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WASHINGTON COUNTY AFTERCARE
SERVICE UTILIZATION STUDY

by

JAMES RICHARD PETERSON

A practicum submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SOCIAL WORK

Portland State University

1979

TO THE OFFICE OF GRADUATE STUDIES AND RESEARCH:

The Advisor approves the research practicum of
James Richard Peterson presented June 5, 1979.

Nancy Kopoloff, Research Advisor

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CHAPTER I

INTRODUCTION

A Developing Aftercare Service Delivery System

Prior to 1977, the only private agency in Washington County providing mental health services to former Dammasch clients was Tualatin Valley Mental Health Center. Except for medication monitoring and counseling services available through this agency, the only other organized aftercare service was delivered by the Mental and Emotional Disturbances Division of the Washington County Mental Health Program. For the most part, this aftercare service was limited to civil commitment case monitoring activities. Recognizing that a greater variety of community mental health services was needed, the Mental Health Program initiated efforts beginning in 1976 to locate private sector agencies willing to develop and provide aftercare services on a subcontract basis. At the same time, the aftercare direct service delivery capabilities of the Mental Health Program was expanded. Service coordination was enlarged to make it available not only to civil commitment clients but all aftercare clients. Special services were established to make aftercare clients more aware of the variety of community mental health services available to them and to

facilitate the provision, coordination and continuity of these services on an individual need basis. By spring of 1977, the number of aftercare direct service providers had grown from a single County program (division) and sub-contract agency to two County programs and seven sub-contract agencies. The next section provides a description of these programs/agencies.

The Washington County Aftercare Service Providers

The agency and program descriptions provided in this section are characteristic of what existed prior to July, 1978. Additionally, only those agencies and programs who had direct services available to the aftercare population are presented. For a more complete and up-to-date description of the Washington County Mental Health system, the reader is referred to the 1979-1981 Biennium County Mental Health Plan.¹

Washington County Mental Health Program

The Mental Health Program and its four service divisions (Alcohol, Developmental Disabilities, Drug, and Mental and Emotional Disturbances) are responsible for the planning and administration of the County's Community

¹Washington County Mental Health Program. Washington County Mental Health Plan For The 1979-1981 Biennium. Hillsboro, Oregon: 1979

Mental Health System which is primarily comprised of private sector subcontract agencies. While most direct services are provided through the subcontractors, some services which are required by legislation but not available in the private sector, are delivered by program staff. During most of the two-year period between July 1, 1976 and June 31, 1978, in-house (program) direct services were available to the post psychiatric hospital population through the Mental and Emotional Disturbances Division and the Drug Division. In the Mental and Emotional Disturbances Division, staff conducted screening, disposition planning, and case monitoring for individuals involved in a civil commitment. Additionally, services coordination activities for persons pre and post psychiatric hospitalization were available.

In the Drug Division, outpatient drug treatment services were available to aftercare clients with drug-related disorders.

Tualatin Valley Mental Health Center

The Center is the largest mental and emotional and alcohol disturbance contractor. The primary aftercare services provided by the Center's staff are medication monitoring as well as other forms of individual and group treatment.

Tualatin Valley Workshop

The aftercare services provided through the Workshop encompass primarily two programs:

1. The Day Treatment Program provides medication monitoring, individual and group counseling as well as individual living skills development.
2. The Sheltered Workshop Program provides pre-vocational evaluation, work adjustment training, sheltered employment, and placement in competitive employment.

Metropolitan Family Service

This service provides primarily family focused counseling services to individuals, couples, and families. Additionally, homemaker services are available to the more severely disturbed or homebound clients.

Lutheran Family Services

This agency provides individual, family, and group counseling services. In addition, life education classes in parenting, relaxation and stress management, and assertiveness training are offered. While services are not specifically targeted for aftercare individuals, they are available to this population.

Native American Rehabilitation Association

This association is located in Portland and provides outpatient and short term inpatient alcohol treatment

services to American Indian clients who live in Washington County.

Centro Cultural

This program offers outpatient alcohol counseling services to members of the Spanish-speaking community.

Cedar Hills Psychiatric Hospital (Inpatient)

Short term inpatient psychiatric hospitalization is the only contract service offered through this facility.

The Decision to Evaluate

By the summer of 1978, most of the agencies and programs covered above had been an operating part of the Aftercare Delivery System for over a year. While it was evident that the number of services available to Dammasch releasees had dramatically increased since 1976, the actual impact the System was having on the aftercare population, and particularly the more chronically ill members of this group, was unknown. In order to obtain some understanding of this System's impact the following study was undertaken.

CHAPTER II

METHODOLOGY

Operationalizing The Research Purpose

Broadly speaking, the purpose of this study is to:

1. Assess the functioning of the psychiatric hospital aftercare service delivery system by examining community service utilization patterns of Dammasch Hospital releasees.
2. Obtain descriptive information relating to Washington County's chronic aftercare population.
3. Provide an objective data base that can be used to further develop the Aftercare Service Delivery System in Washington County.

During the summer months of 1978, the researcher and two representatives of the County Mental Health Program engaged in a process, spanning many meetings, aimed at operationalizing the purpose of the research. This process began with an abstract statement of the information the Program wanted to get out of the study, and progressed through various levels of fine tuning in which information needs were clarified and ultimately operationalized in the form of specific research questions.

The Research Questions

The research questions are grouped into five parts.

Part One - Population Demographic, Clinical, and Service Utilization Characteristics.

1. What are the demographic characteristics of the research population:
 - a. age,
 - b. sex,
 - c. marital status,
 - d. race,
 - e. primary income source,
 - f. gross family income,
 - g. location of residence?
2. What are the clinical characteristics of the subjects:
 - a. primary diagnosis,
 - b. number of readmissions during time frame,
 - c. total days in the state hospital during time frame,
 - d. hospital commitment type?
3. How many subjects used services coordination during the time frame?
4. How many subjects utilize community treatment services through the various subcontract agencies and County programs?
5. How many treatment programs/agencies tend to be utilized by individual subjects?

6. What is the duration of community treatment?
7. How many subjects utilize medication monitoring services?
8. What are the conditions of treatment termination?

Part Two - Differentiating the Chronic Aftercare Population.

1. Is there a difference in demographic/diagnostic characteristics (all variables) of those subjects with:
 - a. 1 admission,
 - b. 2 admissions,
 - c. 3 or more admissions?
2. Is there a difference in the demographic/diagnostic characteristics of subjects whose total days in Dammasch State Hospital are :
 - a. 1 to 30 days,
 - b. 31 to 60 days,
 - c. 61 to 90 days,
 - d. 91 to 120 days,
 - e. 121 to 150 days,
 - f. 151 to 180 days,
 - g. 181 plus days?
3. Is there a difference in demographic characteristics of subjects whose primary diagnosis is:
 - a. psychotic disturbances,
 - b. alcohol/drug disturbances
 - c. other mental and emotional disturbances?

4. Is there a difference in demographic/diagnostic characteristics of subjects whose hospital entry is:
 - a. court committed?
 - b. non-court committed?

Part Three - The Relationship Between the Utilization of
Mental Health Subcontract Agencies and
Selected Variables.

1. Does duration of treatment differ from one program/agency to another?
2. Does gross family income relate to the utilization of community treatment programs/agencies?
3. Does location of residence relate to the utilization of community treatment programs/agencies?
4. Does the number of Dammasch Hospital Admissions incurred by a subject relate to the utilization of community treatment programs/agencies?
5. Does the total Dammasch Hospital days relate to the utilization of community treatment programs/agencies?
6. Does primary diagnosis relate to the utilization of community treatment programs/agencies?
7. Does hospital commitment type relate to the utilization of community treatment programs/agencies?
8. Do the conditions of treatment termination differ from one community treatment agency to another?

Part Four - The Relationship Between the Utilization of
Services Coordination and Selected Variables.

1. Does the utilization of services coordination relate to the utilization of community treatment services?
2. Does the utilization of services coordination relate to the duration of community treatment?
3. Does the utilization of services coordination relate to the condition of treatment termination?

Part Five - The Chronological Relationship Between the
Utilization of Aftercare Services and Admission
to the State Hospital.

1. What percent of the population were in treatment at the time of admission/readmission to Dammasch?
2. What is the relationship between the utilization of aftercare services and readmission to Dammasch?

The Research Population

The selection of the study population was guided by three factors:

1. Due to resource limitations, the maximum size of the study population would have to be no larger than 100 to 120 subjects.
2. Washington County residents who tended to incur multiple Dammasch hospitalizations were identified early in the operationalizing process as the primary target of aftercare service delivery efforts. Therefore, information pertaining to the more chronically hospitalized

portion of the aftercare population was established as a high priority.

3. The aftercare delivery system as described earlier was not operational until late 1976 and early 1977. Thus, data collection would have to be limited to subjects who left Dammasch just prior to or after this time period.

Using the above guidelines, the Oregon State Mental Health Information System was contacted for assistance in identifying a population suitable for this study. The result of this contact was the development of a list which contained the names of all the former and current Dammasch Hospital patients who had incurred at least 2 hospital admissions from Washington County prior to July 1, 1978 and had no less than 1 of the admissions occur after June 31, 1976. This list of 118 names became the Study Population List. However, one name was dropped from this list. The reason for the deletion will be covered in the next section.

The Study Time Frame

July 1, 1976 through June 31, 1978 was the time frame (study period) for this research effort. Only data generated during this time period was utilized for data analysis. The beginning of this two year span slightly precedes the expansion of the Mental Health Program's client services coordination activities and ends just prior to the initial planning stage of the research.

Data Collection

The two primary data sources used in this research effort were the Oregon State Mental Health Information System and the client case files maintained by the individual aftercare programs and subcontract agencies which served the study population.

While working on the development of the population subject list, it was learned that the State's Mental Health Information System routinely collected and maintained almost all of the data needed for the study. After determining that the required data could be accessed and used for this study, computer printouts containing demographic, clinical, and Washington County aftercare service utilization information on all but one of the subjects was obtained. Information relating to the one subject was not reported due to a coding error. Rather than access the system again for information on one individual, it was decided that the name would be dropped from the subject list.

A review of the computer printouts supplied by the State Mental Health Information System revealed that substantial portions of the data were not consistently reported on each subject. The items most often found to be missing were primary income source, gross family income, residence, and aftercare service utilization information.

In order to obtain the missing data items, it was decided that individual subject case files maintained by the after-care programs and agencies would be utilized.

The Administrator of each agency identified as an Aftercare Service Provider for this study received a letter from the Director of the Washington County Mental Health Program outlining the nature and purpose of the study. The letter was also followed up with individual and group meetings between the researcher and the various administrators to further clarify the purpose of the study and specify the data that would be needed. Additionally, a series of negotiating sessions were conducted involving Mental Health Program management staff and the respective agency administrators. These negotiations resulted in agreement of the following data collection procedures:

1. Each agency and program administrator would be individually contacted to set up a convenient time for the researcher to visit the agency for data collection purposes.
2. Basically, three options were available to the administrators regarding the researcher's access to client case files.
 - a. The researcher would be denied direct access to the client case files. Utilizing a Sample Population name list, agency staff would pull the case files of subjects who had been clients during the study

period. Then, in the presence of the researcher, a staff member would search the file for the needed information and provide it verbally to the researcher for recording.

- b. The researcher would be denied access to file storage areas, but would be allowed direct access to subject case files; as in the previous option, a subject name list would be used to locate files of persons who had been program/agency clients during the study period. However, once the appropriate files were located, they would be available to the researcher.
- c. The researcher would have full access to file storage areas and the subject case files on hand. Basically, the researcher was given full responsibility for locating appropriate files and extracting the needed data from them.

Option "a" was utilized by one agency and option "c" by four service providers.² The Mental Health Drug Program, Centro Cultural, and NARA were supplied subject lists and reported no client contacts with any of the subjects during the study period.

²Data pertaining to Cedar Hills (in-patient) service utilization is kept by the MED program. Thus, Cedar Hills client files were not directly accessed.

As data collection proceeded, the transient nature of the study population became quickly evident. Since there seemed to be considerable subject movement between Washington and Multnomah Counties, it was decided by both the researcher and the Mental Health Program Director that some determination of the extent to which the study group used Multnomah County aftercare services would be needed. The Director of the Multnomah County Mental Health Division was contacted and access to the needed service utilization information was requested. Following consultation with the Director of the State Mental Health Division, the researcher was allowed access to the master client card files maintained at the East County Clinic. Besides name and birth date, the card files consistently reported clinic admission information on current and former clients of the four Multnomah County Mental Health outpatient clinics. Since clinic discharge dates were not routinely reported, only information pertaining to subject admissions during the study period was extracted from the master card file.

In Search of a Comparative Study

Following data collection, a literature search for comparable aftercare service utilization studies was undertaken. It was hoped that such an effort would provide comparisons against which the population and services

utilization findings of the current study could be assessed. The only study found to have a similar focus was a rather extensive research effort which examined the de-institutionalization process in the states of Washington and Idaho.³ In all, this study involved seven substudies. The one of most interest (for the current purpose) was a post hospital client follow-up study which contacted a sample of 496 aftercare subjects, 24 mental health centers, 6 satellite clinics, and 53 residential facilities to determine the extent of service utilization following hospital discharge.

The study sample for the Washington/Idaho State study was comprised of subjects who had been discharged from one of the four psychiatric state hospitals in Washington and Idaho during Fiscal Year 1975-1976. Since the number of hospital admissions (other than one) was not a selection criterion, this sample tended to have fewer life-time hospitalizations than the Washington County study group. The diagnostic categories for both groups were similar except that the Washington/Idaho sample did not include subjects with alcohol or drug disorders (these individuals were excluded).

³H. Max Drake, et al. An Evaluation of the Deinstitutionalization Process in the U.S. Department of Health, Education, and Welfare, Region X. Olympia, Washington: 1978

In spite of the differences in some of the selection criterion used, it was felt that some of the population data from the Washington/Idaho State study would be useful as a comparison in the current study. However, the service utilization data from the Washington/Idaho study was not used. The primary consideration in making this decision was the differences in the size (geographic and number of service providers) and scope (types of services) of the two systems studied. Because of these differences, it was felt that attempts to make comparisons would be awkward and susceptible to misinterpretations.

Data Analysis

Following data collection, the information obtained on each subject was coded and placed on key punch cards for transfer to a computer disk file. The SPSS data analysis package was then used with assistance from the programming consultant at the Regional Research Institute. Most of the data analysis found in the next chapter was obtained through computer analysis. A few analyses which would have required special programming beyond the capabilities of SPSS were done by hand.

CHAPTER III

THE RESEARCH FINDINGS

Through a review of clinical case files and data supplied by the Oregon State Mental Health Information System, data relating to the demographic, clinical, and community service utilization characteristics (profiles) of the chronic aftercare study population were obtained. In this chapter the content and relationship between sub-elements of the three data profiles will be described.

The research findings are presented in five parts:

1. Part One will be concerned with identification of the demographic, clinical, and service utilization characteristics of the research population.
2. Part Two will examine the relationship between various chronic aftercare population characteristics and selected clinical profile variables.
3. Part Three will delve into the relationship between the utilization of Washington County Community Mental Health subcontract agencies and selected subject profile variables.
4. Part Four will attempt to clarify the relationship between the utilization of services coordination and other utilization profile variables.

5. Part Five will specify the chronological relationship between utilization of aftercare services and admission to the state hospital.

As the study findings are reviewed, the following factors should be considered:

1. Since all of the subject characteristic information contained in this study were obtained from secondary sources, there was little control over maintaining data reliability. Based on personal experience with the reporting forms (CL-1) used to initially record client characteristics, there is likely to be two types of errors inherent in this data which might be kept in mind:
 - a. Recorder error; information is incorrectly or inaccurately coded by the recorder.
 - b. Reporter error; incorrect information is reported by the subject.
2. Primary income source, gross family income, and location of residence information was inconsistently reported. Typically, only one measure was obtained for most of the subjects on each of these variables. Since these one time measures can only be considered characteristic of the point in time they were originally recorded; they will not necessarily be generalizable over the entire study period.
3. Much of the data analysis is concerned with examining the relationship between variables. Because of design

limitations, the analysis used in this study will focus on determining if certain relationships exist and not whether one variable causes changes in another variable (causal relationship).

Part One - Population Demographic, Clinical and Service Utilization Characteristics.

In the following sections, a descriptive picture of the demographic, clinical, and aftercare service utilization characteristics of the study population will be provided. As a comparative tool, selected demographic and/or clinical characteristics of the aftercare sample will be matched against the characteristics of the general population⁴ (Oregon State or Washington County) and in some cases a study sample of aftercare patients in the states of Washington and Idaho. This latter aftercare population was used in a deinstitutionalized study of psychiatric hospital releases in these two states (see Methodology-In Search of a Comparative Study). It is felt that these comparisons will provide a referent against which the unique nature of the study population can be measured. Unfortunately, due to limits relating to the comparability of individual data categories, comparisons will not be

⁴Population characteristics throughout the report were derived from data provided by The Center for Population Research and Census, Portland State University.

available on most of the clinical and all of the utilization profile variables.

Section 1: Demographic Profile Characteristics

Age: The median age for this group is 36 which is higher than the estimated median age of 26 for Washington County's general population. While the study subjects tend to be older than the general population, they are slightly younger than a similar but less chronically ill study sample in Washington and Idaho (See Talbe A1A).

POPULATION DEMOGRAPHIC PROFILES

TABLES

TABLE A1: AGE DISTRIBUTION

AGE	N	(%)
12 to 17 Years	1	(.9%)
18 to 44 Years	78	(66.7%)
45 to 64 Years	29	(24.8%)
65 Plus Years	9	(7.7%)
TOTAL	117	(100.0%)
RANGE OF AGES:	16 to 80 Years	
MEAN AGE:	39 Years	
MEDIAN AGE:	36 Years	

TABLE A1A: AGE COMPARISONS OF TWO AFTERCARE
STUDY POPULATIONS

AGE RANGE	(%) WASHINGTON COUNTY STUDY SAMPLE	(%) WASHINGTON/IDAHO STATE STUDY SAMPLE
18 to 34 yrs.	49%	45%
36 to 45 yrs.	43%	45%
65 plus yrs.	8%	10%

Sex: The study population is made up of 52% males and 48% females. These figures are almost inverse to the proportion of males (49%) to females (51%) in the general population of Washington County.

TABLE A2: SEX DISTRIBUTION

SEX	N	(%)
Male	61	(52.1%)
Female	56	(47.9%)
TOTAL	117	(100.0%)

Marital Status: Just under one third (31.6%) of the subjects have never been married. This is slightly higher than the 25.1% figure for single individuals state wide. Additionally, while 61.2% of Oregon's population is married (but not separated) only 30.8% of the research population falls into the same category. Another large disparity is noted when the proportion (26.5%) of divorced subjects in the study group is compared to the proportion (6.2%) of divorced individuals in the general population. Finally, while 11.1% of the subjects are either separated or widowed, only 7.6% of the population are so classified state wide.

TABLE A3: MARITAL STATUS DISTRIBUTION

MARITAL STATUS	N	(%)
Single	37	(31.6%)
Married	36	(30.8%)
Divorced	31	(26.5%)
Separated	7	(6.0%)
Widowed	6	(5.1%)
TOTAL	117	(100.0%)

Race: The research population is predominantly white (93.1%) with Mexican-American, American Indian and Oriental ethnics making up 6.9% of the population. Considering that the percent of non-whites in the county's general population is less than three percent, it would appear that ethnic minorities may be over represented in the study group.

TABLE A4: RACE DISTRIBUTION

RACE	N	(%)
White	109	(93.1%)
Mexican American	3	(2.6%)
American Indian	2	(1.7%)
Oriental	3	(2.6%)
TOTAL	117	(100.0%)

Primary Source of Income: In reporting their primary source of income, subjects were asked to identify the one income source which provides them with their primary monetary support. Since only one income source was asked for, information relating to secondary sources of income were for the most part not available. However, primary income source information is usually collected each time a subject enters or re-enters treatment. Thus, it was possible to obtain more than one measure on this variable over the two year study period. In all, primary income source information was obtained on 108 of the 117 research subjects. Many (82) of these individuals had only one reported primary income source over the two year time period; 25 had two and 1 subject had three recorded primary income sources. Self/family was the only reported primary income source for 51 subjects. (See Table A5A) This means that of the 108 subjects with reported income sources, 67 (52.8%) received as their primary financial source some form of income assistance (Welfare, Social Security, SSI, Pension) at some point during the time frame of the study. Given the degree of disability which tends to be associated with this population, we would expect the latter figure to be higher. Income source information in the Washington/Idaho State study indicates that a minimum of 64% of their aftercare subjects received some form of income support within a year of discharge from

the state hospital.

TABLE A5: PRIMARY INCOME SOURCE DISTRIBUTION

PRIMARY INCOME SOURCE	N	(%) OF KNOWN TOTAL ⁺
Self/Family	71	(52.6%)
Welfare	27	(20.0%)
Veteran Admin.	2	(1.5%)
Social Security	22	(16.3%)
Other	13	(9.6%)
Unknown	9	
TOTAL	144*	

⁺Known Total = 135

*Over the two year period of the study

82 subjects reported one income source;

25 subjects reported two primary income sources;

1 subject reported three primary income sources.

TABLE A5A: DISTRIBUTION OF SUBJECTS WITH ONLY ONE
REPORTED PRIMARY INCOME SOURCE

PRIMARY INCOME SOURCE	N	(%)
Self/Family	51	(62.2%)
Welfare	7	(8.5%)
Veteran Admin.	1	(1.2%)
Social Security	14	(17.0%)
Other	9	(11.0%)
TOTAL	82	(100.0%)

Gross Family Income: The median family income for the study population is \$2,762 which is just below the 1976 poverty level (\$2,800) for a single member family, and considerably below the 1975 estimated Washington County per capita income of \$5,761. However, the figure is comparable to the Washington State aftercare study population median income figure of \$2,805.

TABLE A6: DISTRIBUTION OF GROSS FAMILY INCOME

GROSS FAMILY INCOME	N	(%)
Under \$3,000	38	(55.1%)
\$3,000 to \$3,999	5	(7.2%)
\$4,000 to \$4,999	3	(4.3%)
\$5,000 to \$5,999	5	(7.2%)
\$6,000 to \$6,999	3	(4.3%)
\$7,000 to \$7,999	5	(7.2%)
\$8,000 to \$8,999	0	0
\$9,000 to \$9,999	3	(4.3%)
\$10,000 to \$14,999	6	(8.7%)
\$15,000 plus	1	(1.4%)
TOTAL	69	(100.0%)
MEAN INCOME: \$5,113		
MEDIAN INCOME: \$2,762		
NUMBER ON SUBJECTS WHOSE INCOME IS UNKNOWN = 48		

Residence: The study population tends to be quite mobile. During the two-year study period, 55.6% of the subjects incurred at least one Dammasch hospitalization in which they were admitted from or discharged to a county other than Washington County. While in the county, 95.5% of the subjects resided within the Tualatin Valley (see map 1), an area which also contains 89% of Washington County's estimated 215,000 population. Table A7A compares the geographic distribution of the study population with that of the general population. Analysis of this table indicates that a proportionately higher number of subjects live in the valley, and in, particularly the west valley area, than would be expected. Additionally, a proportionately low number of subjects live in the more rural areas outside of the valley.

TABLE A7: DISTRIBUTION OF LAST KNOWN RESIDENCE

RESIDENCE	N	(%)
Beaverton	38	(34.5%)
Hillsboro	27	(24.5%)
Tigard	12	(10.9%)
Forest Grove Area	11	(10.0%)
Raleigh Hills Area	4	(3.6%)
Rock Creek Area	4	(3.6%)
Cornelius	4	(3.6%)
Gaston	3	(2.7%)
Sherwood	3	(2.7%)
Banks	2	(1.8%)
Aloha	2	(1.8%)
TOTAL	110	(100.0%)
NUMBER OF SUBJECTS WHOSE RESIDENCE IS UNKNOWN = 7		

TABLE A7A: POPULATION DISTRIBUTION COMPARISON

GEOGRAPHIC AREA	(%) OF STUDY SAMPLE	(%) OF COUNTY POPULATION
TUALATIN VALLEY	95.5%	86%
(EAST VALLEY)	(57.2%)	(71%)
(WEST VALLEY)	(37.3%)	(18%)
REST OF COUNTY	4.5%	11%

Section 2: Clinical Characteristics

Diagnosis: Fifty-nine percent of the subjects are diagnosed as having psychotic disorders. Alcohol or drug disorders is the primary disorder associated with 20.5% of the study population and another 20.5% of the subjects have mental and emotional disorders spread over several other diagnostic categories.⁵

POPULATION CLINICAL PROFILE TABLES

TABLE B1: PRIMARY DIAGNOSIS DISTRIBUTION

DIAGNOSIS CATEGORY	N	(%)
Psychotic	69	(59.0%)
Alcohol/Drug	20/4	(20.5%)
Other	24	(20.5%)
TOTAL	117	(100.0%)

⁵The source used to identify the individual diagnoses appropriate for each category was the Oregon Community Mental Health Programs Data Reporting Procedures Manual, Mental Health Division, Department of Human Resources, Computer Services Unit: Salem Oregon, 1977.

Dammasch Admissions: During the two year time frame of the study, 66.7% of the subjects incurred two or more admissions to Dammasch State Hospital, with 2.2 as the average number of admissions. Two subjects had a high of 6 admissions and 39 had only one admission. 30% of the population had no hospital admissions prior to July 1, 1978 (see Table B2), but the study population as a whole had 3.8 life-time Dammasch hospitalizations.

TABLE B2: DISTRIBUTION OF ADMISSIONS TO
DAMMASCH STATE HOSPITAL (7/1/76 to 6/31/78)

NUMBER OF ADMISSIONS	N	(%)
1	39	(33.3%)
2	45	(38.5%)
3	16	(13.7%)
4	11	(9.4%)
5	4	(3.4%)
6	2	(1.7%)
TOTAL	117	(100.0%)
AVERAGE NUMBER OF ADMISSIONS = 2.2		

TABLE B2A: DISTRIBUTION OF ADMISSIONS TO
DAMMASCH STATE HOSPITAL -- LIFE TIME

NUMBER OF ADMISSIONS	N	(%)
2	39	(33.3%)
3	30	(25.6%)
4	20	(17.1%)
5	14	(12.0%)
6	3	(2.6%)
7	5	(4.3%)
8	1	(.9%)
9	1	(.9%)
11	1	(.9%)
14	1	(.9%)
15	1	(.9%)
19	1	(.9%)
TOTAL	117	(100.0%)
AVERAGE NUMBER OF ADMISSIONS = 3.8		
MEDIAN NUMBER OF ADMISSIONS = 3		

Hospital Days: The majority of the subjects (53%) spent less than 61 days at Dammasch State Hospital. During the two year time period, 18 (15.4%) individuals exceeded 180 days and 6 of these subjects were hospitalized for over one year.

TABLE B3: DISTRIBUTION OF TOTAL DAYS IN HOSPITAL
(7/1/76 to 8/31/78)

DAYS IN HOSPITAL	N	(%)
0 - 30	31*	(26.5%)
31 - 60	31	(26.5%)
61 - 90	10	(8.5%)
91 - 120	11	(9.4%)
121 - 150	13	(11.1%)
151 - 180	3	(2.6%)
181 +	18 ⁺	(15.4%)
TOTAL	117	(100.0%)
RANGE: 0 to 653 days MEAN: 102 days MEDIAN: 56 days		
*One subject was admitted and discharged on the same day and thus had zero days in the hospital		
+6 subjects had over 365 days in the hospital		

Commitment Type: A total of 253 Dammasch hospital admissions were incurred by the study group. The majority (69.6%) of these admissions were voluntary; 20.9% of the admissions were court commitments and 8.3% were emergency or detention warrant commitments. Three admissions had no reported commitment type (see Table B4). In all, 34 subjects were under court commitment at some time during the study period.

TABLE B4: DISTRIBUTION OF
COMMITMENT TYPES

COMMITMENT TYPE	N	(%)
VOLUNTARY	176	(69.6%)
COURT COMMITMENT	53	(20.9%)
EMM. CARE.	19	(7.5%)
DET. WARR	2	(.8%)
UNKNOWN	3	(1.2%)
TOTAL	253	(100%)

TABLE B4A: SUBJECTS WITH AT
LEAST ONE COURT COMMITMENT
DURING STUDY PERIOD

COMMITMENT TYPE	N	(%)
COURT COMM.	31	(26.5%)
OTHER	86	(73.5%)
TOTAL	117	(100%)

Section 3: Service Utilization Characteristics

Services Coordination: Aftercare services coordination was utilized by 57 subjects. As would be expected, a high percentage (93.5%) of the court committed subjects received this service. However, a relatively low proportion (32.6%) of the non-court committed subjects were clients.

TABLE C1: UTILIZATION OF SERVICES COORDINATION

COURT COMMITTED	USED SERVICES COORDINATION		DID NOT USE SERVICES COORDINATION		TOTAL	
	N	(%)	N	(%)	N	(%)
YES	29	(93.5%)	2*	(6.5%)	31	(100%)
NO	28	(32.6%)	58	(67.4%)	86	(100%)
TOTAL	57	(48.7%)	60	(51.3%)	117	(100%)

*Both subjects were residents of another county while under Court Commitment

Subcontract Agency Utilization: Washington County Community Mental Health subcontract agencies provided treatment services to 57 (48.7%) subjects. An additional 5 subjects who did not obtain services in Washington County were treated through one of Multnomah County's mental health clinics.

TABLE C2: UTILIZATION OF SUBCONTRACT AGENCIES*

AGENCY	NUMBER OF SUBJECTS	(%) UNDUPLICATED TOTAL
LFS	5	(8.1)
MFS	4	(6.5%)
TVW	21	(33.9%)
CEDAR HILLS (INPATIENT)	1	(1.6%)
TVMHC	44	(71%)
MCMHC	13	(21%)
DUPLICATED TOTAL	88	
UNDUPLICATED TOTAL	62**	

*Client services were not provided, to this population, by NARA, Centro Culture and WCMHP (Drug)

**57 SUBJECTS WERE SERVED BY WASHINGTON COUNTY SUB-CONTRACT AGENCIES

The most extensively used subcontract agency was Tualatin Valley Mental Health Center which treated 44 subjects. Tualatin Valley Workshop Inc. was utilized by 21 subjects and a duplicated total of ten individuals received treatment through one or more of the remaining three Washington County service providers. Multnomah County provided aftercare treatment to 13 subjects during the two-year study period.

The majority of the subjects received services (while in Washington County) through only one mental health agency. Fourteen subjects were served by two agencies and two individuals were clients of three subcontractors.

TABLE C3: NUMBER OF AGENCIES UTILIZED

NUMBER	N	(%)
0	60	(51.3%)
1	41	(35.0%)
2	14	(12.0%)
3	2	(1.7%)
TOTAL	117	(100.0%)

Duration of Community Treatment: The average length of stay in treatment for the 57 subjects who received services through one or more of the County's mental health subcontract agencies was 270 days. A sizable portion (33.3%) of these individuals accumulated over 360 community treatment days during the two-year study period.

TABLE C4: DURATION OF COMMUNITY TREATMENT

DAYS	N	(%)
1 to 60 days	17	(29.8%)
61 to 120 days	6	(10.5%)
121 to 180 days	4	(7.0%)
181 to 240 days	6	(10.5%)
241 to 300 days	3	(5.3%)
301 to 360 days	2	(3.5%)
360 plus	19	(33.3%)
TOTAL	57	(100.0%)
RANGE: 5 to 729 MEAN: 270 MEDIAN: 205		

Medication: A review of client clinical records revealed that of the 57 subjects receiving treatment through subcontract agencies, 44 (77.2%) were prescribed some type of medication while in treatment. Thirty-nine of the subjects had their medication monitored through Tualatin Valley Mental Health Center (see Table C5). The case files of another five subjects showed that they were receiving medications while clients of Tualatin Valley Workshop Inc.

TABLE C5: CLIENTS REPORTED ON MEDS (TVMHC)

ON MEDS	N	(%)
Yes	39	(88.6%)
No	5	(11.4%)
TOTAL	44	(100.0%)

Condition of Treatment Termination: An attempt was made during the review of client files to ascertain the extent to which treatment termination occurred with/without the therapist's approval or without the therapist's knowledge. Unfortunately, this type of information was not consistently reported in the subject's case files. Of the 71 treatment terminations, 21 were accompanied by some type of termination statement in the case notes. In an additional 12 cases, no termination statement was provided, but the disposition section of the CL-1 (Client Information Form) was completed. In very few instances was it possible to ascertain from the information provided if the therapist approved of the termination or even had knowledge of the termination until after the event occurred. Basically, the only information that could be consistently obtained was who instigated the termination. Table C6 presents this information. Summarizing from the Table, there were 33 terminations in which some aspect of the event is "known". Of the 33 "known" terminations, 5 were clinic instigated, 18 were instigated by the client, 5 were mutually agreed upon by client and therapist, and five clients left treatment because of rehospitalization.

TABLE C6: TYPES OF TREATMENT TERMINATION

TERMINATION TYPE	NUMBER OF SUBJECTS	(%)
CLINIC INSTIGATED	5	(15.2%)
CLIENT INSTIGATED	18	(54.5%)
MUTUAL AGREEMENT	5	(15.2%)
REHOSPITALIZED	5	(15.2%)
TOTAL	33	(100%)
UNKNOWN	38	

Part Two - Differentiating the
Chronic Aftercare Population

In the following sections we will examine the relationship between various study population characteristics and

1. The number of Dammasch State Hospital admissions incurred between June 31, 1976 and July 1, 1978.
2. Total days spent as an inpatient at the State Hospital during the study period.
3. Primary diagnosis.
4. Hospital commitment type.

Section 1: The Relationship Between Selected Subject Characteristics and the Number of Dammasch State Hospital Admissions Incurred Between June 31, 1976 and July 1, 1978.

Age: Examination of the data indicates that as the number of hospitalizations increases, age tends to decrease.

This relationship is revealed through examination of the median ages of the one, two, and three plus admissions groups which are 41.4 years, 36.4 years, and 34.3 years respectively. If number of admissions is assumed to be a reliable indicator of severity, it could be said that the younger portions of the research population tend to manifest more severely disabling emotional disturbances than than their older counterparts.

RELATIONSHIPS BETWEEN SELECTED SUBJECT CHARACTERISTICS
AND THE NUMBER OF HOSPITAL ADMISSIONS INCURRED BETWEEN
7/1/76 AND 6/31/78

TABLE D1A: AGE AND NUMBER OF HOSPITAL ADMISSIONS

CHARACTERISTIC: AGE	1 ADM. N (%)	2 ADM. N (%)	3 ADM.+ N (%)	TOTAL N (%)
12 - 17 years	0	0	1 (3)	1 (.9)
18 - 44 years	21 (53.8)	32 (71.1)	25 (75.8)	78 (66.7)
45 - 64 years	13 (33.3)	10 (22.2)	6 (18.2)	29 (24.8)
65+ years	5 (12.8)	3 (6.7)	1 (3)	9 (7.7)
TOTAL	39 (100)	45 (100)	33 (100)	117 (100)
MEDIAN AGE	41.4 yr.	36.4 yr.	34.3 yr.	36 yr.

Sex: Women tend to be over represented in the single admission group while the double admission group has a rather high proportion of males. The ratio of men to women in the three plus admission group approaches what would be expected given the sex break down of study population.

TABLE D1B: SEX AND NUMBER OF HOSPITAL ADMISSIONS

CHARACTERISTIC: SEX	1 ADM. N (%)	2 ADM. N (%)	3 ADM.+ N (%)	TOTAL N (%)
Male	15 (38.5)	29 (64.4)	17 (51.5)	61 (52.1)
Female	24 (61.5)	16 (35.6)	16 (48.5)	56 (47.9)
TOTAL	39 (100)	45 (100)	33 (100)	117 (100)
Average Number of Admissions: Males 2.03, Females 1.86				

Marital Status: A review of Table D1C shows that as the number of hospital admissions increases, the proportion of married subjects in each of the three admissions categories decreases. The inverse relationship is true for the single subjects. Thus, it seems that being married is associated with lower hospital readmission rates while being single is associated with higher rates. There is little difference in the proportion of subjects in the other marital categories when compared across admission groups.

TABLE D1C: MARITAL STATUS AND NUMBER OF HOSPITAL ADMISSIONS

CHARACTERISTIC: MARITAL STATUS	1 ADM. N (%)	2 ADM. N (%)	3 ADM.+ N (%)	TOTAL N (%)
Single	9 (23.1)	13 (28.9)	15 (45.5)	37 (31.6)
Married	16 (41.0)	16 (35.6)	4 (12.1)	36 (30.8)
Divorced	10 (25.6)	10 (22.2)	11 (33.3)	31 (26.5)
Separated	2 (5.1)	3 (6.7)	2 (6.1)	7 (6)
Widowed	2 (5.1)	3 (6.7)	1 (3)	6 (5.1)
TOTAL	39 (100)	45 (100)	33 (100)	117 (100)

Race: A review of Table D1D indicates that there tends to be no relationship between race and frequency of hospital admissions.

TABLE D1D: RACE AND NUMBER OF HOSPITAL ADMISSIONS

CHARACTERISTIC: RACE	1 ADM. N (%)	2 ADM. N (%)	3 ADM.+ N (%)	TOTAL N (%)
White	36 (92.3)	43 (95.6)	30 (90.9)	109 (93.2)
Other	3 (7.7)	2 (4.4)	3 (9.1)	8 (6.8)
TOTAL	39 (100)	45 (100)	33 (100)	117 (100)

Primary Income Source: The majority of the subjects in the one and two admission categories derived their primary income support through self-earnings or family assistance. In the three plus admission group, 54.2% of the subjects received their primary support through sources other than self/family.

TABLE D1E: PRIMARY INCOME SOURCE AND NUMBER OF HOSPITAL ADMISSIONS

CHARACTERISTIC: PRIMARY INCOME SOURCE	1 ADM. N (%)	2 ADM. N (%)	3 ADM.+ N (%)	TOTAL N (%)
Self/Family	20 (54.1)	30 (60)	22 (45.8)	72 (53.3)
Welfare	6 (16.2)	7 (14)	14 (29.2)	27 (20)
Veteran Admin.	0	1 (2)	1 (2.1)	2 (1.5)
Social Security	6 (16.2)	8 (16)	8 (16.7)	22 (16.3)
Other	5 (13.5)	4 (8)	3 (6.2)	12 (8.9)
TOTAL	37 (100)	50 (100)	48 (100)	135 (100)
Income Source information was not obtained on 9 clients				

Gross Family Income: There is little difference in the income levels between the one admission and two admission groups. However, the three plus admission group is made up of a relatively higher percentage (62.5%) of subjects with incomes under \$3,000.

TABLE D1F: GROSS FAMILY INCOME AND NUMBER OF HOSPITAL ADMISSIONS

CHARACTERISTIC: GROSS FAMILY INCOME	1 ADM. N (%)	2 ADM. N (%)	3 ADM.+ N (%)	TOTAL N (%)
Under \$3,000	9 (52.9)	14 (50)	15 (62.5)	38 (55.1)
\$3,000 to \$5,999	4 (23.5)	6 (21.4)	3 (12.5)	13 (18.8)
\$6,000 to \$8,999	2 (11.8)	4 (14.3)	2 (8.3)	8 (11.6)
\$9,000 +	2 (11.8)	4 (14.3)	4 (16.7)	10 (14.5)
TOTAL	17 (100)	28 (100)	24 (100)	69 (100)
MEDIAN	\$2,999	\$3,500	\$2,499	\$2,762
Number of subjects whose income is unknown = 48				

Residence: The data indicates that there tends to be no relationship between location of residence and hospital admission rates.

TABLE D1G: RESIDENCE AND NUMBER OF HOSPITAL ADMISSIONS

CHARACTERISTIC: RESIDENCE	1 ADM. N (%)	2 ADM. N (%)	3 ADM.+ N (%)	TOTAL N (%)
Beaverton Area	12 (34.3)	14 (32.6)	12 (37.5)	38 (34.5)
Hillsboro	8 (22.9)	12 (27.9)	7 (21.9)	27 (24.5)
Tigard	4 (11.4)	5 (11.6)	3 (9.4)	12 (10.9)
Forest Grove	6 (17.1)	4 (9.3)	1 (3.1)	11 (10)
Raleigh Hills	2 (5.7)	1 (2.3)	1 (3.1)	4 (3.6)
Rock Creek	0	0	4 (12.5)	4 (3.6)
Cornelius	0	3 (7)	1 (3.1)	4 (3.6)
Gaston	1 (2.9)	1 (2.3)	1 (3.1)	3 (2.7)
Sherwood	1 (2.9)	2 (4.7)	0	3 (2.7)
Banks	1 (2.9)	0	1 (3.1)	2 (1.8)
Aloha	0	1 (2.3)	1 (3.1)	2 (1.8)
TOTAL	35 (100)	43 (100)	32 (100)	110 (100)
Number of subjects whose residence is unknown = 7				

Primary Diagnosis: Less than half (43.6%) of the subjects with only one admission are labeled psychotic while 62.2% of the 2 admission and 72.2% of the 3 plus admission groups are made up of individuals with this diagnosis. There is a decrease in the proportion of subjects with alcohol and drug disorders as we move from the single to the 3 plus admission group. The proportion of subjects in the "other" diagnostic category shows a drop from the single to double admission groups, but slightly increases in the 3 plus group. In general, these findings indicate that multiple readmissions tend to be more characteristic of subjects diagnosed as psychotic and atypical of those individuals with an alcohol and drug or "other" diagnosis.

TABLE D1H: PRIMARY DIAGNOSIS AND NUMBER OF HOSPITAL ADMISSIONS

CHARACTERISTIC: PRIMARY DIAGNOSIS	1 ADM. N (%)	2 ADM. N (%)	3 ADM.+ N (%)	TOTAL N (%)
Psychosis	17 (43.6)	28 (62.2)	24 (72.7)	69 (59)
A & D	11 (28.2)	10 (22.2)	3 (9.1)	24 (20.5)
Other	11 (28.2)	7 (15.6)	6 (18.2)	24 (20.5)
TOTAL	39 (100)	45 (100)	33 (100)	117 (100)

Section 2: The Relationship Between Selected Subject
Characteristics and Total Days in the Hospital.

Age, Sex and Race: There appears to be no consistent relationship between age, sex, or race and total days spent in the hospital.

RELATIONSHIP BETWEEN SELECTED SUBJECT CHARACTERISTICS AND THE
NUMBER OF HOSPITAL DAYS INCURRED BETWEEN 7/1/76 AND 6/31/78

TABLE D2A: AGE AND NUMBER OF HOSPITAL DAYS

CHARACTERISTIC: AGE	0-30 DAYS N (%)	31-60 DAYS N (%)	61-90 DAYS N (%)	91-120 DAYS N (%)	121-150 DAYS N (%)	151-180 DAYS N (%)	181+ DAYS N (%)	TOTAL DAYS N (%)
12-17 Years	0	0	0	0	0	0	1(5.6)	1(.9)
18-44 Years	22(71)	18(58.1)	8(80)	7(63.6)	9(69.2)	2(66.7)	12(66.7)	78(66.7)
45-64 Years	8(25.8)	11(35.5)	1(10)	2(18.2)	3(23.1)	0	4(22.2)	29(24.8)
65+ Years	1(3.2)	2(6.5)	1(10)	2(18.2)	1(7.7)	1(33.3)	1(5.6)	9(7.7)
TOTAL	31(100)	31(100)	10(100)	11(100)	13(100)	3(100)	18(100)	117(100)
MEDIAN AGE	36.6	41	35.6	40.1	38	44	36.1	36

TABLE D2B: SEX AND NUMBER OF HOSPITAL DAYS

CHARACTERISTIC: SEX	0-30 DAYS N (%)	31-60 DAYS N (%)	61-90 DAYS N (%)	91-120 DAYS N (%)	121-150 DAYS N (%)	151-180 DAYS N (%)	181+ DAYS N (%)	TOTAL DAYS N (%)
Male	15(48.4)	17(54.8)	5(50)	6(54.5)	8(61.5)	1(33.3)	9(50)	61(52.1)
Female	16(51.6)	14(45.2)	5(50)	5(45.5)	5(38.5)	2(66.7)	9(50)	56(47.9)
TOTAL	31(100)	31(100)	10(100)	11(100)	13(100)	3(100)	18(100)	117(100)

TABLE D2C: RACE AND NUMBER OF HOSPITAL DAYS

CHARACTERISTIC: RACE	0-31 DAYS N (%)	31-60 DAYS N (%)	61-90 DAYS N (%)	91-120 DAYS N (%)	121-150 DAYS N (%)	151-180 DAYS N (%)	181+ DAYS N (%)	TOTAL DAYS N (%)
White	29(93.5)	29(93.5)	9(90)	11(100)	12(92.3)	3(100)	16(88.9)	109(93.2)
Other	2(6.5)	2(6.5)	1(10)	0	1(7.7)	0	2(11.1)	8(6.8)
TOTAL	31(100)	31(100)	10(100)	11(100)	13(100)	3(100)	18(100)	117(100)

Marital Status: Examining Table D2D, the most interesting statistics are found in the two extreme columns. In the 0 to 30 day column, we see that 54.8% of these subjects are married, 29% are divorced, and just under 13% are single, while at the other end in the 180 plus column, 11.1% are married, 5.6% are divorced, and 66.7% are single. These figures suggest that longer hospital stays tend to be associated with single individuals while shorter stays are associated with married and to a lesser extent, divorced subjects.

TABLE D2D: MARITAL STATUS AND NUMBER OF HOSPITAL DAYS

CHARACTERISTIC: MARITAL STATUS	0-30 DAYS N (%)	31-60 DAYS N (%)	61-90 DAYS N (%)	91-120 DAYS N (%)	121-150 DAYS N (%)	151-180 DAYS N (%)	181+ DAYS N (%)	TOTAL DAYS N (%)
Single	4(12.9)	10(32.3)	4(40)	4(36.4)	2(15.4)	1(33.3)	12(66.7)	37(31.6)
Married	17(54.8)	8(25.8)	2(20)	3(27.3)	3(23.1)	1(33.3)	2(11.1)	36(30.8)
Divorced	9(29)	10(32.3)	3(30)	2(18.2)	6(46.2)	0	1(5.6)	31(26.5)
Separated	1(3.2)	1(3.2)	0	1(9.1)	2(15.4)	1(33.3)	1(5.6)	7(6)
Widowed	0	2(6.5)	1(10)	1(9.1)	0	0	2(11.1)	6(5.1)
TOTAL	31(100)	31(100)	10(100)	11(100)	13(100)	3(100)	18(100)	117(100)

Primary Income Source: It appears that subjects with self/family as the reported primary income source tend to spend slightly fewer days in the hospital than other members of the research population. This finding is most evident through an examination of the "0 to 30 days" column and "181 plus days" column of Table D2E. What we find is that over half (57.1%) of the subjects in the first column have as their primary income source self/family, while in the last column the percentage drops to 41.7%.

Gross Family Income: Income figures for those subjects with more than 180 days in the hospital show that 76.9% have a gross income under \$3,000, while only 38.5% of those with less than 31 hospital days fall into this same income range. This data suggests that subjects with lower gross family incomes tend to spend more days in the hospital. However, it must be pointed out that the data, as displayed in Table D2F does not reveal any consistent relationship between higher income levels and fewer days spent in the hospital.

Residence: The information of interest contained in Table D2G is that 61.2% of the subjects who spent more than 180 days in the hospital, tend to live in the Beaverton, Rock Creek, and Raleigh Hills area.

Primary Diagnosis: The data shows that subjects with psychotic disorders tend to stay in the hospital longer than individuals with other types of disorders. High proportions of psychotically disturbed subjects make up the last four hospital day categories, while no alcohol and drug subjects are contained in the last three categories. Finally, while the figures for the "other" diagnostic group are sporadic, there is a tendency for subjects in this category to accumulate more hospital days than those with alcohol and drug disorders, but considerably less days than the psychotic individuals.

TABLE D2H: PRIMARY DIAGNOSIS AND NUMBER OF HOSPITAL DAYS

CHARACTERISTIC: PRIMARY DIAGNOSIS	0-30 DAYS N (%)	31-60 DAYS N (%)	61-90 DAYS N (%)	91-120 DAYS N (%)	121-150 DAYS N (%)	151-180 DAYS N (%)	181+ DAYS N (%)	TOTAL DAYS N (%)
Psychosis	11(35.5)	18(58.1)	3(30)	9(81.8)	11(84.6)	2(66.7)	15(83.3)	69(59)
A & D	10(32.3)	11(35.5)	2(20)	1(9.1)	0	0	0	24(20.5)
Other	10(32.3)	2(6.5)	5(50)	1(9.1)	2(15.4)	1(33.3)	3(16.7)	24(20.5)
TOTAL	31(100)	31(100)	10(100)	11(100)	13(100)	3(100)	18(100)	117(100)

Section 3: The Relationship Between Selected Subject Characteristics and Primary Diagnosis.

Age: Individuals with psychosis-related disturbances tend to be younger than the subjects who comprise the other two categories. There is little difference in age characteristics between the alcohol and drug and "other" diagnostic groups.

THE RELATIONSHIP BETWEEN SELECTED SUBJECT CHARACTERISTICS AND PRIMARY DIAGNOSIS

TABLE D3A: AGE AND PRIMARY DIAGNOSIS

CHARACTERISTIC: AGE	PSYCHOSIS N (%)	A & D N (%)	OTHER N (%)	TOTAL N (%)
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12 - 17 Years	0	0	1 (4.2)	1 (.9)
18 - 44 Years	50 (72.5)	14 (58.3)	14 (58.3)	78 (66.7)
45 - 64 Years	12 (17.4)	10 (41.7)	7 (29.2)	29 (24.8)
65 + Years	7 (10.1)	0	2 (8.3)	9 (7.7)
TOTAL	69 (100)	24 (100)	24 (100)	117 (100)
MEDIAN AGE	35.9	41.1	39.2	36

Sex: The proportion of males to females in the psychosis group tends to mirror that of the research population. The alcohol and drug group has a rather high proportion of males while the inverse is true of the third group.

TABLE D3B: SEX AND PRIMARY DIAGNOSIS

CHARACTERISTIC: SEX	PSYCHOSIS N (%)	A & D N (%)	OTHER N (%)	TOTAL N (%)
Male	37 (53.6)	18 (75)	6 (25)	61 (52.1)
Female	32 (46.4)	6 (25)	18 (75)	56 (47.9)
TOTAL	69 (100)	24 (100)	24 (100)	117 (100)

Marital Status: The alcohol and drug group tends to have a high proportion of its members falling into the married and divorced categories, while relatively few are classified as single. There seems to be little difference between the marital status characteristics of the "other" diagnostic subjects and those of the study population, with the exception that the former has a slightly lower proportion of divorced members than the latter. Compared to the other two diagnostic groups, those subjects with primarily psychotic disorders seem, as a whole, to have more single but less married or divorced individuals.

TABLE D3C: MARITAL STATUS AND PRIMARY DIAGNOSIS

CHARACTERISTIC:	PSYCHOSIS	A & D	OTHER	TOTAL
MARITAL STATUS	N (%)	N (%)	N (%)	N (%)
Single	26 (37.7)	3 (12.5)	8 (33.3)	37 (31.6)
Married	18 (26.1)	10 (41.7)	8 (33.3)	36 (30.8)
Divorced	17 (24.6)	9 (37.5)	5 (20.8)	31 (26.5)
Separated	5 (7.2)	1 (4.2)	1 (4.2)	7 (6)
Widowed	3 (4.3)	1 (4.2)	2 (8.3)	6 (5.1)
TOTAL	69 (100)	24 (100)	24 (100)	117 (100)

Race: Whites comprise 100% of the alcohol and drug group, while the other two diagnostic categories have approximately equal proportions of non-whites.

TABLE D3D: RACE AND PRIMARY DIAGNOSIS

CHARACTERISTIC: RACE	PSYCHOSIS N (%)	A & D N (%)	OTHER N (%)	TOTAL N (%)
White	63 (91.3)	24 (100)	22 (91.7)	109 (93.2)
Other	6 (8.7)	0	2 (8.3)	8 (6.8)
TOTAL	69 (100)	24 (100)	24 (100)	117 (100)

Primary Income Source: A rather high proportion of the alcohol and drug subjects have self/family reported as their primary income source during all or part of the two-year study period. Just over half of the psychosis group and 42% of the "other" group fall into this same category.

TABLE D3E: PRIMARY INCOME SOURCE AND PRIMARY DIAGNOSIS
 CHARACTERISTIC: PSYCHOSIS A & D OTHER TOTAL
 PRIMARY INCOME N (%) N (%) N (%) N (%)
 SOURCE

Self/Family	43 (51.2)	18 (72)	11 (42.3)	72 (53.3)
Welfare	16 (19)	4 (16)	7 (26.9)	27 (20)
Veteran Admin.	1 (1.2)	0	1 (3.8)	2 (1.5)
Social Security	17 (20.2)	2 (8)	3 (11.5)	22 (16.3)
Other	7 (8.3)	1 (4)	4 (15.4)	12 (8.9)
TOTAL	84 (100)	25 (100)	26 (100)	135 (100)
Income Source information was not obtained on 9 clients				

Gross Family Income: The psychosis and "other" diagnostic subjects tend to be similar to each other on this variable. A larger proportion of the alcohol and drug subjects tend to fall into the higher income categories when compared to the other two groups.

TABLE D3F: GROSS FAMILY INCOME AND PRIMARY DIAGNOSIS
 CHARACTERISTIC: PSYCHOSIS A & D OTHER TOTAL
 GROSS FAMILY N (%) N (%) N (%) N (%)
 INCOME

Under \$3,000	28 (54.9)	3 (50)	7 (58.3)	38 (55.1)
\$3,000-\$5,999	9 (17.6)	1 (16.7)	3 (25)	13 (18.8)
\$6,000-\$8,999	7 (13.7)	0	1 (8.3)	8 (11.6)
\$9,000 +	7 (13.7)	2 (33.3)	1 (8.3)	10 (14.5)
TOTAL	51 (100)	6 (100)	12 (100)	69 (100)
MEDIAN	\$2784.8	\$4498.5	\$2784.8	\$2762
Number of subjects whose Income is unknown = 48				

Residence: There does not seem to be any relationship between primary diagnosis and location of residence.

TABLE D3G: RESIDENCE AND PRIMARY DIAGNOSIS

RESIDENCE	PSYCHOSIS		ALCOHOL/DRUG		OTHER		TOTAL	
	N	(%)	N	(%)	N	(%)	N	(%)
BEAVERTON	23	(34.3%)	6	(30%)	9	(39.1%)	38	(34.5%)
HILLSBORO	19	(28.4%)	2	(10%)	6	(26.1%)	27	(24.5%)
TIGARD	7	(10.3%)	3	(15%)	2	(8.7%)	12	(10.9%)
FOREST GROVE	3	(4.5%)	7	(35%)	1	(4.3%)	11	(10%)
RALEIGH HILLS	4	(6%)	0		0		4	(3.6%)
ROCK CREEK	2	(3%)	0		2	(8.7%)	4	(3.6%)
CORNELIUS	2	(3%)	1	(5%)	1	(4.3%)	4	(3.6%)
GASTON	3	(4.5%)	0		0		3	(2.7%)
SHERWOOD	2	(3%)	0		1	(4.3%)	3	(2.7%)
BANKS	1	(1.5%)	1	(5%)	0		2	(1.8%)
ALOHA	1	(1.5%)	0		1	(4.3%)	2	(1.8%)
TOTAL	67	(100%)	20	(100%)	23	(100%)	110	(100%)

RESIDENCE INFORMATION WAS NOT OBTAINED ON SEVEN (7) SUBJECTS.

Section 4: The Relationship Between Selected Subject Characteristics and Hospital Commitment Type.

Age: Subjects who were court committed at some point during the study period tend to be younger (Median age = 30.9) than those who were not court committed (Median age = 36.6).

THE RELATIONSHIP BETWEEN SELECTED SUBJECT CHARACTERISTICS AND COMMITMENT TYPE

TABLE D4A: AGE AND COMMITMENT TYPE

CHARACTERISTIC: AGE	NOT COURT COMMITTED N (%)	COURT COMMITTED N (%)	TOTAL N (%)
12 - 17 Years	1 (1.2)	0	1 (.9)
18 - 44 Years	58 (67.4)	20 (64.5)	78 (66.7)
45 - 64 Years	22 (25.6)	7 (22.6)	29 (24.8)
65 + Years	5 (5.8)	4 (12.9)	9 (7.7)
TOTAL	86 (100)	31 (100)	117 (100)
MEDIAN AGE	36.6	30.9	36

Sex: Higher proportions of males tend to make up the court committed group than would be expected given the research population sex characteristics.

TABLE D4B: SEX AND COMMITMENT TYPE

CHARACTERISTIC: SEX	NOT COURT COMMITTED N (%)	COURT COMMITTED N (%)	TOTAL N (%)
Male	43 (50)	18 (58.1)	61 (52.1)
Female	43 (50)	13 (41.9)	56 (47.9)
TOTAL	86 (100)	31 (100)	117 (100)

Marital Status: Court committed subjects tend to have a lower percentage of married and a higher percentage of divorced members than the comparison group.

TABLE D4C: MARITAL STATUS AND COMMITMENT TYPE

CHARACTERISTIC: MARITAL STATUS	NOT COURT COMMITTED N (%)	COURT COMMITTED N (%)	TOTAL N (%)
Single	27 (31.4)	10 (32.3)	37 (31.6)
Married	30 (34.9)	6 (19.4)	36 (30.8)
Divorced	20 (23.3)	11 (35.5)	31 (26.5)
Separated	6 (7)	1 (3.2)	7 (6)
Widowed	3 (3.5)	3 (9.7)	6 (5.1)
TOTAL	86 (100)	31 (100)	117 (100)

Race: The data indicates that non-whites may be over represented in the court committed group.

TABLE D4D: RACE AND COMMITMENT TYPE

CHARACTERISTIC: RACE	NOT COURT COMMITTED N (%)	COURT COMMITTED N (%)	TOTAL N (%)
White	82 (95.3)	27 (87.1)	109 (93.2)
Other	4 (4.7)	4 (12.9)	8 (6.8)
TOTAL	86 (100)	31 (100)	117 (100)

Primary Income Source: The court committed group tends to have a higher proportion of subjects reporting as their primary income source self/family and lower proportion indicating welfare than would be expected given the study population characteristics on this variable.

TABLE D4E: PRIMARY INCOME SOURCE

CHARACTERISTIC: PRIMARY INCOME SOURCE	NOT COURT COMMITTED N (%)	COURT COMMITTED N (%)	TOTAL N (%)
Self/Family	51 (51.5)	21 (58.3)	72 (53.3)
Welfare	21 (21.2)	6 (16.7)	27 (20)
Veteran Admin.	1 (1)	1 (2.8)	2 (1.5)
Social Security	16 (16.2)	6 (16.7)	22 (16.3)
Other	10 (10)	2 (5.6)	12 (8.9)
TOTAL	99 (100)	36 (100)	135 (100)
Income Source information was not obtained on 9 clients			

Gross Family Income: There appears to be a relationship between commitment status and income level. Generally, court committed subjects tend to have higher gross incomes than non-court committed subjects.

TABLE D4F: GROSS FAMILY INCOME AND COMMITMENT STATUS

GROSS FAMILY INCOME	NOT COURT COMMITTED		COURT COMMITTED		TOTAL	
	N	(%)	N	(%)	N	(%)
Under \$3,000	26	(59.1%)	12	(48%)	38	(55.1%)
\$3,000-\$5,999	7	(15.9%)	6	(24%)	13	(18.8%)
\$6,000-\$8,999	5	(11.4%)	3	(12%)	8	(11.6%)
\$9,000 plus	6	(13.6%)	4	(16%)	10	(14.5%)
TOTAL	44	(100%)	25	(100%)	69	(100%)
MEDIAN	\$2,595		\$3,499		\$2,762	

NUMBER OF SUBJECTS WHOSE INCOME IS UNKNOWN IS 48

Residence: The item of most interest is the figure that 40.6% of the court committed subjects (compared to 18.5% of the non-court committed subjects) lived in Hillsboro. This item is of interest primarily because Hillsboro is also where the County's mental health program responsible for investigating commitment petitions and the monitoring of court committed individuals is located. This finding could suggest that chronically mentally ill residents of Hillsboro tend to be court committed at higher rates than other County residents. However, it is quite possible that residents could have been established after being court committed. The available data does not allow for specific time comparisons.

Primary Diagnosis: All but five of the court committed subjects are diagnosed as psychotic. Half of the non-court committed subjects fall into this category.

TABLE D4H: PRIMARY DIAGNOSIS AND COMMITMENT TYPE

CHARACTERISTIC: PRIMARY DIAGNOSIS	NOT COURT COMMITTED		COURT COMMITTED		TOTAL	
	N	(%)	N	(%)	N	(%)
Psychosis	43	(50)	26	(83.9)	69	(59)
A & D	21	(24.4)	3	(9.7)	24	(20.5)
Other	22	(25.6)	2	(6.5)	24	(20.5)
TOTAL	86	(100)	31	(100)	117	(100)

Part Three - The Relationship Between
the Utilization of Mental Health Sub-
contract Agencies and Selected Variables.

The previous parts of this chapter have been concerned with a descriptive analysis of the chronic aftercare population. In the following sections, the focus will shift to an examination of services utilization data pertaining to Washington County's Mental Health Subcontract Agencies. Specifically, we will examine the relationship between the utilization of individual agencies and selected variables.

Section 1: Agency Utilization and Duration of Treatment.

There does tend to be a relationship between the agency providing treatment and the length of time the subject remains in treatment. Comparatively, longer treatment stays are associated with Tualatin Valley Mental Health Center and Tualatin Valley Workshop. The data shows that 54.5% of the subjects who were clients of Tualatin Valley Mental Health Center and 28.6% of those seen at Tualatin Valley Workshop were in treatment longer than 180 days. Only one subject served by the other three agencies fell into this category.

TABLE E1: DURATION OF COMMUNITY TREATMENT BY AGENCY

TREATMENT	LFS		MFS		TVW		CEDAR HILLS INPATIENT		TVMHC		TOTAL	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
0 DAYS	1	(20%)	0		3	(14.3%)	0		1	(2.3%)	5	(6.7%)
1-60 DAYS	3	(60%)	3	(75%)	8	(38.1%)	1	(100%)	11	(25%)	26	(34.7%)
61-120 DAYS	1	(20%)	0		3	(14.3%)	0		4	(9.1%)	8	(10.7%)
121-180 DAYS	0		0		1	(4.8%)	0		4	(9.1%)	5	(6.7%)
181-240 DAYS	0		1	(25%)	2	(9.5%)	0		6	(13.6%)	9	(12%)
241-300 DAYS	0		0		0		0		1	(2.3%)	1	(1.3%)
301-360 DAYS	0		0		1	(4.8%)	0		1	(2.3%)	2	(2.7%)
361+ DAYS	0		0		3	(14.3%)	0		16	(36.4%)	19	(25.3%)
TOTAL	5	(100%)	4	(100%)	21	(100%)	1	(100%)	44	(100%)	75	(100%)

*Seen at intake and admitted but never returned for treatment

Section 2: Agency Utilization and gross Family Income.

More than half of the Tualatin Valley Mental Health Center and/or Tualatin Valley Workshop clients have family incomes under \$3,000. The clientele of the other three agencies tend to be more affluent, as indicated by the fact that 60% of the client contacts with these service providers involves subjects with incomes in excess of \$6,000.

TABLE E2: AGENCY UTILIZATION AND GROSS FAMILY INCOME

INCOME	LFS		MFS		TVW		CEDAR HILLS INPATIENT		TVMHC		TOTAL	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Under \$3,000	1	(20%)	0		10	(52.6%)	0		23	(56.1%)	34	(48.6%)
\$3,000 to \$5,999	2	(40%)	1	(25%)	3	(15.8%)	0		7	(17.1%)	13	(18.6%)
\$6,000 to \$8,999	1	(20%)	3	(75%)	4	(21.1%)	0		7	(17.1%)	15	(21.4%)
\$9,000 plus	1	(20%)	0		2	(10.5%)	1	(100%)	4	(9.8%)	8	(11.4%)
TOTAL	5	(100%)	4	(100%)	19*	(100%)	1	(100%)	41**	(100%)	70	(100%)

*Two additional clients were seen but income was not reported

**Three additional clients were seen but income was not reported

Section 3: Agency Utilization and Location of Residence

The reader will recall that almost all of the research population tends to be located within the Tualatin Valley, an area which occupies the southwest portion of Washington County. Even though the chronic aftercare subjects tend to be concentrated within this one area, we see some variance in terms of where the five subcontract agencies draw their clientele. Tualatin Valley Mental Health Center and Tualatin Valley Workshop's aftercare clientele come from all portions of the valley, and even a few locations outside the valley. Subjects served by the other three agencies come primarily from Beaverton or Hillsboro.

MAP 1

Geographic distribution of
Washington County's chronic
aftercare population.

MAP 3

Service location and client distribution for Metropolitan Family Service

MAP 4

Service location and client distribution for Tualatin Valley Mental Health Center.

MAP 5

Service location and client distribution for Tualatin Valley Workshop.

Section 4: Agency Utilization and Hospital Admissions.

All of the agencies except for Lutheran Family Services had approximately 75% of their subject contacts with individuals who incurred two or more Dammasch State Hospital admissions during the study period. Most of the subjects served by Lutheran Family Services had only one admission. Tualatin Valley Workshop had the highest proportion (42.9%) of subjects with three or more admissions, while tualatin Valley Mental Health Center was second with 36.4% of its subjects contacts being individuals in this category. Metropolitan Family Service was the only other agency that served a member of the research population with three or more admissions.

Section 5: Agency Utilization and Total Days in the Hospital.

Approximately 60% of the subjects treated by Tualatin Valley Workshop and a little less than half of those seen at Tualatin Valley Mental Health Center had a total of 90+ hospital days accumulated during the two year period of the study. Of the remaining three service providers, only Metropolitan Family Service treated a subject with more than 90 days in the hospital.

TABLE E4: AGENCY UTILIZATION AND TOTAL DAYS IN THE HOSPITAL

HOSPITAL DAYS	LFS		MFS		TVW		CEDAR HILLS INPATIENT		TVMHC		TOTAL	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
0-30 DAYS	3	(60%)	1	(25%)	4	(19%)	0		8	(18.2%)	16	(21.3%)
31-60 DAYS	2	(40%)	1	(25%)	3	(14.3%)	1	(100%)	12	(27.3%)	19	(25.3%)
61-90 DAYS	0		1	(25%)	1	(4.8%)	0		3	(6.8%)	5	(6.7%)
91-120 DAYS	0		0		4	(19%)	0		6	(13.6%)	10	(13.3%)
121-150 DAYS	0		0		3	(14.3%)	0		5	(11.4%)	8	(10.7%)
151-180 DAYS	0		0		1	(4.8%)	0		1	(2.3%)	2	(2.7%)
181 + DAYS	0		1	(25%)	5	(23.8%)	0		9	(20.5%)	15	(20%)
TOTAL	5	(100%)	4	(100%)	21	(100%)	1	(100%)	44	(100%)	75	(100%)

Section 6: Agency Utilization and Primary Diagnosis.

Approximately 80% of both Tualatin Valley Workshop's and Tualatin Valley Mental Health Center's subject contacts were with individuals diagnosed as psychotic. Three of the four subjects seen by Metropolitan Family Service were so categorized, while the majority of individuals seen at the two remaining agencies have alcohol and drug or "other" diagnosis.

TABLE E5: AGENCY UTILIZATION AND PRIMARY DIAGNOSIS

DIAGNOSIS	LFS				MFS				CEDAR HILLS INPATIENT				TVMHC				TOTAL			
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
PSYCHOTIC	2	(40%)			3	(75)	17	(81%)	0				35	(79.5%)			57	(76%)		
ALCOHOL/DRUG	0				0		0		1	(100%)			2	(4.5%)			3	(4%)		
OTHER	3	(60%)			1	(25%)	4	(19%)	0				7	(15.9%)			15	(20%)		
TOTAL	5	(100%)			4	(100%)	21	(100%)	1	(100%)			44	(100%)			75	(100%)		

Section 7: Agency Utilization and Hospital Commitment Type.

One-fourth of the subjects served by Tualatin Valley Mental Health Center and the three lesser utilized sub-contractors were subjects who had been court committed at some point during the study period. Thirty-eight percent (38%) of Tualatin Valley Workshop's clients fall into this category.

TABLE E6: AGENCY UTILIZATION AND HOSPITAL COMMITMENT TYPE

COMMITMENT TYPE	LFS		MFS		TVW		CEDAR HILLS INPATIENT		TVMHC		TOTAL	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
NOT COURT COMM.	5	(100%)	2	(50%)	13	(61.9%)	1	(100%)	33	(75%)	54	(72%)
COURT COMM.	0		2	(50%)	8	(38.1%)	0		11	(25%)	21	(28%)
TOTAL	5	(100%)	4	(100%)	21	(100%)	1	(100%)	44	(100%)	75	(100%)

Section 8: Agency Utilization and Acknowledgement of
Treatment Termination.

At termination of treatment, Metropolitan Family Service and Tualatin Valley Workshop were the only agencies who tended to put in the client case files some indication of the nature of termination.

TABLE E7: AGENCY UTILIZATION AND ACKNOWLEDGMENT OF TREATMENT TERMINATION

IN CASE FILE	LFS		MFS		TVW		CEDAR HILLS INPATIENT		TVMHC		TOTAL	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
TERMINATION NOT ACKNOWLEDGED	3	(60%)	1	(25%)	8	(34.8%)	1*	(100%)	25	(65.8%)	38	(53.5%)
TERMINATION ACKNOWLEDGED	2	(40%)	3	(75%)	15	(65.2%)	0		13	(34.2%)	33	(46.5%)
TOTAL	5	(100%)	4	(100%)	23	(100%)	1	(100%)	38	(100%)	71	(100%)

*Not able to review case file

Part Four - The Relationship Between
The Utilization of Services
Coordination And Selected Variables.

In Part Three, we examined the data in relation to subcontract agency utilization. In the following sections we will take a look at the utilization of services coordination and how it relates to a number of variables.

Section 1: Services Coordination and the Utilization of
Subcontract Agencies.

The data shows that 56.1% of the subjects who utilized services coordination obtained treatment services through a subcontract agency. This compares to a 41.7% agency utilization figure for those individuals who were not services coordination clients. In all, 82 (70.1%) of the 117 research subjects received some kind of after-care service (services coordination and/or subcontract agency treatment).

TABLE F1: SERVICES COORDINATION AND THE UTILIZATION OF SUBCONTRACT AGENCIES

USED SERVICES COORDINATION	UTILIZED SUBCONTRACT SERVICES		DID NOT UTILIZE SUBCONTRACT SERVICES		TOTAL	
	N	(%)	N	(%)	N	(%)
YES	32	(56.1%)	25	(43.9%)	57	(100%)
NO	25	(41.7%)	35	(58.3%)	60	(100%)
TOTAL	57	(48.7%)	60	(51.3%)	117	(100%)

A total of 82 subjects used Services Coordination and/or a sub-contract agency.

Section 2: Services Coordination and Total Days in
Community Treatment.

The data shows that of the 32 subjects who utilized services coordination and were treated by a subcontract agency, 19 (59.4%) had over 180 total days of community treatment, while only 44% of the subjects who were not services coordination clients (but received subcontract mental health services) fell into this category. Additionally, compared to the rest of the population, service coordination clients who were not court committed tended to have consistently longer stays in treatment than the other segments of the study population.

TABLE F2: SERVICES COORDINATION AND TOTAL DAYS IN COMMUNITY TREATMENT

DAYS IN COMMUNITY TREATMENT	UTILIZED SERVICES COORDINATION		DID NOT UTILIZE SERVICES COORDINATION		TOTAL
	N	(%)	N	(%)	N (%)
NO DAYS	25		35		60
1-60 DAYS	8	(25%)	9	(36%)	17 (29.8%)
61-120 DAYS	3	(9.4%)	3	(12%)	6 (10.5%)
121-180 DAYS	2	(6.3%)	2	(8%)	4 (7%)
181-240 DAYS	5	(15.5%)	1	(4%)	6 (10.5%)
241-300 DAYS	2	(6.3%)	1	(4%)	3 (5.3%)
301-360 DAYS	1	(3.1%)	1	(4%)	2 (3.5%)
361 + DAYS	11	(34.4%)	8	(32%)	19 (33.3%)
TOTAL*	32	(100%)	25	(100%)	57 (100%)

*TOTAL OF SUBJECTS WITH ONE (1) OR MORE TREATMENT DAYS

Section 3: Services Coordination and Acknowledgement of
Treatment Termination.

There appears to be no relationship between the utilization of services coordination and whether a subject's termination is acknowledged in the agency case file.

TABLE F3: SERVICES COORDINATION AND ACKNOWLEDGMENT OF TREATMENT TERMINATION

IN AGENCY CASE FILE	UTILIZED SERVICES COORDINATION		DID NOT UTILIZE SERVICES COORDINATION		TOTAL	
	N	(%)	N	(%)	N	(%)
TERMINATION NOT ACKNOWLEDGED	20	(52.6%)	18	(54.5%)	38	(53.5%)
TERMINATION ACKNOWLEDGED	18	(47.4%)	15	(45.5%)	33	(46.5%)
TOTAL	38	(100%)	33	(53.5%)	71	(100%)

Part Five - The Chronological Relationship
Between The Utilization of Aftercare Services
And Admission to The State Hospital.

In the following two sections, the data will be examined to determine the relationship between the utilization of aftercare services and readmission to the hospital. In section one, the number of hospital admissions which occur while in treatment at a subcontract agency is identified. In section two, we will look at the period of time after hospital discharge to determine the extent to which services are utilized and the relationship between service utilization and rates of readmission to the hospital.

Section 1: Proportion of Subjects in Treatment (Subcontract Services) Just Prior to Hospitalization.

Slightly more than 17% of the Dammasch Hospital admissions incurred by this population (during the study period) occurred while the admittee was a subcontract agency client.⁶

⁶Subjects who were agency clients at or within one week of hospital admission were included in this category.

TABLE G1: SUBJECTS IN TREATMENT AT OR JUST PRIOR* TO HOSPITAL ADMISSION

ADMISSION	IN TREATMENT		TOTAL	
	YES	NO	N	(%)
1st ADM.	18 (16.1%)	94 (83.9%)	112+	(100%)
2nd ADM.	14 (17.9%)	64 (82.1%)	78	(100%)
3rd ADM.	7 (21.2%)	26 (78.8%)	33	(100%)
4th ADM.	3 (17.6%)	14 (78.8%)	17	(100%)
5th ADM.	1 (16.7%)	5 (83.3%)	6	(100%)
6th ADM.	0	2 (100%)	2	(100%)
TOTAL	43 (17.3%)	205 (82.7%)	248	(100%)

*Within one week of admission

+There were five additional admissions that started before 7/1/76 which utilization data (prior to the admission) were not obtained on.

Section 2: Service Utilization Patterns Following
Hospital Discharge and Hospital Recidivism.

In examining the relationship between the utilization of aftercare services and readmission to the state hospital, the unit of analysis (called a community stay period) is the period of time between hospital release and either readmission (recidivism) to the hospital or the end of the study period (non-recidivism), whichever comes first. In that there was a range of one to six hospital admissions during the study time frame, there was also a possible range of one to six community stay periods.⁷ Naturally, each successive community stay period will contain fewer members since only those subjects who recidivated during the previous period are eligible to become members of the next community stay period. An examination of each of the community stay periods was carried out to determine in what way various patterns of aftercare services utilization relate to recidivism. In most of the analyses that follow the recidivism (hospital return) rates discussed will be an average rate for all six community stay periods. This is being done to simplify analyses and also because, in most cases, individual period rates tend to differ very little from the

⁷ If release from the last hospitalization occurred after or within one month of the end of the study period (July 1, 1978), then there was considered to be no community stay period for that admission. Thus, some subjects had one less community stay period than admissions.

average rate.

TABLE G2: UTILIZATION OF AFTERCARE SERVICES DURING COMMUNITY STAY PERIODS

C.S.P.* FOLLOWING	USED AFTERCARE SERVICES		TOTAL	
	YES	NO		
	N (%)	N (%)	N (%)	
1st ADM.	51 (45.5%)	61 (54.5%)	112	(100%)
2nd ADM.	32 (46.4%)	37 (53.6%)	69	(100%)
3rd ADM.	13 (44.8%)	16 (55.2%)	29	(100%)
4th ADM.	4 (30.8%)	9 (69.2%)	13	(100%)
5th ADM.	1 (25%)	3 (75%)	4	(100%)
6th ADM.	0	1 (100%)	1	(100%)
TOTAL	101 (44.3%)	127 (55.7%)	228	(100%)

*Community Stay Period

Following discharge from the hospital, an average of 44.3% of the subjects utilized aftercare (coordination and/or subcontract) services during their respective community stay periods (see Table G2). Interestingly enough, the non-utilization of aftercare services tends to be associated with a lower overall hospital return rate than that of the utilization category (see Table G3). This relationship holds true for the first, second, and third hospital stay periods. Following the fourth admission, the trend reverses and more favorable (comparative) rates

were typical of the subjects who used aftercare services.

TABLE G3: UTILIZATION OF AFTERCARE SERVICES AND READMISSION RATES

DISCHARGE FOLLOWING	UTILIZED AFTERCARE SERVICES				DID NOT UTILIZE AFTERCARE SERVICES				TOTALS		
	SUB TOTAL	RE- ADMIT.	(%) READMIT.	SUB TOTAL	RE- ADMIT.	(%) READMIT.	TOTAL	RE- ADMIT.	(%) READMIT.	TOTAL	RE- ADMIT.
1st ADM.	51	38	(74.5%)	61	40	(65.6%)	112	78	(69.6%)	112	78
2nd ADM.	32	18	(56.3%)	37	15	(40.5%)	69	33	(47.8%)	69	33
3rd ADM.	13	9	(69.2%)	16	8	(50%)	29	17	(58.6%)	29	17
4th ADM.	4	1	(25%)	9	5	(55.6%)	13	6	(46.2%)	13	6
5th ADM.	1	0	(0%)	3	2	(66.7%)	4	2	(50%)	4	2
6th ADM.	0	0		1	0	(0%)	1	0	(0%)	1	0
TOTAL	101	66	(65.3%)	127	70	(55.1%)	228*	136	(59.6%)	228*	136

* There were actually 253 admissions during the study period. However, 25 admissions were terminated within one month of (or after) 6/31/78, and were not included in this analysis.

Looking at the data more closely, we find on Table G3A that subjects who were treated by a subcontract agency during their community stay periods consistently had lower hospital return rates than subjects who did not receive these services. Table G4 shows that the reverse is true for services coordination utilization. In other words, individuals who used services coordination tended to return to the hospital at higher rates than subjects who did not receive this service during a community stay period.

TABLE G3A: UTILIZATION OF SUBCONTRACT AGENCIES AND READMISSION RATES

C.S.P.* FOLLOWING	UTILIZED SUBCONTRACT AGENCY SERVICES			DID NOT UTILIZE SUBCONTRACT AGENCY SERVICES			TOTALS		
	SUB- TOTAL	RE- ADMIT.	(%) READMIT.	SUB- TOTAL	RE- ADMIT.	(%) READMIT.	TOTAL	RE- ADMIT.	(%) READMIT.
1st ADM.	35	23	(65.7%)	77	55	(71.4%)	112	78	(69.5%)
2nd ADM.	23	9	(39.1%)	46	24	(52.2%)	69	33	(69.5%)
3rd ADM.	7	4	(57.1%)	22	13	(59.1%)	29	17	(58.6%)
4th ADM.	3	1	(33.3%)	10	5	(50%)	13	6	(46.2%)
5th ADM.	1	0	(0%)	3	2	(66.7%)	4	2	(50%)
6th ADM.	0	0		1	0	(0%)	1	0	(0%)
TOTAL	69	37	(53.6%)	159	99	(62.3%)	228	136	(59.6%)
*Community Stay Period									

TABLE G4: UTILIZATION OF SERVICES COORDINATION AND READMISSION RATES

C.S.P.* FOLLOWING	UTILIZED SERVICES COORDINATION				DID NOT UTILIZE SERVICES COORDINATION				TOTALS			
	SUB-		RE-		SUB-		RE-		SUB-		RE-	
	TOTAL	ADMIT.	(%)	READMIT.	TOTAL	ADMIT.	(%)	READMIT.	TOTAL	ADMIT.	(%)	READMIT.
1st ADM.	28	22	(78.6%)		84	56	(66.7%)		112	78	(69.6%)	
2nd ADM.	21	13	(61.9%)		48	20	(41.7%)		69	33	(47.8%)	
3rd ADM.	7	5	(71.4%)		22	12	(54.5%)		29	17	(58.6%)	
4th ADM.	3	0	(0%)		10	6	(60%)		13	6	(76.9%)	
5th ADM.	0	0			4	2	(50%)		4	2	(50%)	
6th ADM.	0	0			1	0	(0%)		1	0	(0%)	
TOTAL	59	40	(67.8%)		169	96	(56.8%)		228	136	(59.6%)	

*Community Stay Period

One of the major differences between the subjects who used services coordination and those who did not is that the former group has higher proportions of court committed and psychotic-diagnosed individuals than the latter. In order to determine the effect the concentration of court committed subjects in the former group may have on recidivism, the data shown in Table G5 was compiled. The table shows that comparatively high return rates are associated with services coordination users who had just been released from a court committed hospitalization; while rates achieved by the non-court committed clients were much lower. This finding indicates that most of the difference in recidivism rates between the coordination and non-coordination utilization groups may be primarily due to differences in member characteristics.

TABLE G5: READMISSION RATES FOR SERVICES COORDINATION CLIENTS BY COMMITMENT STATUS

SERVICES COORDINATION CLIENTS WHO WERE
COURT COMMITTED

YES

NO

C.S.P.* FOLLOWING	SUB-TOTAL		RE-ADMIT.		SUB-TOTAL		RE-ADMIT.		TOTAL		RE-ADMIT.		TOTAL		RE-ADMIT.	
				(%)				(%)				(%)				(%)
1st ADM.	18	14		(77.8%)	10	8		(80%)	28	22		(78.6%)				
2nd ADM.	8	7		(87.5%)	13	6		(46.2%)	21	13		(61.9%)				
3rd ADM.	5	3		(60%)	2	2		(100%)	7	5		(71.4%)				
4th ADM.	0	0			3	0		(0%)	3	0		(0%)				
5th & 6th ADM.	0	0			0	0			0	0						
TOTAL	31	24		(77.4%)	28	16		(57.4%)	59	40		(67.8%)				

*Community Stay Period

In order to get a clearer picture of how aftercare service utilization and recidivism are related, the population was divided into four utilization categories, and hospital return rates were computed for each category (see Table G6). The four categories are:

1. Subjects who received both services coordination and subcontract services during a community stay period.
2. Subjects who received only subcontract services during a community stay period.
3. Subjects who received only coordination services during a community stay period.
4. Subjects who received no services during a community stay period.

Additionally, to aid in the interpretation of the data, the commitment status and diagnostic characteristics of these four groups were identified.

TABLE G6: RETURN RATES BY SERVICE TYPE CATEGORY

		UTILIZED SERVICES COORDINATION/SUBCONTRACT AGENCY											
C.S.P.* FOLLOWING	SUB- TOTAL	YES/YES			NO/YES			YES/NO			NO/NO		
		SUB- TOTAL	RE- ADMIT.	(%) READMIT.	SUB- TOTAL	RE- ADMIT.	(%) READMIT.	SUB- TOTAL	RE- ADMIT.	(%) READMIT.	SUB- TOTAL	RE- ADMIT.	(%) READMIT.
1st ADM.	11	7	(63.6%)		24	16	(66.7%)	17	15	(88.2%)	60	40	(66.7%)
2nd ADM.	11	4	(36.4%)		12	5	(41.7%)	10	9	(90%)	36	15	(41.7%)
3rd ADM.	1	0	(0%)		6	4	(66.7%)	6	5	(83.3%)	16	8	(50%)
4th ADM.	2	0	(0%)		1	1	(100%)	1	0	(0%)	9	5	(55.6%)
5th ADM.	0	0			1	0	(0%)	0	0		3	2	(66.7%)
6th ADM.	0	0			0	0		0	0		1	0	(0%)
TOTAL	25	11	(44%)		44	26	(59.1%)	34	29	(85.3%)	125	70	(56%)
		TOTAL RE-ADMIT (%)											
		112 78 (69.6%)											
		69 33 (69.5%)											
		29 17 (58.6%)											
		13 6 (46.2%)											
		4 2 (50%)											
		1 0 (0%)											
		228 136 (59.6%)											

*Community Stay Period

TABLE G7: DIAGNOSTIC CHARACTERISTICS BY SERVICE TYPE CATEGORY

SERVICES COORDINATION CLIENT*	SUBCONTRACT AGENCY CLIENT*	PSYCHOTIC		ALCO/DRUG		OTHER		TOTAL	
		N	(%)	N	(%)	N	(%)	N	(%)
YES	YES	27	(84.4%)	1	(3.1%)	4	(12.5%)	32	(100%)
NO	YES	16	(64%)	1	(4%)	8	(32%)	25	(100%)
YES	NO	16	(64%)	6	(24%)	3	(12%)	25	(100%)
NO	NO	10	(28.6%)	16	(45.7%)	9	(25.7%)	35	(100%)
TOTAL		69	(59%)	24	(20.5%)	24	(20.5%)	117	(100%)

*During some portion of the study period

TABLE G8: COMMITMENT STATUS CHARACTERISTICS BY SERVICE TYPE CATEGORY

SERVICES COORDINATION CLIENT*	SUBCONTRACT AGENCY CLIENT*	COURT COMMITTED		NOT COURT COMMITTED		TOTAL	
		N	(%)	N	(%)	N	(%)
YES	YES	14	(43.8%)	18	(56.2%)	32	(100%)
NO	YES	1	(4%)	24	(96%)	25	(100%)
YES	NO	15	(60%)	10	(40%)	25	(100%)
NO	NO	1	(2.9%)	34	(97.1%)	35	(100%)
TOTAL		31	(26.5%)	86	(73.5%)	117	

*During some portion of the study period

In general, the findings indicate that the lowest return rates are associated with those subjects who use both coordination and subcontract services during a community stay period. The importance of this relationship is further enhanced when one considers that a high proportion (84.4%) of this group has psychotic disorders and almost half of all members are court committed subjects. The data reported in earlier sections indicates that psychotic subjects tend to be more severely disturbed than other portions of the population. Also, the data already discussed in Table G5 shows that as a whole, court committed coordination clients have generally high hospital return rates. Thus, it seems that with a combination of coordination and subcontract services, high risk portions of the aftercare population are able to maintain comparatively low hospital return rates.

Looking further at Table G8 and considering subgroup characteristics (Tables G6 and G7), the utilization of subcontract services alone is associated with comparatively low hospital return rates while the use of services coordination alone is associated with an extremely high return rate of 85.3%.

The above findings suggest that when services coordination functions as the primary (only) aftercare service (particularly for the more severe portions of the population), hospital return rates remain high. However,

when this service is provided in tandem with other treatment services, very low return rates can be achieved.

CHAPTER IV

SUMMARY OF THE RESEARCH FINDINGS

The content areas of the following summary generally matches that of the preceding chapter. However, for purposes of clarity and in order to minimize redundancy, the topical flow has been modified and some findings which are felt to be of little interest or tend to restate relationships clarified by other findings have been omitted.

The chronic aftercare population is dominated by Whites and is made up of slightly more males than females. While this group tends to be older than the general population, they are relatively young for an aftercare population. The majority of these individuals are not married and almost half obtained their median \$2,762 gross annual income through self or family earnings. A little over half of the subjects lived outside of Washington County during some portion of the two year study period. While in the County, the aftercare population tended to be concentrated near the major urban centers of the Tualatin Valley.

On the average, the aftercare subjects have 3.8 lifetime Dammasch State Hospital admissions, with 2.2 of

those admissions incurred during the two year study period. Between June 31, 1976 and July 1, 1978, an average of 102 days were spent in the state hospital by this group. A clear majority of the hospital admissions were voluntary with approximately one out of five admissions being court commitments.

Almost 60% of the chronic aftercare population are diagnosed as psychotic. Typically, these individuals tend to be different from the other subjects in ways other than diagnosis. For the most part, this group is younger, yet has more average hospitalizations and longer hospital stays than the other subjects. They are court committed more often, have more unmarried members, and have a slightly higher ethnic composition than the other comparison groups. Out of the remaining 40% of the population that are non-psychotic, half are diagnosed as having alcohol or drug disorders. These individuals tend to have demographic characteristics which are opposite of the psychotic group. These subjects are typically older, have fewer hospital admissions, shorter hospital stays and a higher percentage of married members than the other portions of the population. Those subjects who have diagnoses other than the two already discussed tend to fall between the other two groups on the variables of age, number of hospitalizations, total days in the hospital, and marital status.

Altogether, 85 (73%) of the aftercare subjects received client services through the Washington County Mental Health Program or its subcontract agencies or one of Multnomah County's mental health clinics. A total of 83 (71%) of these subjects were served by the Washington County System.

Once in community (subcontract agency) treatment, the majority of the subjects tended to accumulate in excess of 180 days as a client. Compared to the other agencies, longer treatment stays are associated with Tualatin Valley Mental Health Center and Tualatin Valley Workshop, Inc. clients. These two agencies also tended to provide services to a higher proportion of the more chronically ill⁸ subjects than the other agencies. There seemed to be little relationship between income and the utilization of subcontract services. At the termination of service, Tualatin Valley Workshop and Metropolitan Family Service were the only agencies who tended (better than 50% of the time) to record in the client case files some indication of the nature of termination. As a whole, the subcontract agencies were very lax in documenting the circumstances of termination.

⁸As measured by hospital admissions, total hospital days, diagnostic category, and commitment status.

The aftercare services coordination program does appear to be having a positive overall impact on both the utilization of community treatment services and hospital readmission rates. The data tends to show a relationship between the use of coordination services and the utilization (contact and duration) of subcontract treatment services. Additionally, the lowest hospital readmission rates for any of the subgroups compared are associated with those subjects who utilize services coordination in conjunction with subcontract agency services. It is important to note that these low return rates are being achieved on what are considered to be the higher risk portions of the aftercare population. Somewhat increased but still favorable results are associated with the use of subcontract services alone, while the highest return rates are associated with the utilization of coordination services alone. These findings clearly indicate that the least favorable results are achieved when coordination services are employed in isolation of other treatment services; while the most favorable results are obtained when this service works in association with other treatment services.

Finally, as indicated earlier, the aftercare services coordination program is serving less than half of the chronic aftercare population, and a little more than half of those served end up in community treatment services. Since there seems to be little relationship between the

use of service coordination in isolation of other treatment services and a (comparative) reduction in hospital return rates, it appears that the full positive impact of this program is reaching a minority of the population.

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