



**Research and Data Analysis Division
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Mental Health Policy and Planning Findings

**From the Prevalence Estimates of Mental
Illness and Need for Services (PEMINS)
Study**

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OVERVIEW AND BACKGROUND

In 1992, the federal Center for Substance Abuse treatment funded a household survey called the Washington State Needs Assessment Household Survey (WANAHS). Between 1993 and 1994, interviewers from Washington State University spoke at length with 7001 adults from across Washington State regarding their physical and mental health status, alcohol and drug use and abuse, and social demographic characteristics.

The study used a stratified sampling design to include approximately equal numbers of interviews with African-Americans, Asians, Hispanics, American Indians, and non-Hispanic Whites. Additional samples of people living below 200% of the Federal Poverty Level (FPL), rural residents, and women were interviewed, to add coverage of these important, but sometimes overlooked, populations.

Considerable efforts were made to encourage people to participate in the interview, leading to a response rate of 72% (eligible households producing a completed interview), with an 85% cooperation rate (eligible adults actually contacted completing a survey). The interview was conducted in seven different languages: English, Spanish, Japanese, Korean, Mon-Khmer, Vietnamese and Chinese).

The WANAHS survey sections on mental illness provide the foundation for the Prevalence Estimates of Mental Illness and Need for Services (PEMINS) study. The PEMINS study is the first time that prevalences of specified mental disorders have been developed from a survey of Washington State residents. The study also represents the first time that estimates of need for mental health services have been generated for Washington State based substantially on local data, rather than relying exclusively upon data from national surveys.

The WANAHS survey did not cover homeless, group quarters, or institutionalized populations. It also did not include estimates of dementia and other mental diseases of aging populations. Adjustments to reflect those populations were added using data from a national study, the Epidemiological Catchment Area (ECA) study, which did include them.

The detailed technical report from the PEMINS study can be found in Holzer et al. (1999). This paper is a policy-focused summary that draws out some of the salient comparisons from the detailed study and discusses possible uses for them.

OTHER COMPARABLE STUDIES

There are two studies, both national in scope, from which prevalence estimates of particular psychiatric (DSM) diagnoses and need for services have been developed. Method differences between the three studies are discussed briefly below and summarized in table 1.

The Epidemiological Catchment Area (ECA) study was conducted in 1980-1983 and funded by the National Institute for Mental Health. Over 19,000 people ages 18 and older from five different sites (New Haven CT, Baltimore MD, St. Louis MO, Durham and neighboring counties NC, and Los Angeles CA) were interviewed in the ECA study. The ECA is considered to be a single study, although there were some differences in methodology among the five sites. The ECA is the only study of the three to have assessed cognitive impairment among the elderly or to have interviewed some group quarters and institutional populations. The ECA study used the Diagnostic Interview Schedule (DIS) to assess mental disorders according to DSM-III (American Psychiatric Association's Diagnostic and Statistical Manual, Third Edition). Spanish language interviews were conducted at the Los Angeles site. Greater detail on the ECA can be found in Eaton & Kessler (1985) or in Robins & Regier (1991).

The National Comorbidity Study (NCS) (Kessler et al., 1994) was conducted in 1990-1991 and funded by Congress. It interviewed a national sample of 8,098 persons ages 15-54. It used the Composite International Diagnostic Interview (CIDI) which was an adaptation of the earlier DIS for international use to assess mental disorders according to DSM-III-R (American Psychiatric Association's Diagnostic and Statistical Manual, Third Edition - Revised). The NCS assessed most but not all the disorders from the ECA. Respondents who passed a screen for psychotic symptoms were re-interviewed using a structured clinical interview administered by experienced clinicians. Greater detail on the NCS can be found in Kessler et al. (1992).

WANAHS diagnostic scales for mental disorders were shortened sets of questions developed by NCS researchers for more efficient implementation of NCS-like assessments. As in the NCS, respondents who passed a screen for psychotic symptoms were re-interviewed by experienced clinicians to assess for serious disorders and psychotic diagnoses. WANAHS assessed mental disorders according to DSM-III-R criteria.

Table 1. Comparing Study Designs of the ECA, NCS, and WANAHS

Design Characteristic	ECA	NCS	WANAHS
Location	5 sites	National	Washington State
Sample Size	19,182	8,098	7,001
When Interviewed?	1980-1983	1990-1991	1993-1994
Interview Method	Face-to-face	Face-to-face	Telephone
Survey Age Group	18 and Up	Ages 15-54	18 and up
Clinical Re-Interview?	No	Yes	Yes
Instrument Used	DIS	CIDI	CIDI- short
Diagnostic Criteria	DSM III	DSM III-R	DSM III-R
Interviews in Institutions & Languages Used in Interviews	Yes English and Spanish at 1 site	No English	No English, Spanish, Japanese, Chinese, Vietnamese, Korean, & Mon-Khmer

KEY FINDINGS

Prevalence of Psychiatric Disorder. Chapter 8 of the technical report provides readers with prevalence estimates for several disorders, including depression, generalized anxiety, mania, and psychosis, based on WANAHHS interviews.

WANAHHS prevalence rates for various disorders appear reasonable when compared to the large national studies (ECA and NCS). Table 2 below uses the 18-44 year old adult population, which is available from all three studies, to compare prevalence estimates. NCS and WANAHHS rates of Manic Episode and Generalized Anxiety Disorder are almost identical. The two newer studies show lowered rates of Manic Episode than does the ECA. For depression, WANAHHS results lie between the ECA and NCS estimates. The Panic Attack rate in the WANAHHS study is understandably higher than the Panic Disorder measured in the NCS and ECA studies.

Table 2. Comparison of Estimated Psychiatric Disorders and Need for Services During the Past 12 Months for Adults Living in Households, Ages 18-44

Disorder	ECA (Ages 18-44)	NCS (Ages 18-44)	WANAHHS (Ages 18-44)
Major Depressive Disorder	4.3%	10.7%	8.3%
Manic Episode	0.9%	0.4%	0.4%
Generalized Anxiety Disorder	NA	3.4%	3.3%
Panic Attacks (WANAHHS)	1.0%	2.3%	5.8%
Panic Disorder (NCS, ECA)			
Psychosis (NCS, WANAHHS)	1.5%	0.3%	0.8%
Schizophrenia, Schizophreniform (ECA)			
Serious Mental Illness (NCS)	NA	5.4%	Broad: 6.2%
Service Need (WANAHHS)			Medium: 4.9%
Both include add-on ECA estimates of Cognitive Impairment, usually senile dementia, of about 0.6%			Narrow: 1.6%

Most of the prevalence differences in Table 2 result from changes in question structure between the DIS and CIDI questionnaires. For example, there are more opportunities to screen into the depression questions in the NCS and WANAHHS than in the ECA study. Sometimes these questionnaire changes result from differences between the DSM-III and DSM-III-R diagnoses; sometimes they are changes resulting from validity studies of the DIS.

The WANAHHS results for Psychotic Disorders, like the depression rates, are midway between the NCS and the ECA findings. The “Psychosis” differences between NCS and WANAHHS are interesting and deserve further study, since the two studies used similar screens and methods, and since the NCS team trained the WANAHHS team. They probably reflect differences in the assessments made by the clinical re-interviewing teams, since similar proportions of people were clinically reinterviewed in both studies. The different assessments may reflect differences between the operational goals of the WANAHHS re-interview team (which was trying to diagnose as psychotic persons who would likely be diagnosed as psychotic in Washington State’s mental health environment) and the NCS re-interview team (which was searching for crystal clear diagnoses). These differences do not indicate that one study’s operationalization is “wrong” and the others “right”, but simply suggests that operationalization affects results.

Statewide prevalence estimates for disorders assessed in the WANAHHS and estimated for different adult populations appear in Table 3. The “all adults” column includes estimates for persons who were homeless or lived in group quarters. WANAHHS did not collect information on homeless or group quarters populations, so their need rates were estimated using information from the ECA data where that was applicable, and applying household rates where that could not be done. For details, see Chapter 7 in the Technical Report.

Table 3. Estimated Percent of Washington State Adults Experiencing a Psychiatric Disorder During the Past Year, by Housing Type and Poverty

Past-year Disorder	All Adults ¹	Adults in Households	Adults in Households Living Below 200% FPL ²
Major Depressive Episode	7.8	7.5	9.7
Generalized Anxiety Disorder	3.0	2.8	4.6
Panic Attacks	4.9	4.7	6.5
Manic Episode	0.5	0.4	0.7
Psychosis	0.7	0.6	0.9
Any Above Illness	11.9	11.5	15.0

Source: the Washington Needs Assessment Household Survey.

¹Estimates for All Adults include those living in households, group quarters (i.e. college dorms, military barracks, shelters, homeless on the street, and others), and institutional settings (i.e. correctional institutions, nursing homes, psychiatric hospitals, and others). These population groups account for 96.9%, 1.6%, and 1.5% of Washington’s 1998 adult population, respectively.

²Adults in Households Living Below 200% FPL represent 19.1% of Adults in Households and 18.6% of All Adults.

In Table 4, prevalence rates by sex for the same disorders are given for the entire adult household population compared to those living below 200% FPL. Women are more likely than men to experience the mood disorders, except for mania, which has the same prevalence in both men and women. People in poverty are more likely to experience all of these disorders, although the direction of causation is not clear (whether people with psychiatric disorders are more likely to become poor, or whether poverty increases stress and the likelihood of disorder). Both these findings are among the most consistent in psychiatric epidemiology.

Table 4. Estimated Percent of Washington State Adults in Households Experiencing a Psychiatric Disorder During the Past Year, by Sex and Poverty

Past-year Disorder	Adult Men in all Households	Adult Men in Households Below 200% FPL	Adult Women in all Households	Adult Women in Households Below 200% FPL
Major Depressive Episode	6.8	7.5	10.1	12.1
Generalized Anxiety Disorder	1.8	3.1	3.8	5.7
Panic Attacks	2.4	3.0	6.9	9.1
Manic Episode	0.4	0.7	0.4	0.7
Psychosis	0.6	0.8	0.7	0.9
Any Above Illness	8.2	9.4	14.8	19.1

Source: the Washington Needs Assessment Household Survey.

PREVALENCE ESTIMATION OF SERVICE NEEDS

The estimates of need for mental health services include the psychiatric diagnoses measured, but also consider other factors. Chapter 8 of the technical report is also the repository for estimates of Broad, Medium, and Narrow service need.

The additional factors are as follows (for details on how they were measured, see Chapter 4 in the technical report).

- functional limitations
- recent use of mental health services
- recent desire for mental health services
- dangerous to self or others
- dependant on others.

Broad. The broad definition of need for mental health services requires that the respondent have:

- Any current WANAHS disorder diagnosis OR a self rating of poor mental health,
- AND meets **one** of the additional criteria discussed above.

Medium. The medium definition of mental health service need does not include persons whose only psychiatric diagnosis is generalized anxiety disorder or panic. It does require:

- A rating on clinician re-interview of “psychosis” or “disturbed”
- OR a survey diagnosis of depression or mania.
- AND meets **one** of the additional criteria above

Narrow. The narrow definition of need for MH services is the most restrictive. Again, it excludes persons with only generalized anxiety or panic disorder. It requires:

- A rating on clinician re-interview of “psychosis” or “disturbed”
- OR a survey diagnosis of depression or mania.
- AND meets **two** of the additional criteria above

Since persons with senile dementia do become part of the service population of the Mental Health Division, it is important to include them in the need estimates. Therefore, the PEMINS report also includes, for each of these three service need levels (all based solely upon information collected in the WANAHS), a second series which adds an ECA based estimate of cognitive impairment (such as senile dementia) to WANAHS-based estimates of need.

As the definition of need becomes narrower and income lowers, the demographic characteristics of those needing services change. For example, examine the subgroup percentages in the below 200 % poverty level clients with narrow need (the last column of Table 5). In this group, men have almost the same rate of need as women (men 2.5 percent; women 2.8 percent); while in all other need/poverty groups, women have need rates twice as high as those of men.

Also in narrow-need-below-poverty band, seniors over 65 have the highest rate of need; whereas in the other bands seniors have lower rates than other age groups. Ethnic group proportions also change: generally, American Indians have the highest need rates. However, in the narrow-need-below-poverty band, African Americans have the highest need rates.

Table 5. Estimated Washington State Mental Health Service Need Prevalence Rates by Sex, Age, and Ethnicity, for Adults in All Households and Poor Households

	Adults in Households				Adults in Households Below 200% FPL			
	Total People	% Broad	% Medium	% Narrow	Total People	% Broad	% Medium	% Narrow
All Groups	4,051,183	6.0	4.4	1.8	955,647	10.8	7.5	2.7
By Age								
18-24	455,596	4.1	3.2	0.6	170,724	6.6	5.3	0.7
25-44	1,760,855	6.7	5.3	1.9	414,341	12.0	8.3	2.5
45-64	1,219,209	5.6	3.9	2.2	196,239	15.8	10.6	3.6
65+	615,523	6.1	3.8	2.0	174,343	6.6	4.2	4.0
By Sex								
Men	1,982,222	4.0	3.0	1.6	408,062	6.7	4.4	2.5
Women	2,068,961	7.9	5.8	2.1	547,586	14.0	9.8	2.8
By Race/Ethnicity								
Hispanic, all races	201,958	4.6	3.5	1.2	97,925	11.4	4.7	2.7
Asian-American, non Hispanic	220,951	4.6	3.1	1.7	64,814	6.6	5.4	1.7
African-American, Non-Hispanic	111,502	6.9	5.4	2.3	38,391	11.8	9.0	3.7
American Indian, non Hispanic	56,087	10.6	6.1	2.6	25,898	16.0	9.0	3.2
White, Non Hispanic	3,460,685	6.1	4.5	1.9	728,620	8.2	7.9	2.9

Source: the Washington Needs Assessment Household Survey.

POLICY AND PLANNING IMPLICATIONS

Resource Allocation. There is strong evidence in the PEMINS study, the ECA studies and the NCS, that large differences exist in prevalence of disorders and need for services among certain subgroups. However, it does not follow that there are large differences in overall prevalence rates among county- or RSN-populations. This is because the subgroups that differ are either small in number or found in relatively similar proportions across counties and RSN areas. Therefore, global need-based resource allocation (as opposed to resources aimed toward specific population or program targets) might well use a per capita type formula where the population count is based on the potential universe of clients (i.e. all people, poor people, or other).

For example, three levels of service need were developed for analysis in the PEMINS: Broad, Medium, and Narrow. Increasing restriction on severity of disorder and limitations in daily functioning were used as threshold conditions for inclusion in each level. The prevalence estimates of service need among all adults across the fourteen RSNs ranged from 6.0% to 7.2% for Broad Need, 4.4% to 5.1% for Medium Need, and 1.8% to 2.3% for Narrow Need. Although it is difficult to provide confidence intervals on small area estimates made from a statewide survey, it is safe to say that, with ranges as tight as these, most, if not all RSNs have a very similar overall prevalence of service needs.

This finding is supported by a federal study which modeled and differentiated state-level prevalence using the ECA and NCS studies (Federal Register, 1999). In that study, researchers also came to the conclusion that although there are some demographic predictors of need, overall state-level rates were not significantly different across the country.

The key question for resource allocation, this study and others suggest, is not which need definition is used, but whether the focus is placed on the low-income population or the total population. Table 6 below shows what percent of the total need population lives in each RSN, using each need band, for both total population and for the population living at or below 200 percent of the Federal Poverty Level.

For most publicly funded mental health treatment services, the poverty population seems more appropriate than the total population, since they represent the group eligible to receive services. For prevention and awareness efforts the overall population is probably more appropriate.

Table 6: Population and Estimated Mental Health Service Need Populations as Percent of State Totals, for Broad, Medium and Narrow Need, By RSN and Poverty Status

RSN	Adults in Households				Adults in Households Below 200% FPL			
	Total People	% Broad	% Medium	% Narrow	Total People	% Broad	% Medium	% Narrow
State Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Chelan/Douglas	1.6%	1.7%	1.7%	1.7%	2.3%	2.3%	2.1%	2.3%
Clark	5.4%	5.3%	5.5%	5.3%	5.2%	5.1%	5.6%	5.1%
Grays Harbor	1.2%	1.4%	1.4%	1.4%	1.8%	2.0%	2.0%	2.0%
Greater Columbia	9.7%	10.0%	9.7%	10.0%	14.6%	13.9%	13.3%	13.9%
King	30.4%	31.2%	30.4%	31.2%	22.2%	24.7%	22.5%	24.7%
North Central	2.0%	2.2%	2.1%	2.2%	3.8%	3.6%	3.4%	3.6%
North Sound	15.9%	14.9%	15.1%	14.9%	13.2%	12.4%	13.3%	12.4%
Northeast	1.1%	1.2%	1.2%	1.2%	1.7%	1.7%	1.7%	1.7%
Peninsula	5.7%	5.3%	5.5%	5.3%	5.4%	5.3%	5.4%	5.3%
Pierce	11.9%	11.7%	11.9%	11.7%	11.8%	11.7%	12.2%	11.7%
Southwest	1.6%	1.8%	1.8%	1.8%	2.0%	2.2%	2.3%	2.2%
Spokane	7.3%	7.2%	7.7%	7.2%	9.1%	8.5%	9.3%	8.5%
Thurston/Mason	4.5%	4.3%	4.4%	4.3%	4.4%	4.3%	4.4%	4.3%
Timberlands	1.6%	1.8%	1.8%	1.8%	2.4%	2.5%	2.5%	2.5%

Source: the Washington Needs Assessment Household Survey.

Utilization Review. The PEMINS study offers prevalence estimates of service need and disorders for a variety of population subgroups categorized by age group, race/ethnicity, sex, poverty status, marital status, and education. Some subgroups show substantially higher or lower rates of particular disorders or service need than the general population. The study offers baselines against which to evaluate utilization statistics by subgroup. In other words, within each subgroup, use of mental health services should be compared with need for mental health services, to identify gaps.

Both program planning and targeting would benefit from such knowledge. It is probably true that publicly funded systems can never meet all of the service need. It would be good, however, if they served similar proportions within each subgroup.

Outreach/Case Finding. If gap analyses are done, they will reveal subgroups where targeted outreach and case finding may be useful. It is also true that some outreach and case finding assumptions could be made from the study itself. Groups with high need could be candidates for programs targeting treatment or awareness. For example, 12.2% of American Indians living in households have current depression diagnoses considerably higher than all other ethnic groups.

In other words, within an RSN, attention should be paid to groups with high rates of need. They may and should be using more services. Those groups include American Indians, African Americans, women and adults between about 30 and 60.

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