 0	----	----
Female							
18-34	22,638	466 ± 6	2.1% ± 0.03%	402 ± 4	28 ± 5	7.1% ± 1.3%	3.4 ± 0.7
35-49	24,175	339 ± 5	1.4% ± 0.02%	522 ± 6	48 ± 7	9.2% ± 1.3%	6.6 ± 0.9
50-64	17,222	190 ± 3	1.1% ± 0.02%	278 ± 3	16 ± 3	5.8% ± 1.1%	5.2 ± 1.0
65+	17,075	142 ± 2	0.8% ± 0.01%	72 ± 1	1 ± 0	1.4% ± 0.0%	1.7 ± 0.0

Based on analysis of data sets provided by Kentucky's Community Mental Health Programs and the US Department of Housing and Urban Development. Subjects include all adults with serious mental illness served by CMHC programs in Kentucky during FY2004 and all individuals residing in Section 8 voucher program housing in Kentucky on May 2, 2005. Because these data sets do not share unique personal identifiers, Probabilistic Population Estimation was used to determine caseload size and overlap. General population estimates are based on data from the United States Census 2000.

Relative Rate is derived by dividing the percent of adults with SMI who are in Section 8 housing by the percent of the general population who are in Section 8 housing. A relative rate of 1.0 indicates no difference. A relative rate that is significantly greater than 1.0 indicates that mental health service recipients are more likely than members of the general population to live in Section 8 housing. A relative rate that is significantly less than 1.0 indicates that mental health service recipients are less likely than members of the general population to live in Section 8 housing. (A relative rate of 2 means twice as likely, a relative rate of .5 means one half as likely.)

Section 8 Housing Use by the General Population and CMHC Service Recipients with Serious Mental Illness Region 4, Kentucky: FY 2004

	General Population			Adults with SMI			Relative Utilization Rate
	Total Population	Number in Section 8	Percent in Section 8	Number with SMI	Number in Section 8	Percent in Section 8	
Total	193,083	1,138 ± 6	0.6% ± 0.00%	2,804 ± 10	90 ± 7	3.2% ± 0.3%	5.4 ± 0.4
Male	92,644	316 ± 3	0.3% ± 0.00%	1,050 ± 6	35 ± 3	3.3% ± 0.3%	9.8 ± 0.9
Female	100,439	822 ± 6	0.8% ± 0.01%	1,754 ± 8	55 ± 7	3.1% ± 0.4%	3.8 ± 0.5
Age							
18-34	63,312	388 ± 4	0.6% ± 0.01%	708 ± 5	20 ± 3	2.8% ± 0.5%	4.6 ± 0.8
35-49	56,605	350 ± 4	0.6% ± 0.01%	1,208 ± 7	47 ± 6	3.9% ± 0.5%	6.3 ± 0.8
50-64	40,452	238 ± 3	0.6% ± 0.01%	705 ± 5	22 ± 3	3.1% ± 0.4%	5.3 ± 0.7
65+	32,714	162 ± 2	0.5% ± 0.01%	184 ± 2	1 ± 0	0.5% ± 0.2%	1.1 ± 0.5
Male							
18-34	31,615	85 ± 1	0.3% ± 0.00%	303 ± 3	8 ± 1	2.6% ± 0.4%	9.6 ± 1.4
35-49	28,048	119 ± 2	0.4% ± 0.01%	447 ± 4	22 ± 3	5.0% ± 0.6%	11.7 ± 1.5
50-64	19,726	65 ± 1	0.3% ± 0.01%	255 ± 3	5 ± 1	1.9% ± 0.4%	5.8 ± 1.4
65+	13,255	46 ± 1	0.3% ± 0.01%	45 ± 1	0 ± 0	----	----
Female							
18-34	31,697	303 ± 4	1.0% ± 0.01%	405 ± 4	12 ± 3	2.9% ± 0.8%	3.1 ± 0.8
35-49	28,557	231 ± 3	0.8% ± 0.01%	761 ± 6	25 ± 5	3.3% ± 0.7%	4.0 ± 0.8
50-64	20,726	172 ± 2	0.8% ± 0.01%	450 ± 4	17 ± 3	3.8% ± 0.6%	4.6 ± 0.8
65+	19,459	116 ± 2	0.6% ± 0.01%	139 ± 2	1 ± 0	0.7% ± 0.3%	1.2 ± 0.5

Based on analysis of data sets provided by Kentucky's Community Mental Health Programs and the US Department of Housing and Urban Development. Subjects include all adults with serious mental illness served by CMHC programs in Kentucky during FY2004 and all individuals residing in Section 8 voucher program housing in Kentucky on May 2, 2005. Because these data sets do not share unique personal identifiers, Probabilistic Population Estimation was used to determine caseload size and overlap. General population estimates are based on data from the United States Census 2000.

Relative Rate is derived by dividing the percent of adults with SMI who are in Section 8 housing by the percent of the general population who are in Section 8 housing. A relative rate of 1.0 indicates no difference. A relative rate that is significantly greater than 1.0 indicates that mental health service recipients are more likely than members of the general population to live in Section 8 housing. A relative rate that is significantly less than 1.0 indicates that mental health service recipients are less likely than members of the general population to live in Section 8 housing. (A relative rate of 2 means twice as likely, a relative rate of .5 means one half as likely.)

**Section 8 Housing Use by the General Population
and CMHC Service Recipients with Serious Mental Illness
Region 5, Kentucky: FY 2004**

	General Population			Adults with SMI			Relative Utilization Rate
	Total Population	Number in Section 8	Percent in Section 8	Number with SMI	Number in Section 8	Percent in Section 8	
Total	177,804	823 ± 4	0.5% ± 0.00%	2,046 ± 8	58 ± 4	2.8% ± 0.2%	6.1 ± 0.4
Male	87,890	189 ± 2	0.2% ± 0.00%	729 ± 5	5 ± 0	0.7% ± 0.0%	3.2 ± 0.2
Female	89,914	634 ± 4	0.7% ± 0.00%	1,317 ± 7	53 ± 4	4.0% ± 0.3%	5.7 ± 0.4
Age							
18-34	56,575	314 ± 3	0.6% ± 0.00%	653 ± 5	17 ± 2	2.7% ± 0.4%	4.8 ± 0.7
35-49	57,706	238 ± 2	0.4% ± 0.00%	806 ± 6	25 ± 3	3.1% ± 0.4%	7.4 ± 0.9
50-64	36,304	152 ± 2	0.4% ± 0.00%	447 ± 4	13 ± 1	2.9% ± 0.3%	6.8 ± 0.7
65+	27,219	118 ± 1	0.4% ± 0.00%	141 ± 1	3 ± 0	2.1% ± 0.2%	4.9 ± 0.5
Male							
18-34	29,796	76 ± 1	0.3% ± 0.00%	269 ± 3	2 ± 0	0.7% ± 0.1%	2.9 ± 0.3
35-49	28,850	51 ± 1	0.2% ± 0.00%	303 ± 3	2 ± 0	0.7% ± 0.1%	3.7 ± 0.4
50-64	17,841	39 ± 1	0.2% ± 0.00%	115 ± 1	1 ± 0	0.9% ± 0.0%	4.0 ± 0.1
65+	11,403	22 ± 1	0.2% ± 0.00%	42 ± 1	0 ± 0	----	----
Female							
18-34	26,779	238 ± 3	0.9% ± 0.01%	384 ± 4	15 ± 2	4.0% ± 0.6%	4.5 ± 0.7
35-49	28,856	187 ± 2	0.6% ± 0.01%	503 ± 5	23 ± 3	4.5% ± 0.6%	7.0 ± 1.0
50-64	18,463	113 ± 2	0.6% ± 0.01%	332 ± 3	12 ± 1	3.5% ± 0.4%	5.8 ± 0.7
65+	15,816	96 ± 1	0.6% ± 0.01%	98 ± 1	3 ± 0	3.1% ± 0.3%	5.0 ± 0.5

Based on analysis of data sets provided by Kentucky's Community Mental Health Programs and the US Department of Housing and Urban Development. Subjects include all adults with serious mental illness served by CMHC programs in Kentucky during FY2004 and all individuals residing in Section 8 voucher program housing in Kentucky on May 2, 2005. Because these data sets do not share unique personal identifiers, Probabilistic Population Estimation was used to determine caseload size and overlap. General population estimates are based on data from the United States Census 2000.

Relative Rate is derived by dividing the percent of adults with SMI who are in Section 8 housing by the percent of the general population who are in Section 8 housing. A relative rate of 1.0 indicates no difference. A relative rate that is significantly greater than 1.0 indicates that mental health service recipients are more likely than members of the general population to live in Section 8 housing. A relative rate that is significantly less than 1.0 indicates that mental health service recipients are less likely than members of the general population to live in Section 8 housing. (A relative rate of 2 means twice as likely, a relative rate of .5 means one half as likely.)

Section 8 Housing Use by the General Population and CMHC Service Recipients with Serious Mental Illness Region 6, Kentucky: FY 2004

	General Population			Adults with SMI			Relative Utilization Rate
	Total Population	Number in Section 8	Percent in Section 8	Number with SMI	Number in Section 8	Percent in Section 8	
Total	654,224	10,124 ± 105	1.5% ± 0.02%	4,263 ± 30	440 ± 73	10.3% ± 1.7%	6.7 ± 1.1
Male	310,016	1,941 ± 24	0.6% ± 0.01%	1,922 ± 20	89 ± 34	4.6% ± 1.8%	7.4 ± 2.8
Female	344,208	8,183 ± 102	2.4% ± 0.03%	2,341 ± 22	351 ± 65	15.0% ± 2.8%	6.3 ± 1.2
Age							
18-34	198,748	4,916 ± 85	2.5% ± 0.04%	1,065 ± 13	115 ± 42	10.8% ± 3.9%	4.4 ± 1.6
35-49	211,327	3,419 ± 57	1.6% ± 0.03%	1,847 ± 23	223 ± 53	12.1% ± 2.9%	7.4 ± 1.8
50-64	134,685	1,291 ± 20	1.0% ± 0.01%	1,071 ± 14	88 ± 28	8.2% ± 2.6%	8.6 ± 2.7
65+	109,464	497 ± 6	0.5% ± 0.01%	280 ± 4	14 ± 7	5.1% ± 2.6%	11.1 ± 5.7
Male							
18-34	98,886	849 ± 19	0.9% ± 0.02%	549 ± 9	34 ± 17	6.1% ± 3.1%	7.1 ± 3.7
35-49	103,456	660 ± 12	0.6% ± 0.01%	870 ± 16	37 ± 26	4.2% ± 3.0%	6.6 ± 4.7
50-64	64,517	329 ± 7	0.5% ± 0.01%	425 ± 9	18 ± 13	4.3% ± 3.2%	8.5 ± 6.2
65+	43,157	103 ± 2	0.2% ± 0.00%	78 ± 2	1 ± 2	0.9% ± 2.1%	3.7 ± 9.0
Female							
18-34	99,862	4,067 ± 83	4.1% ± 0.08%	516 ± 8	81 ± 38	15.8% ± 7.4%	3.9 ± 1.8
35-49	107,871	2,759 ± 56	2.6% ± 0.05%	976 ± 16	186 ± 46	19.1% ± 4.7%	7.5 ± 1.8
50-64	70,168	962 ± 19	1.4% ± 0.03%	646 ± 11	70 ± 25	10.8% ± 3.8%	7.9 ± 2.8
65+	66,307	395 ± 6	0.6% ± 0.01%	202 ± 4	14 ± 7	6.7% ± 3.5%	11.2 ± 5.9

Based on analysis of data sets provided by Kentucky's Community Mental Health Programs and the US Department of Housing and Urban Development. Subjects include all adults with serious mental illness served by CMHC programs in Kentucky during FY2004 and all individuals residing in Section 8 voucher program housing in Kentucky on May 2, 2005. Because these data sets do not share unique personal identifiers, Probabilistic Population Estimation was used to determine caseload size and overlap. General population estimates are based on data from the United States Census 2000.

Relative Rate is derived by dividing the percent of adults with SMI who are in Section 8 housing by the percent of the general population who are in Section 8 housing. A relative rate of 1.0 indicates no difference. A relative rate that is significantly greater than 1.0 indicates that mental health service recipients are more likely than members of the general population to live in Section 8 housing. A relative rate that is significantly less than 1.0 indicates that mental health service recipients are less likely than members of the general population to live in Section 8 housing. (A relative rate of 2 means twice as likely, a relative rate of .5 means one half as likely.)

Section 8 Housing Use by the General Population and CMHC Service Recipients with Serious Mental Illness Region 7, Kentucky: FY 2004

	General Population			Adults with SMI			Relative Utilization Rate
	Total Population	Number in Section 8	Percent in Section 8	Number with SMI	Number in Section 8	Percent in Section 8	
Total	286,137	3,031 ± 14	1.1% ± 0.01%	1,598 ± 8	156 ± 11	9.8% ± 0.7%	9.2 ± 0.6
Male	137,605	705 ± 5	0.5% ± 0.00%	637 ± 5	43 ± 3	6.7% ± 0.5%	13.1 ± 1.0
Female	148,532	2,326 ± 14	1.6% ± 0.01%	961 ± 6	113 ± 10	11.8% ± 1.1%	7.5 ± 0.7
Age							
18-34	94,080	1,221 ± 11	1.3% ± 0.01%	396 ± 3	35 ± 5	8.7% ± 1.4%	6.7 ± 1.1
35-49	93,821	829 ± 8	0.9% ± 0.01%	729 ± 6	68 ± 8	9.3% ± 1.1%	10.5 ± 1.3
50-64	56,167	528 ± 5	0.9% ± 0.01%	389 ± 3	49 ± 4	12.6% ± 1.1%	13.3 ± 1.2
65+	42,069	452 ± 4	1.1% ± 0.01%	83 ± 1	5 ± 0	6.0% ± 0.5%	5.6 ± 0.4
Male							
18-34	46,752	244 ± 3	0.5% ± 0.01%	155 ± 2	14 ± 2	8.8% ± 1.2%	16.9 ± 2.3
35-49	46,757	211 ± 3	0.5% ± 0.01%	320 ± 4	19 ± 2	6.1% ± 0.7%	13.5 ± 1.6
50-64	27,311	160 ± 2	0.6% ± 0.01%	143 ± 2	10 ± 2	6.8% ± 1.2%	11.6 ± 2.0
65+	16,785	89 ± 1	0.5% ± 0.01%	19 ± 0	0 ± 0	----	----
Female							
18-34	47,328	977 ± 10	2.1% ± 0.02%	241 ± 3	21 ± 5	8.7% ± 2.1%	4.2 ± 1.0
35-49	47,064	618 ± 7	1.3% ± 0.01%	409 ± 5	48 ± 8	11.8% ± 1.9%	9.0 ± 1.5
50-64	28,856	368 ± 4	1.3% ± 0.02%	246 ± 3	39 ± 4	15.9% ± 1.7%	12.5 ± 1.3
65+	25,284	362 ± 4	1.4% ± 0.01%	64 ± 1	5 ± 0	7.8% ± 0.6%	5.4 ± 0.4

Based on analysis of data sets provided by Kentucky's Community Mental Health Programs and the US Department of Housing and Urban Development. Subjects include all adults with serious mental illness served by CMHC programs in Kentucky during FY2004 and all individuals residing in Section 8 voucher program housing in Kentucky on May 2, 2005. Because these data sets do not share unique personal identifiers, Probabilistic Population Estimation was used to determine caseload size and overlap. General population estimates are based on data from the United States Census 2000.

Relative Rate is derived by dividing the percent of adults with SMI who are in Section 8 housing by the percent of the general population who are in Section 8 housing. A relative rate of 1.0 indicates no difference. A relative rate that is significantly greater than 1.0 indicates that mental health service recipients are more likely than members of the general population to live in Section 8 housing. A relative rate that is significantly less than 1.0 indicates that mental health service recipients are less likely than members of the general population to live in Section 8 housing. (A relative rate of 2 means twice as likely, a relative rate of .5 means one half as likely.)

**Section 8 Housing Use by the General Population
and CMHC Service Recipients with Serious Mental Illness
Region 8, Kentucky: FY 2004**

	General Population			Adults with SMI			Relative Utilization Rate
	Total Population	Number in Section 8	Percent in Section 8	Number with SMI	Number in Section 8	Percent in Section 8	
Total	41,452	191 ± 2	0.5% ± 0.00%	170 ± 2	0 ± 0	----	----
Male	20,016	45 ± 1	0.2% ± 0.00%	66 ± 1	0 ± 0	----	----
Female	21,436	146 ± 2	0.7% ± 0.01%	103 ± 1	0 ± 0	----	----
Age							
18-34	12,125	77 ± 1	0.6% ± 0.01%	37 ± 1	0 ± 0	----	----
35-49	12,611	55 ± 1	0.4% ± 0.01%	63 ± 1	0 ± 0	----	----
50-64	9,010	32 ± 1	0.4% ± 0.01%	55 ± 1	0 ± 0	----	----
65+	7,706	26 ± 1	0.3% ± 0.01%	14 ± 0	0 ± 0	----	----
Male							
18-34	6,082	14 ± 0	0.2% ± 0.01%	19 ± 1	0 ± 0	----	----
35-49	6,280	16 ± 0	0.3% ± 0.01%	25 ± 1	0 ± 0	----	----
50-64	4,439	6 ± 0	0.1% ± 0.01%	18 ± 1	0 ± 0	----	----
65+	3,215	9 ± 0	0.3% ± 0.01%	4 ± 0	0 ± 0	----	----
Female							
18-34	6,043	63 ± 1	1.0% ± 0.02%	18 ± 0	0 ± 0	----	----
35-49	6,331	39 ± 1	0.6% ± 0.01%	38 ± 1	0 ± 0	----	----
50-64	4,571	26 ± 1	0.6% ± 0.01%	37 ± 1	0 ± 0	----	----
65+	4,491	17 ± 0	0.4% ± 0.01%	10 ± 0	0 ± 0	----	----

Based on analysis of data sets provided by Kentucky's Community Mental Health Programs and the US Department of Housing and Urban Development. Subjects include all adults with serious mental illness served by CMHC programs in Kentucky during FY2004 and all individuals residing in Section 8 voucher program housing in Kentucky on May 2, 2005. Because these data sets do not share unique personal identifiers, Probabilistic Population Estimation was used to determine caseload size and overlap. General population estimates are based on data from the United States Census 2000.

Relative Rate is derived by dividing the percent of adults with SMI who are in Section 8 housing by the percent of the general population who are in Section 8 housing. A relative rate of 1.0 indicates no difference. A relative rate that is significantly greater than 1.0 indicates that mental health service recipients are more likely than members of the general population to live in Section 8 housing. A relative rate that is significantly less than 1.0 indicates that mental health service recipients are less likely than members of the general population to live in Section 8 housing. (A relative rate of 2 means twice as likely, a relative rate of .5 means one half as likely.)

Section 8 Housing Use by the General Population and CMHC Service Recipients with Serious Mental Illness Region 10, Kentucky: FY 2004

	General Population			Adults with SMI			Relative Utilization Rate
	Total Population	Number in Section 8	Percent in Section 8	Number with SMI	Number in Section 8	Percent in Section 8	
Total	162,796	2,033 ± 10	1.2% ± 0.01%	1,926 ± 7	112 ± 6	5.8% ± 0.3%	4.7 ± 0.2
Male	79,086	602 ± 4	0.8% ± 0.01%	752 ± 4	31 ± 2	4.2% ± 0.3%	5.5 ± 0.4
Female	83,710	1,431 ± 9	1.7% ± 0.01%	1,174 ± 6	81 ± 5	6.9% ± 0.5%	4.0 ± 0.3
Age							
18-34	50,528	886 ± 7	1.8% ± 0.01%	440 ± 3	32 ± 3	7.3% ± 0.6%	4.1 ± 0.4
35-49	47,529	655 ± 6	1.4% ± 0.01%	789 ± 5	40 ± 4	5.0% ± 0.6%	3.6 ± 0.4
50-64	36,148	325 ± 3	0.9% ± 0.01%	540 ± 4	31 ± 3	5.8% ± 0.5%	6.5 ± 0.5
65+	28,591	167 ± 2	0.6% ± 0.01%	157 ± 2	9 ± 0	5.8% ± 0.3%	9.9 ± 0.5
Male							
18-34	25,771	269 ± 3	1.0% ± 0.01%	181 ± 2	10 ± 1	5.4% ± 0.8%	5.2 ± 0.7
35-49	23,747	217 ± 3	0.9% ± 0.01%	325 ± 3	15 ± 2	4.5% ± 0.5%	4.9 ± 0.6
50-64	17,671	86 ± 1	0.5% ± 0.01%	192 ± 2	6 ± 1	3.1% ± 0.4%	6.4 ± 0.8
65+	11,897	30 ± 1	0.3% ± 0.00%	53 ± 1	1 ± 0	1.9% ± 0.0%	7.4 ± 0.2
Female							
18-34	24,757	617 ± 6	2.5% ± 0.03%	260 ± 2	22 ± 2	8.6% ± 1.0%	3.4 ± 0.4
35-49	23,782	438 ± 5	1.8% ± 0.02%	464 ± 4	25 ± 4	5.4% ± 0.9%	2.9 ± 0.5
50-64	18,477	239 ± 3	1.3% ± 0.01%	347 ± 3	25 ± 2	7.3% ± 0.7%	5.7 ± 0.6
65+	16,694	137 ± 2	0.8% ± 0.01%	103 ± 1	8 ± 0	7.8% ± 0.4%	9.5 ± 0.5

Based on analysis of data sets provided by Kentucky's Community Mental Health Programs and the US Department of Housing and Urban Development. Subjects include all adults with serious mental illness served by CMHC programs in Kentucky during FY2004 and all individuals residing in Section 8 voucher program housing in Kentucky on May 2, 2005. Because these data sets do not share unique personal identifiers, Probabilistic Population Estimation was used to determine caseload size and overlap. General population estimates are based on data from the United States Census 2000.

Relative Rate is derived by dividing the percent of adults with SMI who are in Section 8 housing by the percent of the general population who are in Section 8 housing. A relative rate of 1.0 indicates no difference. A relative rate that is significantly greater than 1.0 indicates that mental health service recipients are more likely than members of the general population to live in Section 8 housing. A relative rate that is significantly less than 1.0 indicates that mental health service recipients are less likely than members of the general population to live in Section 8 housing. (A relative rate of 2 means twice as likely, a relative rate of .5 means one half as likely.)

Section 8 Housing Use by the General Population and CMHC Service Recipients with Serious Mental Illness Region 11, Kentucky: FY 2004

	General Population			Adults with SMI			Relative Utilization Rate
	Total Population	Number in Section 8	Percent in Section 8	Number with SMI	Number in Section 8	Percent in Section 8	
Total	121,476	1,543 ± 10	1.3% ± 0.01%	2,214 ± 13	78 ± 12	3.5% ± 0.5%	2.8 ± 0.4
Male	58,351	435 ± 4	0.7% ± 0.01%	958 ± 8	24 ± 4	2.5% ± 0.4%	3.3 ± 0.6
Female	63,125	1,108 ± 9	1.8% ± 0.01%	1,256 ± 10	55 ± 11	4.4% ± 0.9%	2.5 ± 0.5
Age							
18-34	37,290	826 ± 8	2.2% ± 0.02%	503 ± 5	27 ± 8	5.3% ± 1.6%	2.4 ± 0.7
35-49	38,167	416 ± 4	1.1% ± 0.01%	940 ± 9	37 ± 8	4.0% ± 0.9%	3.6 ± 0.8
50-64	26,816	220 ± 3	0.8% ± 0.01%	652 ± 7	13 ± 4	1.9% ± 0.6%	2.4 ± 0.7
65+	19,203	81 ± 1	0.4% ± 0.01%	120 ± 2	2 ± 0	1.7% ± 0.2%	4.0 ± 0.4
Male							
18-34	18,508	226 ± 3	1.2% ± 0.02%	229 ± 3	9 ± 3	4.0% 1.1%	3.3 0.9
35-49	18,757	129 ± 2	0.7% ± 0.01%	426 ± 6	10 ± 3	2.2% 0.7%	3.2 1.0
50-64	13,211	56 ± 1	0.4% ± 0.01%	258 ± 4	3 ± 1	1.1% 0.4%	2.6 1.0
65+	7,875	23 ± 1	0.3% ± 0.01%	44 ± 1	2 ± 0	4.5% 0.5%	15.5 1.6
Female							
18-34	18,782	599 ± 8	3.2% ± 0.04%	274 ± 4	17 ± 7	6.4% ± 2.7%	2.0 ± 0.9
35-49	19,410	287 ± 4	1.5% ± 0.02%	513 ± 7	28 ± 7	5.4% ± 1.5%	3.6 ± 1.0
50-64	13,605	164 ± 2	1.2% ± 0.02%	394 ± 6	10 ± 4	2.5% 0.9%	2.1 0.8
65+	11,328	58 ± 1	0.5% ± 0.01%	75 ± 1	0 ± 0	----	----

Based on analysis of data sets provided by Kentucky's Community Mental Health Programs and the US Department of Housing and Urban Development. Subjects include all adults with serious mental illness served by CMHC programs in Kentucky during FY2004 and all individuals residing in Section 8 voucher program housing in Kentucky on May 2, 2005. Because these data sets do not share unique personal identifiers, Probabilistic Population Estimation was used to determine caseload size and overlap. General population estimates are based on data from the United States Census 2000.

Relative Rate is derived by dividing the percent of adults with SMI who are in Section 8 housing by the percent of the general population who are in Section 8 housing. A relative rate of 1.0 indicates no difference. A relative rate that is significantly greater than 1.0 indicates that mental health service recipients are more likely than members of the general population to live in Section 8 housing. A relative rate that is significantly less than 1.0 indicates that mental health service recipients are less likely than members of the general population to live in Section 8 housing. (A relative rate of 2 means twice as likely, a relative rate of .5 means one half as likely.)

**Section 8 Housing Use by the General Population
and CMHC Service Recipients with Serious Mental Illness
Region 12, Kentucky: FY 2004**

	General Population			Adults with SMI			Relative Utilization Rate
	Total Population	Number in Section 8	Percent in Section 8	Number with SMI	Number in Section 8	Percent in Section 8	
Total	91,201	306 ± 2	0.3% ± 0.00%	1,124 ± 5	13 ± 1	1.2% ± 0.1%	3.4 ± 0.2
Male	44,137	92 ± 1	0.2% ± 0.00%	499 ± 4	2 ± 0	0.4% ± 0.0%	1.9 ± 0.0
Female	47,064	214 ± 2	0.5% ± 0.00%	625 ± 4	11 ± 1	1.8% ± 0.1%	3.9 ± 0.3
Age							
18-34	27,653	116 ± 1	0.4% ± 0.00%	234 ± 2	2 ± 0	0.9% ± 0.1%	2.0 ± 0.3
35-49	28,857	109 ± 1	0.4% ± 0.00%	472 ± 4	7 ± 1	1.5% ± 0.2%	3.9 ± 0.4
50-64	20,174	66 ± 1	0.3% ± 0.00%	361 ± 3	4 ± 0	1.1% ± 0.1%	3.4 ± 0.3
65+	14,517	14 ± 0	0.1% ± 0.00%	56 ± 1	0 ± 0	----	----
Male							
18-34	13,837	39 ± 1	0.3% ± 0.01%	114 ± 2	1 ± 0	0.9% ± 0.0%	3.1 ± 0.1
35-49	14,324	32 ± 1	0.2% ± 0.00%	205 ± 2	1 ± 0	0.5% ± 0.0%	2.2 ± 0.0
50-64	9,954	19 ± 0	0.2% ± 0.00%	155 ± 2	0 ± 0	----	----
65+	6,022	2 ± 0	0.0% ± 0.00%	25 ± 1	0 ± 0	----	----
Female							
18-34	13,816	77 ± 1	0.6% ± 0.01%	121 ± 2	1 ± 0	0.8% ± 0.2%	1.5 ± 0.4
35-49	14,533	77 ± 1	0.5% ± 0.01%	267 ± 3	6 ± 1	2.2% ± 0.3%	4.2 ± 0.6
50-64	10,220	47 ± 1	0.5% ± 0.01%	206 ± 2	4 ± 0	1.9% ± 0.2%	4.2 ± 0.4
65+	8,495	12 ± 0	0.1% ± 0.00%	31 ± 1	0 ± 0	----	----

Based on analysis of data sets provided by Kentucky's Community Mental Health Programs and the US Department of Housing and Urban Development. Subjects include all adults with serious mental illness served by CMHC programs in Kentucky during FY2004 and all individuals residing in Section 8 voucher program housing in Kentucky on May 2, 2005. Because these data sets do not share unique personal identifiers, Probabilistic Population Estimation was used to determine caseload size and overlap. General population estimates are based on data from the United States Census 2000.

Relative Rate is derived by dividing the percent of adults with SMI who are in Section 8 housing by the percent of the general population who are in Section 8 housing. A relative rate of 1.0 indicates no difference. A relative rate that is significantly greater than 1.0 indicates that mental health service recipients are more likely than members of the general population to live in Section 8 housing. A relative rate that is significantly less than 1.0 indicates that mental health service recipients are less likely than members of the general population to live in Section 8 housing. (A relative rate of 2 means twice as likely, a relative rate of .5 means one half as likely.)

Section 8 Housing Use by the General Population and CMHC Service Recipients with Serious Mental Illness Region 13, Kentucky: FY2004

	General Population			Adults with SMI			Relative Utilization Rate
	Total Population	Number in Section 8	Percent in Section 8	Number with SMI	Number in Section 8	Percent in Section 8	
Total	177,872	2,442 ± 10	1.4% ± 0.01%	1,618 ± 6	66 ± 5	4.1% ± 0.3%	3.0 ± 0.2
Male	85,497	727 ± 5	0.9% ± 0.01%	677 ± 4	13 ± 2	1.9% ± 0.3%	2.2 ± 0.3
Female	92,375	1,715 ± 9	1.9% ± 0.01%	941 ± 5	54 ± 4	5.7% ± 0.5%	3.1 ± 0.3
Age							
18-34	55,458	1,001 ± 7	1.8% ± 0.01%	301 ± 2	17 ± 2	5.8% ± 0.7%	3.2 ± 0.4
35-49	53,361	797 ± 6	1.5% ± 0.01%	697 ± 5	32 ± 4	4.6% ± 0.5%	3.1 ± 0.4
50-64	39,241	452 ± 4	1.2% ± 0.01%	525 ± 4	16 ± 2	3.0% ± 0.4%	2.6 ± 0.3
65+	29,812	193 ± 2	0.6% ± 0.01%	95 ± 1	1 ± 0	1.0% ± 0.0%	1.6 ± 0.0
Male							
18-34	27,724	292 ± 3	1.1% ± 0.01%	131 ± 1	4 ± 1	3.0% ± 0.8%	2.8 ± 0.8
35-49	26,381	267 ± 3	1.0% ± 0.01%	298 ± 3	7 ± 2	2.3% ± 0.5%	2.2 ± 0.5
50-64	19,239	125 ± 2	0.6% ± 0.01%	216 ± 2	2 ± 0	0.9% ± 0.2%	1.4 ± 0.2
65+	12,153	43 ± 1	0.4% ± 0.01%	32 ± 1	0 ± 0	----	----
Female							
18-34	27,734	709 ± 6	2.6% ± 0.02%	170 ± 2	13 ± 2	7.9% ± 1.2%	3.1 ± 0.5
35-49	26,980	529 ± 5	2.0% ± 0.02%	399 ± 4	26 ± 3	6.4% ± 0.9%	3.3 ± 0.4
50-64	20,002	327 ± 3	1.6% ± 0.02%	308 ± 3	14 ± 2	4.4% ± 0.7%	2.7 ± 0.4
65+	17,659	150 ± 2	0.8% ± 0.01%	63 ± 1	1 ± 0	1.6% ± 0.0%	1.9 ± 0.0

Based on analysis of data sets provided by Kentucky's Community Mental Health Programs and the US Department of Housing and Urban Development. Subjects include all adults with serious mental illness served by CMHC programs in Kentucky during FY2004 and all individuals residing in Section 8 voucher program housing in Kentucky on May 2, 2005. Because these data sets do not share unique personal identifiers, Probabilistic Population Estimation was used to determine caseload size and overlap. General population estimates are based on data from the United States Census 2000.

Relative Rate is derived by dividing the percent of adults with SMI who are in Section 8 housing by the percent of the general population who are in Section 8 housing. A relative rate of 1.0 indicates no difference. A relative rate that is significantly greater than 1.0 indicates that mental health service recipients are more likely than members of the general population to live in Section 8 housing. A relative rate that is significantly less than 1.0 indicates that mental health service recipients are less likely than members of the general population to live in Section 8 housing. (A relative rate of 2 means twice as likely, a relative rate of .5 means one half as likely.)

**Section 8 Housing Use by the General Population
and CMHC Service Recipients with Serious Mental Illness
Region 14, Kentucky: FY 2004**

	General Population			Adults with SMI			Relative Utilization Rate
	Total Population	Number in Section 8	Percent in Section 8	Number with SMI	Number in Section 8	Percent in Section 8	
Total	147,152	1,185 ± 5	0.8% ± 0.00%	2,108 ± 8	85 ± 5	4.0% ± 0.2%	5.0 ± 0.3
Male	70,428	294 ± 2	0.4% ± 0.00%	860 ± 5	18 ± 1	2.1% ± 0.1%	5.0 ± 0.4
Female	76,724	891 ± 5	1.2% ± 0.01%	1,248 ± 6	67 ± 4	5.4% ± 0.4%	4.6 ± 0.3
Age							
18-34	41,767	457 ± 3	1.1% ± 0.01%	570 ± 4	34 ± 3	6.0% ± 0.5%	5.5 ± 0.5
35-49	42,652	368 ± 3	0.9% ± 0.01%	866 ± 5	39 ± 3	4.5% ± 0.4%	5.2 ± 0.4
50-64	34,019	232 ± 2	0.7% ± 0.01%	541 ± 4	11 ± 2	2.0% ± 0.3%	2.9 ± 0.4
65+	28,714	127 ± 1	0.4% ± 0.00%	130 ± 1	1 ± 0	0.8% ± 0.2%	1.7 ± 0.5
Male							
18-34	20,826	111 ± 1	0.5% ± 0.01%	238 ± 2	9 ± 1	3.8% ± 0.4%	7.0 ± 0.7
35-49	21,058	104 ± 1	0.5% ± 0.01%	372 ± 3	8 ± 1	2.1% ± 0.3%	4.3 ± 0.5
50-64	16,466	57 ± 1	0.3% ± 0.01%	205 ± 2	1 ± 0	0.5% ± 0.0%	1.4 ± 0.0
65+	12,078	21 ± 1	0.2% ± 0.00%	45 ± 1	0 ± 0	----	----
Female							
18-34	20,941	346 ± 3	1.7% ± 0.02%	333 ± 3	25 ± 3	7.6% ± 0.8%	4.6 ± 0.5
35-49	21,594	264 ± 3	1.2% ± 0.01%	495 ± 4	31 ± 3	6.3% ± 0.6%	5.1 ± 0.5
50-64	17,553	175 ± 2	1.0% ± 0.01%	335 ± 3	10 ± 2	2.9% ± 0.5%	2.9 ± 0.5
65+	16,636	106 ± 1	0.6% ± 0.01%	85 ± 1	1 ± 0	1.2% ± 0.3%	1.8 ± 0.5

Based on analysis of data sets provided by Kentucky's Community Mental Health Programs and the US Department of Housing and Urban Development. Subjects include all adults with serious mental illness served by CMHC programs in Kentucky during FY2004 and all individuals residing in Section 8 voucher program housing in Kentucky on May 2, 2005. Because these data sets do not share unique personal identifiers, Probabilistic Population Estimation was used to determine caseload size and overlap. General population estimates are based on data from the United States Census 2000.

Relative Rate is derived by dividing the percent of adults with SMI who are in Section 8 housing by the percent of the general population who are in Section 8 housing. A relative rate of 1.0 indicates no difference. A relative rate that is significantly greater than 1.0 indicates that mental health service recipients are more likely than members of the general population to live in Section 8 housing. A relative rate that is significantly less than 1.0 indicates that mental health service recipients are less likely than members of the general population to live in Section 8 housing. (A relative rate of 2 means twice as likely, a relative rate of .5 means one half as likely.)

**Section 8 Housing Use by the General Population
and CMHC Service Recipients with Serious Mental Illness
Region 15, Kentucky: FY 2004**

	General Population			Adults with SMI			Relative Utilization Rate
	Total Population	Number in Section 8	Percent in Section 8	Number with SMI	Number in Section 8	Percent in Section 8	
Total	526,882	6,661 ± 30	1.3% ± 0.01%	3,096 ± 10	266 ± 16	8.6% ± 0.5%	6.8 ± 0.4
Male	253,306	1,391 ± 7	0.5% ± 0.00%	1,269 ± 7	71 ± 6	5.6% ± 0.5%	10.2 ± 0.9
Female	273,576	5,270 ± 29	1.9% ± 0.01%	1,827 ± 8	195 ± 14	10.7% ± 0.8%	5.5 ± 0.4
Age							
18-34	189,903	3,088 ± 24	1.6% ± 0.01%	590 ± 4	48 ± 6	8.2% ± 1.0%	5.0 ± 0.6
35-49	158,855	1,912 ± 15	1.2% ± 0.01%	1,311 ± 8	126 ± 12	9.6% ± 1.0%	8.0 ± 0.8
50-64	102,403	978 ± 7	1.0% ± 0.01%	919 ± 6	80 ± 8	8.7% ± 0.8%	9.1 ± 0.9
65+	75,721	683 ± 4	0.9% ± 0.01%	276 ± 2	11 ± 1	3.9% ± 0.4%	4.4 ± 0.4
Male							
18-34	95,578	616 ± 6	0.6% ± 0.01%	289 ± 3	18 ± 3	6.3% ± 0.9%	9.8 ± 1.4
35-49	77,934	416 ± 4	0.5% ± 0.00%	566 ± 5	38 ± 5	6.6% ± 0.9%	12.4 ± 1.8
50-64	49,305	225 ± 2	0.5% ± 0.00%	338 ± 3	14 ± 2	4.2% ± 0.7%	9.3 ± 1.6
65+	30,489	134 ± 1	0.4% ± 0.00%	76 ± 1	1 ± 0	1.3% ± 0.0%	3.0 ± 0.0
Female							
18-34	94,325	2,472 ± 24	2.6% ± 0.02%	301 ± 3	30 ± 5	10.0% ± 1.8%	3.8 ± 0.7
35-49	80,921	1,496 ± 15	1.8% ± 0.02%	745 ± 6	89 ± 11	11.9% ± 1.5%	6.4 ± 0.8
50-64	53,098	753 ± 7	1.4% ± 0.01%	581 ± 5	66 ± 7	11.3% ± 1.2%	8.0 ± 0.9
65+	45,232	549 ± 4	1.2% ± 0.01%	200 ± 2	10 ± 1	4.9% ± 0.5%	4.1 ± 0.5

Based on analysis of data sets provided by Kentucky's Community Mental Health Programs and the US Department of Housing and Urban Development. Subjects include all adults with serious mental illness served by CMHC programs in Kentucky during FY2004 and all individuals residing in Section 8 voucher program housing in Kentucky on May 2, 2005. Because these data sets do not share unique personal identifiers, Probabilistic Population Estimation was used to determine caseload size and overlap. General population estimates are based on data from the United States Census 2000.

Relative Rate is derived by dividing the percent of adults with SMI who are in Section 8 housing by the percent of the general population who are in Section 8 housing. A relative rate of 1.0 indicates no difference. A relative rate that is significantly greater than 1.0 indicates that mental health service recipients are more likely than members of the general population to live in Section 8 housing. A relative rate that is significantly less than 1.0 indicates that mental health service recipients are less likely than members of the general population to live in Section 8 housing. (A relative rate of 2 means twice as likely, a relative rate of .5 means one half as likely.)

APPENDICES

Section 8 Housing Use – County level

Probabilistic Population Estimation

Related Readings

**Section 8 Housing Use by the General Population
and CMHC Service Recipients with Serious Mental Illness
by County, Kentucky: FY 2004**

		General Pop		Adults with SMI		
		# in Section 8		# with SMI	# in Section 8	% in Section 8
Total		32,686 ± 112		27,918 ± 42	1,574 ± 78	5.6% ± 0.3%
County	Region					
1	Adair County	14	98 ± 1	260 ± 3	12 ± 1	4.6% ± 0.2%
2	Allen County	4	10 ± 0	187 ± 2	0 ± 0	----
3	Anderson County	15	128 ± 2	59 ± 1	2 ± 0	3.4% ± 0.7%
4	Ballard County	1	3 ± 0	21 ± 0	0 ± 0	----
5	Barren County	4	435 ± 4	322 ± 3	20 ± 3	6.4% ± 0.8%
6	Bath County	10	16 ± 0	75 ± 1	1 ± 0	1.3% ± 0.0%
7	Bell County	13	430 ± 4	153 ± 2	3 ± 0	2.0% ± 0.3%
8	Boone County	7	868 ± 8	175 ± 2	40 ± 3	22.9% ± 1.6%
9	Bourbon County	15	420 ± 4	113 ± 1	18 ± 1	15.9% ± 1.3%
10	Boyd County	10	810 ± 7	302 ± 3	28 ± 3	9.1% ± 1.0%
11	Boyle County	15	280 ± 3	151 ± 2	9 ± 1	5.9% ± 0.8%
12	Bracken County	8	7 ± 0	12 ± 0	0 ± 0	----
13	Breathitt County	12	40 ± 1	65 ± 1	3 ± 0	4.6% ± 0.5%
14	Breckinridge County	5	230 ± 2	228 ± 2	18 ± 1	7.9% ± 0.6%
15	Bullitt County	6	246 ± 2	250 ± 3	14 ± 2	5.5% ± 0.7%
16	Butler County	4	12 ± 0	226 ± 2	2 ± 0	0.9% ± 0.1%
17	Caldwell County	2	12 ± 0	177 ± 2	0 ± 0	----
18	Calloway County	1	60 ± 1	165 ± 2	2 ± 0	1.2% ± 0.1%
19	Campbell County	7	1,107 ± 9	306 ± 3	50 ± 5	16.2% ± 1.7%
20	Carlisle County	1	1 ± 0	38 ± 1	0 ± 0	----
21	Carroll County	7	1 ± 0	56 ± 1	0 ± 0	----
22	Carter County	10	372 ± 4	285 ± 3	16 ± 2	5.7% ± 0.8%
23	Casey County	14	50 ± 1	148 ± 2	2 ± 0	1.4% ± 0.1%
24	Christian County	2	601 ± 6	544 ± 5	49 ± 6	9.1% ± 1.0%
25	Clark County	15	465 ± 5	180 ± 2	23 ± 2	12.5% ± 1.2%
26	Clay County	13	97 ± 1	211 ± 2	2 ± 0	0.9% ± 0.2%
27	Clinton County	14	43 ± 1	52 ± 1	1 ± 0	1.9% ± 0.0%
28	Crittenden County	2	38 ± 1	67 ± 1	1 ± 0	1.5% ± 0.0%
29	Cumberland County	14	10 ± 0	56 ± 1	1 ± 0	1.8% ± 0.0%
30	Daviess County	3	665 ± 6	954 ± 8	62 ± 8	6.5% ± 0.9%
31	Edmonson County	4	22 ± 1	122 ± 1	4 ± 0	3.3% ± 0.2%

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**Section 8 Housing Use by the General Population
and CMHC Service Recipients with Serious Mental Illness
by County, Kentucky: FY 2004**

			General Pop	Adults with SMI		
			# in Section 8	# with SMI	# in Section 8	% in Section 8
32	Elliott County	10	110 ± 1	214 ± 2	13 ± 1	6.1% ± 0.3%
33	Estill County	15	193 ± 2	106 ± 1	2 ± 0	1.9% ± 0.3%
34	Fayette County	15	2,674 ± 27	923 ± 8	90 ± 14	9.7% ± 1.6%
35	Fleming County	8	18 ± 0	73 ± 1	0 ± 0	----
36	Floyd County	11	420 ± 4	467 ± 4	12 ± 3	2.6% ± 0.5%
37	Franklin County	15	574 ± 6	216 ± 2	33 ± 3	15.5% ± 1.2%
38	Fulton County	1	117 ± 1	45 ± 1	0 ± 0	----
39	Gallatin County	7	9 ± 0	33 ± 1	0 ± 0	----
40	Garrard County	15	38 ± 1	94 ± 1	1 ± 0	1.0% ± 0.4%
41	Grant County	7	46 ± 1	162 ± 2	3 ± 0	1.9% ± 0.1%
42	Graves County	1	238 ± 3	285 ± 3	11 ± 2	3.8% ± 0.6%
43	Grayson County	5	21 ± 1	299 ± 3	3 ± 0	1.0% ± 0.1%
44	Green County	14	111 ± 1	124 ± 1	8 ± 0	6.5% ± 0.4%
45	Greenup County	10	524 ± 5	432 ± 4	38 ± 4	8.8% ± 1.0%
46	Hancock County	3	19 ± 0	134 ± 2	3 ± 0	2.3% ± 0.1%
47	Hardin County	5	246 ± 3	761 ± 6	19 ± 4	2.5% ± 0.5%
48	Harlan County	13	249 ± 3	294 ± 3	11 ± 2	3.6% ± 0.6%
49	Harrison County	15	160 ± 2	175 ± 2	9 ± 1	5.1% ± 0.6%
50	Hart County	4	21 ± 0	199 ± 2	1 ± 0	0.5% ± 0.0%
51	Henderson County	3	632 ± 6	340 ± 3	41 ± 4	12.1% ± 1.2%
52	Henry County	6	6 ± 0	57 ± 1	0 ± 0	----
53	Hickman County	1	8 ± 0	34 ± 1	0 ± 0	----
54	Hopkins County	2	192 ± 2	308 ± 3	5 ± 1	1.6% ± 0.2%
55	Jackson County	13	35 ± 1	73 ± 1	2 ± 0	2.7% ± 0.4%
56	Jefferson County	6	9,774 ± 105	3,683 ± 30	419 ± 73	11.4% ± 2.0%
57	Jessamine County	15	299 ± 3	130 ± 2	18 ± 1	13.8% ± 0.9%
58	Johnson County	11	110 ± 1	187 ± 2	3 ± 0	1.6% ± 0.1%
59	Kenton County	7	925 ± 8	732 ± 6	59 ± 9	8.0% ± 1.3%
60	Knott County	12	71 ± 1	412 ± 4	4 ± 1	1.0% ± 0.2%
61	Knox County	13	572 ± 5	247 ± 3	16 ± 2	6.7% ± 0.9%
62	Larue County	5	12 ± 0	90 ± 1	2 ± 0	2.2% ± 0.2%
63	Laurel County	13	266 ± 3	262 ± 3	5 ± 1	1.9% ± 0.5%
64	Lawrence County	10	29 ± 1	90 ± 1	3 ± 0	3.3% ± 0.4%

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**Section 8 Housing Use by the General Population
and CMHC Service Recipients with Serious Mental Illness
by County, Kentucky: FY 2004**

			General Pop	Adults with SMI		
			# in Section 8	# with SMI	# in Section 8	% in Section 8
65	Lee County	12	14 ± 0	32 ± 1	0 ± 0	----
66	Leslie County	12	36 ± 1	115 ± 1	0 ± 0	----
67	Letcher County	12	17 ± 0	254 ± 3	1 ± 0	0.4% ± 0.1%
68	Lewis County	8	27 ± 1	43 ± 1	0 ± 0	----
69	Lincoln County	15	29 ± 1	162 ± 2	2 ± 0	1.2% ± 0.3%
70	Livingston County	1	7 ± 0	81 ± 1	1 ± 0	1.2% ± 0.0%
71	Logan County	4	36 ± 1	173 ± 2	2 ± 0	1.2% ± 0.1%
72	Lyon County	2	4 ± 0	40 ± 1	1 ± 0	2.5% ± 0.0%
73	McCracken County	1	425 ± 4	474 ± 4	23 ± 4	4.9% ± 0.8%
74	McCreary County	14	90 ± 1	288 ± 3	1 ± 0	0.3% ± 0.2%
75	McLean County	3	15 ± 0	90 ± 1	1 ± 0	1.1% ± 0.0%
76	Madison County	15	683 ± 6	363 ± 4	36 ± 5	10.0% ± 1.3%
77	Magoffin County	11	78 ± 1	69 ± 1	1 ± 0	1.4% ± 0.0%
78	Marion County	5	44 ± 1	241 ± 3	3 ± 1	1.2% ± 0.2%
79	Marshall County	1	26 ± 1	222 ± 2	1 ± 0	0.4% ± 0.1%
80	Martin County	11	7 ± 0	109 ± 1	0 ± 0	----
81	Mason County	8	136 ± 2	36 ± 1	0 ± 0	----
82	Meade County	5	43 ± 1	126 ± 2	2 ± 0	1.6% ± 0.2%
83	Menifee County	10	12 ± 0	50 ± 1	1 ± 0	2.0% ± 0.0%
84	Mercer County	15	60 ± 1	114 ± 1	5 ± 0	4.4% ± 0.2%
85	Metcalfe County	4	9 ± 0	358 ± 3	0 ± 0	----
86	Monroe County	4	26 ± 1	287 ± 3	1 ± 0	0.3% ± 0.0%
87	Montgomery County	10	66 ± 1	76 ± 1	2 ± 0	2.6% ± 0.3%
88	Morgan County	10	43 ± 1	163 ± 2	7 ± 0	4.3% ± 0.2%
89	Muhlenberg County	2	19 ± 0	217 ± 2	1 ± 0	0.5% ± 0.0%
90	Nelson County	5	156 ± 2	223 ± 2	6 ± 1	2.6% ± 0.5%
91	Nicholas County	15	20 ± 1	44 ± 1	0 ± 0	----
92	Ohio County	3	56 ± 1	175 ± 2	2 ± 0	1.1% ± 0.1%
93	Oldham County	6	60 ± 1	80 ± 1	5 ± 1	6.2% ± 0.7%
94	Owen County	7	13 ± 0	53 ± 1	0 ± 0	----
95	Owsley County	12	20 ± 0	28 ± 1	0 ± 0	----
96	Pendleton County	7	61 ± 1	80 ± 1	5 ± 0	6.2% ± 0.4%
97	Perry County	12	93 ± 1	148 ± 2	4 ± 0	2.7% ± 0.3%

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**Section 8 Housing Use by the General Population
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by County, Kentucky: FY 2004**

		General Pop		Adults with SMI		
		# in Section 8		# with SMI	# in Section 8	% in Section 8
98	Pike County	11	929 ± 9	1,382 ± 12	62 ± 12	4.5% ± 0.8%
99	Powell County	15	127 ± 2	110 ± 2	3 ± 0	2.7% ± 0.4%
100	Pulaski County	14	333 ± 3	600 ± 5	29 ± 4	4.9% ± 0.6%
101	Robertson County	8	3 ± 0	5 ± 0	0 ± 0	----
102	Rockcastle County	13	17 ± 0	84 ± 1	0 ± 0	----
103	Rowan County	10	50 ± 1	238 ± 2	3 ± 0	1.3% ± 0.1%
104	Russell County	14	125 ± 1	128 ± 2	7 ± 1	5.4% ± 0.8%
105	Scott County	15	344 ± 3	101 ± 1	12 ± 1	11.8% ± 0.7%
106	Shelby County	6	26 ± 1	123 ± 1	2 ± 0	1.6% ± 0.3%
107	Simpson County	4	19 ± 0	98 ± 1	0 ± 0	----
108	Spencer County	6	12 ± 0	46 ± 1	0 ± 0	----
109	Taylor County	14	231 ± 2	279 ± 3	22 ± 2	7.7% ± 0.8%
110	Todd County	2	8 ± 0	75 ± 1	0 ± 0	----
111	Trigg County	2	16 ± 0	88 ± 1	0 ± 0	----
112	Trimble County	6	0 ± 0	24 ± 1	0 ± 0	----
113	Union County	3	37 ± 1	231 ± 2	6 ± 0	2.6% ± 0.2%
114	Warren County	4	548 ± 5	832 ± 7	59 ± 7	7.1% ± 0.8%
115	Washington County	5	70 ± 1	78 ± 1	5 ± 1	6.4% ± 0.8%
116	Wayne County	14	93 ± 1	174 ± 2	2 ± 0	1.2% ± 0.1%
117	Webster County	3	10 ± 0	144 ± 2	0 ± 0	----
118	Whitley County	13	776 ± 7	293 ± 3	27 ± 4	9.3% ± 1.3%
119	Wolfe County	12	14 ± 0	71 ± 1	1 ± 0	1.4% ± 0.0%
120	Woodford County	15	168 ± 2	55 ± 1	3 ± 0	5.4% ± 0.7%

Based on analysis of data sets provided by Kentucky's Community Mental Health Programs and the US Department of Housing and Urban Development. Subjects include all adults with serious mental illness served by CMHC programs in Kentucky during FY2004 and all individuals residing in Section 8 voucher program housing in Kentucky on May 2, 2005. Because these data sets do not share unique personal identifiers, Probabilistic Population Estimation was used to determine caseload size and overlap. General population estimates are based on data from the United States Census 2000.

PROBABILISTIC POPULATION ESTIMATION

Probabilistic Population Estimation is a statistical procedure that determines the number of people (with known confidence intervals) who are represented in data sets that do not contain unique person identifiers. Probabilistic Population Estimation uses information on the distribution of birth dates in a data set to determine the number of people represented in the data set. The number of people necessary to produce the number of birthdays observed in a single birth year cohort, for instance, would be calculated using the following formula:

$$P_j(l_j) = \sum_{i=1}^{l_j} \frac{365}{365-i}$$

where “ P_j ” is the number of people and “ l_j ” is the number of birth dates observed. Similar logic is used to determine the number of people who appear in more than one data set. The table below provides illustrative results of Probabilistic Population Estimation for populations of specified size.

Population Estimates for Specified Numbers of Birth Dates Within a Year

Birth Dates	Number of People	Birth Dates	Number of People
1	1.003 ± .103	180	249 ± 20
10	10.15 ± .776	250	423 ± 38
20	20.6 ± 1.54	300	632 ± 64
50	54. ± 4	330	860 ± 101
100	117. ± 9	360	1603 ± 325

POPULATION OVERLAP

In order to probabilistically determine the number of people shared across data sets that do not include a common person identifier, the sizes of three populations are determined and the results are compared. The number of people in each of the original data sets are the first two populations. The number of people in a data set that is formed by combining the two original data sets is the third data set.

The number of people who are shared by the two data sets is the difference between the sum of the numbers of people represented in the two original data sets and the number of people represented in the combined data set. This occurs because the sum of the number of people represented in the two original data sets includes a double count of every person who is represented in both data sets. The number of people represented in the combined data set does not include this duplication. The difference between these two numbers is the size of the duplication between the two original data sets, the size of the caseload overlap. In terms of mathematical set theory, the intersection of two sets is the difference between the sum of the sizes of the two sets ($A+B$) and the union of the two sets ($A \cup B$):

$$(A \cap B) = (A + B) - (A \cup B).$$

RELATED READINGS

Probabilistic Population Estimation

Probabilistic population estimation of the size and overlap of data sets based on date of birth. *Statistics in Medicine*, May 2001 (Banks and Pandiani).

Personal privacy vs. public accountability: A technological solution to an ethical dilemma. *Journal of Behavioral Health Services and Research*, November 1998. (Pandiani, Banks, and Schacht)

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Studies of Residential Placement

A longitudinal evaluation of a system of care for children and adolescents with a severe emotional disturbance. *Evaluation and Program Planning* 19 (4) 365-376 1996 (Pandiani, Schacht, Banks).

A Longitudinal Study of the Impact of Changing Public Policy on Community Mental Health Residential Patterns and Staff Attitudes. *The Journal of Mental Health Administration*. Vol. 21(1) 1994. (Pandiani, Edgar, and Pierce).

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Does closing inpatient beds in one public mental health system result in increased use of inpatient services in other systems? *Mental Health Services Research*, 2000, 2 (4) (Rosenheck, Banks, and Pandiani)

Interpreting Divergent Results of Triangulated Research: A Review of Three Studies of Housing Needs of Adults with Psychiatric Diagnoses. *Sociological Practice Review*. Vol. 3, No. 2. 1992 (Pandiani and Glesne)

Mathematical modeling of movement between residential placements: A system analytic approach to understanding systems of care. *Journal of Child and Family Studies* 3 (1) 41-53 1994 (Pandiani, Maynard, Schacht).

Using incarceration rates to measure mental health program performance. *Journal of Behavioral Health Services and Research*, 25 (3), 300-311, August 1999. (Pandiani, Banks, and Schacht)

The Bristol Observatory (TBO)

TBO is a contract research firm that specializes in human services program evaluation and service system research with an emphasis on treatment outcomes. Our measurement of treatment outcomes is frequently based on analysis of large administrative/operational databases from multiple public agencies using statistical tools that protect the personal privacy of the individuals represented in those databases. One of our primary tools in this work is Probabilistic Population Estimation, a statistical data mining tool that uses anonymous data sets to produce the information on caseload size and overlap in complex systems of care. Probabilistic Population Estimation allows our researchers to measure treatment outcomes, levels of access to care, and caseload overlap where the absence of unique person identifiers and/or concerns about personal privacy precludes direct linkage of records. For more information, visit: www.thebristolobservatory.com

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