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ABSTRACT

This study examines the patterns of health service use among Rhode Island's Southeast Asian refugees, using Medicaid/Refugee Medical Assistance data. It was found that this group has a lower rate of health service utilization than the general Rhode Island population. Following the 3-month initial resettlement period during which mandatory health screening occurs, the use of health services begins to decrease. The types of services most used by refugees are outpatient services, and the most used ambulatory care facilities are the community health centers; hospital admissions and emergency room visits are not common. These findings suggest that the health care needs of Southeast Asian refugees are compatible with the health care principles of HMOs. However, the group's high usage of community health centers and the successful and long-standing experience these centers have had with the refugees indicate that they are a very appropriate means of health care delivery for Southeast Asian refugees. Based on this evidence, it is suggested that a Community Health Center-Primary Care Network model would be the best option for improving refugee medical assistance/service delivery. Low health service use rates also imply a low demand for health services, which indicates that the refugees' need for third-party coverage stems chiefly from the fear of catastrophic medical expenses rather than from actual use of services as a result of on-going illnesses. Extensive tables and charts are included at the end of the report. (CG)

HEALTH SERVICE UTILIZATION PATTERNS OF SOUTHEAST ASIAN REFUGEES:

Rhode Island Medicaid/Refugee Medical Assistance Data Analysis

October 1979 to December, 1982

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The contents of this report do not necessarily reflect the position or policy of the Office of Refugee Resettlement, and no official endorsement of the Office of Refugee Resettlement should be inferred.

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ABSTRACT

The objective of this study is to examine the patterns of health service utilization among Rhode Island's Southeast Asian (SEA) refugees using the Medicaid/Refugee Medical Assistance data. This study found that the SEA refugees have lower health service utilization rates than the general Rhode Island population. After the three (3) months of initial resettlement when refugee health screening is required, the utilization of health services begins to decrease. Analysis carried out in this study on the types of services used by the refugees indicates that the SEA's predominantly seek outpatient services; hospital admissions and emergency room usage are not common; and the most used ambulatory care facilities are the community health health centers. These findings indicate that the health seeking behaviors of the SEA refugees are amenable to HMO's emphasis on ambulatory care. Prepaid capitation financing mechanism used by HMO's is feasible for this population. However, high usage of community health centers, and these facilities' successful and long-standing experience with the refugees signify the appropriateness of community health centers' service delivery mode. Based on this evidence, this study suggests that a Community Health Center-Primary Care Network (CHC-PCN) model should be the best option in improving the refugee medical assistance/service delivery system. In the CHC-PCN model, both the issues of reimbursement mechanism and the appropriateness of services are addressed, and the best features of HMO's and community health centers are

incorporated.

The low health service utilization rates also imply the low demand for health services. This, in turn, indicates that the refugees' need for third-party coverage, as in the general American population, stems chiefly from fear of catastrophic medical expenses rather than from actual use of services because of on-going illnesses.

INTRODUCTION

This study examines patterns of health service utilization among the Southeast Asian refugees. Three aspects of refugee health service utilization status are analyzed. These are:

1. Utilization pattern with respect to time;
2. Utilization pattern with respect to types of health services;
3. Utilization pattern with respect to "overutilizers."*

Recent trends in prolonged welfare dependency by certain refugee groups have raised the concern that the existing link between the Refugee Medical Assistance and Refugee Cash Assistance may be a self-sufficiency disincentive. The extent to which this government is committed in the provision of third-party coverage for the continuing health care needs of the refugees until they are gainfully employed and able to procure private insurance is a controversial topic. If the refugees are offered a special medical assistance program not available to other poor or otherwise disadvantaged groups, equity questions would be raised. The disincentives to employment also apply to other welfare-dependent populations which are reluctant to accept jobs because of the loss of medical benefits.

Given the assumption that special medical assistance provisions to the refugees (until they are economically self-sufficient) are justified and that it is technically and politically feasible to implement a special medical assistance program for this population, information gap still remains in determining the more appropriate alternative to improve on the current refugee

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* See page 21 and Table X for definition of "overutilizers."

medical assistance financing mechanism. There is a lack of information about refugee health problems and their health service utilization patterns.

The purpose of this study is to provide information useful in determining program options in Refugee Medical Assistance. The primary focus of this project is to describe the health-seeking behavior of the Southeast Asian (SEA) refugees by analyzing this population's health service utilization pattern.

Data Base

The findings presented in this study are drawn in large from the Rhode Island Medicaid/Refugee Medical Assistance data. The data set includes all of Rhode Island's Southeast Asian refugees who were on Refugee Medical Assistance, Aid to Families with Dependent Children (AFDC) - Medical Assistance, or Medically Needy Assistance programs in the period of October, 1979, to December, 1982. The variables contained in this data set are:

1. Eligibility factor (refugee status, AFDC status, or Medically Needy status);
2. Identification code (case number and family status identity, such as male - head of household, female - head of household, 1st child, 2nd child, etc.);
3. Date of entry to the United States;
4. Type of health care facility used (hospital: inpatient, outpatient; physician service; dentist's office; etc.);
5. Identity of service provider (given by the practitioner's or facility's license number);

6. Date when service was rendered;

7. Service type (medical, surgical, specialty, laboratory tests, obstetric, etc.);

8. Expenditures.

The total number of SEA refugees in Rhode Island is estimated to be 6,600.+ Rhode Island exceeds the other New England states in the ratio of refugees to the state's total population. Based on the Rhode Island Office of Refugee Resettlement's (RI/ORR's) estimates, there is 1 SEA refugee to every 145 Rhode Island inhabitants. Neighboring states of Connecticut and Massachusetts have ratios of 1:1,083 and 1:1,656 respectively. The density of refugees in the City of Providence is disproportionately heavy as compared to other parts of the state. It is estimated that 1 out of every 26 residents in Providence is a SEA. In the Providence School System, grades 1 through 12, the ratio of SEA students to total students is 1 to 8.

Although Rhode Island has high SEA refugee density, the number of Vietnamese refugees is considerably lower than other states with high SEA refugee density. Ethnic distribution based on a sample of Rhode Island's 1,453 SEA refugees on Refugee Medical Assistance, AFDC - Medical Assistance, Medically Needy Assistance, and Rhode Island General Public Assistance is: 46% Cambodians, 36% Hmong, 15% Laotians; and 3% Vietnamese. The sample was taken in December, 1982. In Rhode Island the rate of new refugee entry has been quite constant from late

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+Rhode Island State Office of Refugee Resettlement official estimate.

1980 to the first quarter of 1982. Up until the passage of the 1982 Amendment to the Refugee Act of 1980, all newly arrived refugees were eligible for Refugee Cash and Medical Assistance for 36 months from the date of entry. After October, 1982, the refugees were eligible for assistance for 18 months. Those unable to become employed within the 18 months and determined to have met the eligibility criteria are placed on the State General Public Assistance. Hence, those who were eligible for Refugee Cash/Medical Assistance or State General Public Assistance in December, 1982, provide us with a relatively representative sample of the SEA refugee population of Rhode Island.

Ethnic distribution of Oregon's SEA population is 15% Cambodians; 6% Hmong; 12% Laotians; 6% Mien; and 45% Vietnamese((3). Percent breakdown of California's SEA ethnic distribution is not available; however, absolute number-wise, California also has a large Vietnamese population. To compensate for the discrepancies in ethnic distribution with other states, selected characteristics from the results of this study were compared with the experiences of health service utilization in Portland, Oregon (Multromah County Health Services Division) and California.

Data were analyzed using the SAS (Statistical Analysis Programs, SAS Institute, Inc., 1982) computer program at the University of Rhode Island Academic Computer Center.

The total number of individuals contained in the data set is 2,744, and the total number of cases (families) is 654. In the 38-month period, there were 28,241 encounters made. Analyses carried out in this study are mainly based on 28,134 encounters made in the the 36-month period (January, 1980, to December, 1982). In this study, the number of encounters is defined as the number of invoices submitted to the Medicaid Program. For example, one physician's contact that generated 2 laboratory tests, 1 X-ray, and 1 follow-up visit will amount to 5 encounters (invoices submitted and recorded in the data set will include 2 office visits--initial visit and follow-up visit, 2 laboratory tests, and 1 X-ray). Due to this constraint, analyses done in this study are limited to the number of encounters rather than number of contacts.

Description of the data base used in this study is summarized in Table I. In the 36-month period (January, 1980, to December, 1982), there were 2,742 patients, 654 cases, and 28,134 encounters. Of the 2,742 patients, or 654 cases, 1,602 patients (349 cases) were on Refugee Medical Assistance status; 1,074 patients (278 cases) were on AFDC status; and 66 patients (27 cases) were on Medically Needy status. Total number of encounters for each eligibility factor was 15,201; 12,500; and 433, respectively.

The data set used here is based only on those refugees who were on AFDC, Medically Needy Only Assistance, and Refugee Medical Assistance in the years 1980, 1981, and 1982. This study's results do not apply for those refugees on the State General Public Assistance (GPA) Medical Program. This study used the assumption that the characteristics between the refugees on GPA and the general Rhode Island population on GPA do not differ. This assumption is based on the notion that GPA enrollment is "after the fact" to the Refugee Assistance Program. Those refugees eligible for GPA have to have the same eligibility criteria as the non-refugee population, and this group constitutes a special subset of the refugee population; therefore, not representative of the refugees as a whole.

Methodology

Computation carried out in this study consisted chiefly of data manipulation. The following are these definitions.

Encounters: defined as number of invoices submitted to the Medicaid Program. Note that a distinction is made between "contacts" and "encounters." "Contact" is defined as a visit made to a health care facility. One emergency room "contact" can produce more than one "encounter" as it will generate invoices from the physician, laboratory tests, X-rays, etc.

Case: defined as a family/household that has a common Medicaid identity number.

Patient: defined as an individual who has his/her Medicaid number plus an identity code that specifies his/her status within a given household--father, mother, 1st child, 2nd child, etc.

Rates: defined as utilization of services per unit of user/users in a given period of time. For example, total encounters per patient or per case for 1 month, 1 year, etc.

Cost: defined by the amount of Medicaid expenditures. Cost rates computed in this study include both total expenditures per patient or per case and total expenditures per encounter.

Lag-time analysis: the data set includes each refugee's date of entry to the United States and the date when a service was rendered (for every encounter). Lag time is defined as the time period between the date of entry and the date of service. Lag time analysis used the date of entry as time zero (0) for every single individual and computed for the number of encounters three, six, nine, twelve, etc. months after the date of entry by using the date of service data. In this analysis, amount of time in the United States instead of calendar time was used.

HEALTH SERVICE UTILIZATION PATTERN OVER TIME

The basic question addressed in this section is: What is the health service utilization pattern of those on Refugee Medical Assistance?

One of the major resettlement problems perceived by refugee resettlement professionals is that the refugees have untreated health problems resulting from inadequate service access and utilization. Since newly arrived refugees are required to be screened and treated within the first 90 days after their entry to the U.S., the problem of receiving health care does not occur during the period of initial resettlement. The question, however, remains with the latter phase of resettlement (i.e. 3 months after resettlement). To the extent that language and cultural barriers exist between the SEA's and the American health care providers and services, one can hypothesize that there will be a latent period where health services are underutilized until the SEA population becomes familiar with the Western medical services and the service providers become sensitized to SEA health service needs. No one has the empirical evidence on the length of this latent period. It is probably safe to assume that if refugees have serious health problems that will restrict their daily activities and warrant medical attention, referrals will be made to health services by their sponsors or other refugee resettlement workers. If this is the case for a large number of refugees, then in the 38-month period, we would expect that the health service

utilization rate will begin to increase after the initial decline following the 90-day refugee health screening phase.

Results

Table II summarizes the average number of encounters per patient per year and average cost per patient per year for all services combined for 1980, 1981, and 1982. Annual encounters per patient and annual expenditures per patient indicate that over the years there has been an increasing trend in the health service utilization. However, the utilization rates provided in Table II are the numbers of encounters rather than the number of contacts, and since one physician contact can generate several encounters in laboratory tests and/or X-rays, it is important to consider the utilization rates in discrete subsets of service types.

Utilization rates of different health services from January 1 980, to December, 1982, are presented in Figures 1 to 8 by numbers of encounters per patient for every 6-month period. The services examined are: hospital inpatient care; hospital obstetric and newborn care; outpatient care (including hospital emergency room, hospital medical and specialty clinics, visiting nurse services, and community health centers); physician services; laboraotry tests and diagnostic X-rays; drugs; optometric care and goods; and dental care and goods. As indicated by Figures 1 through 8, the trend in utilization rates over the 36 months varies from one health service type to another. No one health service type had consistent increase or decrease in

the utilization rates. For hospital inpatient care, outpatient care, physician services, drugs, and dental care there was an increase in utilization rates from the second half of 1980 to the first half of 1981. With the exception of inpatient care, physician services, drugs and dental care, utilization rates for all other services decreased from the first half of 1981 to the second half of 1981, but increased again in the first half of 1982. Utilization rates of inpatient care decreased steadily from the first half of 1981 to the second half of 1982; physician service utilization rates increased steadily from the first half of 1981 to the second half of 1982; and utilization rates of drugs and dental care increased from the first half of 1981 to the second half of 1981. Utilization rates of drugs decreased from the first half of 1982 to the second half of 1982, and the rates for dental care decreased steadily from the second half of 1981 to the second half of 1982. With exception of hospital obstetric and newborn care and physician services, all services had decreased utilization rates in the third year. The utilization rates for hospital inpatient care, ancillary services, drugs, optometric care, and dental care in the second half of 1982, however, were still greater than the rates of the first half of 1980. Outpatient care is the only service type in which the utilization rate in the seond half of 1982 was lower than that of the first half of 1980.

Figures 9, 10, and 11 present the average cost per patient in 6-month periods, starting from January, 1980, to December, 1982, for hospital inpatient care, hospital obstetric and newborn care, and optometric care and goods. Figures 12 to 16 compare the average cost per patient and average cost per case for the 6-month intervals during the same 36 months. Services presented in Figures 12 through 16 are: outpatient care, physician services, ancillary services, drugs, and dental care. In these comparisons, the average cost per case decreases in the second half of 1982 for all services except for drugs and dental care, while the average cost per patient increases steadily throughout the 36 months.

The utilization rates (Figures 1 to 8) and the average costs (Figures 9 to 16) follow similar patterns for each of the service types. Any variation between the trend of average costs and utilization rates can be attributed to differences in case mix. This is especially evident in hospital inpatient care. For example, in comparing Figures 1 and 9, we see that in the first half of 1981, utilization rate increased while average cost per patient decreased. This indicates that even though there were more admissions, the treatment procedures and lengths-of-stay were different due to differences in diagnoses.

Results of the analysis done on aggregated data is discussed here to illustrate for cost impact only. The following discussion will address those results with programmatic implications.

The time lag between the date of entry to the United States and the date of encounter for a given health service is presented in Figures 17 through 24. Percentages shown are those of the total numbers of encounters for a given health service type in 3-month intervals. For example, Figure 17 shows that of the 271 hospitalizations made in the 38-month period (October, 1979, to December, 1982) with 200 patients, 17.3% of these admissions were made within the first 3 months since one's arrival to the United States. Eighteen and one-half percent (18.5%) of the admissions were made in months 4 to 6 since arrving in the United States, etc. Note that Figures 17 to 24 indicate the percent of total encounters and not the percent of total patients.

With the exception of hospital inpatient care, for every health service type, over 40% of the total encounters were made within the first 6 months upon one's arrival to the United States. Approximately 36% of hospitalizations were made in the first 6 months. Figure 25 combines all service types. The analyses of lag time between the date of entry and date of service indicate that after the initial surge of health service encounters, the utilization tapers off; on the average, only about 30% of the total encounters were made after 12 months since refugees' arrivals, about 10% of the total encounters were made after 18 months after arrival, and less than 5% of the total encounters were made 2 years after arriving in the United States.

The high percentage of encounters made within the first 3 months upon arrival is mostly due to the initial refugee health screening.

Discussion

The key findings from the analysis of health service utilization pattern is that after the first 3 months of initial resettlement, the utilization of health services decreases. In Rhode Island the rate of entry of newly arrived refugees has been quite constant from 1980 to the first quarter of 1982. New entrants are required to have the refugee health screening in the first 90 days upon arrival. In aggregate, the number of encounters per patient did not have any dramatic changes during this time period. The numbers of encounters per patient shown in Figures 3 to 10 are largely attributed to the refugee health screening. The lag time analysis, however, clearly indicates that the same utilization rates do not persist after the initial 90-day resettlement period where health screening is required. It may be that with familiarity with the existing health service delivery system, the utilization rates may increase over time. One can assume that after three years or more, the refugee health utilization rates may become like the general population when they become familiar with the system and adapt to and accept the Western medical practices.

The fact that the rate of service utilization decreases steadily over time indicates that it is likely that the majority

of the refugees do not have serious medical problems that impede their daily activities and warrant medical attention. Otherwise, an increase in the percent of total encounters after the initial sharp decline should have been observed. The perceptions of the "refugee professionals" that the refugees as a whole have untreated and serious medical problems are perhaps based on a biased sample of sicker individuals who have repeatedly asked for assistance (transportation and/or interpretation) to medical appointments. Nevertheless, without any data support from health status research, one should be cautioned against making the conclusion that the refugees underutilize the health services because they are healthy.

One can assume from the findings of refugee health service utilization pattern over time that financial access is critical in the initial 90-day phase of resettlement for the treatment of pre-existing medical conditions. Even though majority of the refugees do not use health services as extensively after the initial health screening phases of their resettlement experience, financial access is still critical because the presenting problems may be more costly and financially catastrophic. As evidenced by the cost for inpatient care, cost per patient per year for non-obstetric hospital admissions increased from $2,676.71 in 1980 to $3,098.92 in 1982. This phenomenon, as seen in any American population, may indeed be a disincentive for the refugees to become indepent of welfare if prospective employment does not provide health insurance.

HEALTH CARE UTILIZATION WITH RESPECT TO SERVICE TYPES

Since the initiation of the Medicaid Program, there has been an increased consumption of medical care by the eligible poor. Low income persons eligible for Medicaid now visit physicians more often than those without such financial access to health care. The bias that the general Medicaid recipients use health services "inappropriately" is often transferred to the SEA refugees by virtue of their eligibility for Medicaid. Opposing this bias is the general perception of "refugee professionals" that the SEA's do not readily go to hospitals for health care. Further, they go to hospital emergency rooms only when there is a major medical crisis, and there is an even greater resistance by the SEA's to be hospitalized.

The focus of this section is to analyze the health care utilization pattern by service types. The basic issue addressed by this analysis is a description of the SEA health-seeking behaviors in Rhode Island.

Results

Table III presents the breakdown of all encounters by service types for 1980, 1981, and 1982. The most used service type was ambulatory care, followed by drugs, ancillary services (laboratory tests and diagnostic X-rays), physician services, dental care, optometric care, hospital inpatient care, and hospital obstetric and newborn care. Table IV presents the

breakdown of all patients by service types for 1980, 1981, and 1982. Patient load for different service types has the same percent distribution as the number of encounters. Although hospital inpatient care is the second least used service for all three years, this service type has the highest percentage in total expenditures (Table V). Hospital obstetric and newborn care is a service type with the lowest percent of encounters and patient load, but with the second highest percentage of total expenditures. Tables III to V indicate that the percent distribution of total encounters, patients, and expenditures remained steady over the three years. The usage of ambulatory services far outweighs inpatient services. Figure 26 compares the percent distribution of encounters, patients, and expenditures in year 1981.

A detailed summary of ambulatory/outpatient services is presented in Table VI. Included in outpatient services are: community health centers, hospital specialty clinics, hospital emergency rooms, hospital medical clinics, hospital ambulatory surgery, and visiting nurses' home visits. From October, 1979, to December, 1982, there were 1,993 patients who made 8,348 visits to outpatient services. Of the 1,993 patients, 798 individuals received more than one type of outpatient service. In the 38-month period community health centers had the most patient encounters--about 71% of the total encounters were made in the health centers. The more expensive hospital emergency room and medical clinic services had much lower usage; 9.9% and 2.4% of the

total outpatient encounters were made to hospital emergency rooms and medical clinics. The second most frequently used outpatient service was hospital specialty clinics. Fifteen percent (15%) of the total outpatient encounters were made in speciality clinics. This was mostly due to referrals made by the primary care providers for follow-up evaluations and/or follow-up care after the initial refugee health screening. Note that although home visits by visiting nurses are an appropriate and acceptable form of health service to the SEA refugees, their usage was only 1.2% of the total outpatient encounters. One of the reasons for this may be the lack of referrals and that the services rendered under Maternal & Child Health grants from the Rhode Island Department of Health are not reimbursed by the Medicaid monies; hence, Medicaid data will not include these service invoices. However, if we compare the number of encounters per patient per year, visiting nurses' services are as high as that of community health centers; both of these services had on the average 1.2 encounters per patient per year.

Table VII presents a detailed look at hospital medical-surgical inpatient care. In the 38-month period, 78% of the 200 patients who had hospitalizations had only 1 admission, 18% had 2 admissions, 2% had 3 admissions, and 2% had more than 3 admissions. Presented in Table VIII is the proportion of hospitalized patients to all patients by different eligibility factors in the 38-month period. The same Aid to Families With

Dependent Children (AFDC) and Medically Needy Assistance eligibility criteria used for the general population apply to the refugees. Those intact families who entered the United States on refugee status are eligible for Refugee Cash Assistance (RCA) and Refugee Medical Assistance (RMA) for the first eighteen (18) months upon arrival. Assistance provided to the RCA/RMA eligibles is at the same allowable level as those on AFDC. Those who were eligible for AFDC had the highest percentage in terms of having had inpatient care. Those who were eligible for Medically Needy Program had the largest proportion in having had 2 admissions per patient. What is indicated in Table VIII is that those receiving AFDC assistance had greater use of hospital inpatient care than the other 2 subsets (Medically Needy and Refugee Medical Assistance). It is difficult with the available data to account for the difference.

Table IX presents the average expenditures per patient for 38 months by service types for each of the three eligibility factors. Those who are eligible for medically Needy Assistance had the highest average expenditures for both the inpatient care and ancillary services, whereas those eligible for Refugee Medical Assistance had the lowest average expenditures. As for outpatient care, those who were eligible for AFDC had the highest average expenditures, and those eligible for Medically Needy Assistance had the lowest average expenditures.

Analysis of expenditures by service type and eligibility factors indicate the differences of need for medical coverage:

- for those working households, as represented by the Medically Needy Only group, medical coverage is

predominantly needed for expensive hospital inpatient care, or catastrophic health insurance;

- for those eligible for AFDC or RMA, medical coverage is needed for both the outpatient and inpatient care.

Discussion

The analyses of refugee health care utilization pattern by service types show that ambulatory care is the most prevalent type of health service used by the SEA refugee population. Financial access to health care, therefore, should not exclude outpatient care coverage. Predominant utilization of ambulatory and non-hospital based services also indicates that the health care seeking behavior of the SEA refugees is ideal for an HMO model.

In considering an HMO system for the SEA refugees, it is crucial to distinguish between the reimbursement component and service delivery component of the model. In terms of reimbursement, this study indicates that prospective reimbursement by capitation is appropriate for the SEA refugees because of their low utilization rate for hospital-based services and especially inpatient care. However, a conventional close pannelled HMO service delivery may not be as appropriate. Referring back to Figure 25, lag time analysis indicates that the SEA's underutilize health services after their initial health screening. Therefore, it is critical to maintain the most utilized health care facility as the service delivery site for this population rather than making health care inaccessible and/or unacceptable by changing the location of service delivery

to an HMO that the refugees have not used previously. The ambulatory care analysis indicates that the most commonly used health care site by the SEA refugees is the commmunity health center. This implies that the services rendered at these facilities are accessible and acceptable to the refugees. If we were to recommend that the refugees be switched to an HMO across the town, we would essentially be building a barrier to their health care. Ideally, the option considered should address both the reimbursement mechanisms and the service delivery. Consideration should, therefore, be given to an arrangement which maintains the present service delivery site but makes changes in the reimbursement mechanisms. In the last section of this report, a resolution addressing the two dimensions of reimbursement and service delivery will be proposed.

CHARACTERISTICS OF "OVERUTILIZERS"

Given the assumption that the SEA refugees as a whole "underutilize" health services and will go for medical care only when their health problems chronically impede their daily activities or when there is a medical trauma which warrants medical attention, one can then deduce that those who have higher than average utilization rates may have serious or chronic medical problems. In fact, this phenomenon is not unique to only the SEA's.

The focus of this section is to gather demographic and diagnostic information on the "overutilizers." The basic questions asked about the "overutilizers" are:

1. What demographic characteristics constitute "overutilizers?"
2. What are the prevalent health problems among this group of refugees?

Methodology

"Overutilizers" are defined as those individuals who had more than a given number (cut-off point) of encounters at health care facilities. The cut-off points which separate the "overutilizers" from the "non-overutilizers" for different types of health services are presented in Table X. The three highest categories of number of encounters per patient in the 38 months (October, 1979, to Dcember, 1982) have been chosen as the cut-off pointsfor every service type. The exceptions are hospital inpatient care and obstetric care, where the two highest numbersof admissions were selected. From this tabulation, 190 individuals have been identified as "overutilizers."

Data on the diagnoses of the "overutilizers" were collected by reviewing the medical records of these patients. From the 190 "overutilizers," 174 medical records, or 91.6 percent were reviewed. Nine records could not be obtained; seven records were excluded from the analysis because one individual's identity number was miscoded, and six were non-SEA refugees.

Results

Comparison of the distributions of ethnicity, age, and gender for those over 18 years of age between the "overutilizers" and a sample of general SEA refugees receiving some form of public assistance is presented in Figures to 29. Figure 27 indicates that proportionally there are less Hmong overutilizers and more Laotian overutilizers than the general SEA refugee population on public Medical Assistance. Resistance to Western medical care by the Hmong is most likely the reason for this observation.

Figure 28 shows that all but age group 8-17 have more "overutilizers" than the general SEA population on Medical Assistance. The greater proportion of "overutilizers" is especially pronounced in age group 38-47. Gender distributions for 5 age groups (from age 18 to 65) indicate that overall there are more female "overutilizers" than male "overutilizers" (Figure 29). The majority of the female overutilizers are in the age groups of 18 to 37; the main reasons for their utilization are prenatal, obstetric, and postpartum care services. Of the 28 women "overutilizers" in 18-27 age group, 24 had at least

one birth, and of the 30 in the 28-37 age group, 11 had at least one birth. From age 38 to 65, the percent of male overutilizers is greater than that of the general male refugee population on Medical Assistance, while the reverse is true for the females.

Figure 30 compares the percent distribution of eligibility factors of all the patients (from January, 1980, to December, 1982) with that of the overutilizers. Proportionally, the general SEA refugee population on public Medical Assistance and the "overutilizers" have similar eligibility factor distribution for AFDC and Refugee Medical Assistance. The percent of those overutilizers eligible for Medically Needy Assistance, however, is twice that of the general SEA refugee population on public Medical Assistance in the same eligibility factors.

Table XI summarizes the profile of health problems among the overutilizers. Pregnancy is the most common reason for health service utilization. Twenty-four percent (24%) of the 174 individuals defined as "overutilizers" received prenatal and/or obstetric and/or postpartum care services. The second most common diagnosis is childhood disease. Twenty-one percent (21%) of the 174 "overutilizers" used health services due to acute childhood diseases that did not require hospitalization (e.g. viral syndrome, cough, cold, otitis media, etc.).

Exactly 50% of the 174 "overutilizers" had more than one medical problem. The number of individuals exhibiting each health problem was also tabulated. There were 305 cases

of problems identified among the 174 "overutilizers." Of these 305 cases, 78 (or 25.5%) are related to maternal and child health care. Approximately equal number of cases (77 cases) have the diagnoses of those problems most commonly found among the SEA refugees: 33 cases of parasitic infections, 19 cases of anemia, 17 cases of skin diseases, and 8 cases of positive TB skin tests."

Comparison of the primary diagnosis given at the first visit and the last visit indicates that 13%, or 24 out of the 174 "overutilizers" had different diagnoses over time. Hospital admissions are common among the "overutilizers," 27%, or 47 out of the 174 had at least one non-birth related admission. Of these 47 individuals who had inpatient experience, 26 had 1 admission, 15 had 2 admissions, 4 had 3 admissions, and 1 had 7 admissions. Of the 21 individuals who had more than 1 hospitalization, 12 had a different diagnosis for every admission. Two individuals who had multiple admissions had the diagnosis of malignant neoplasm, one had 3 admissions, and the other 7 admissions.

Discussion

Analysis of the health problem profile of the "overutilizers" indicates that pregnancy and childhood diseases were the two most common reasons for health service utilization. Pregnancy also appears to account for the high proportion of women "overutilizers" in the age categories of 18 to 37. Because

the SEA population as a whole is very young, the high fertility rate and high incidence of acute childhood diseases are to be expected.

The health problems found in the "overutilizers" also indicate that the majority of the problems encountered are non-chronic. The demographics of this predominantly young population also imply that, based on age factors alone, one should expect to see fewer chronic health problems. In addition, those refugees who have been admitted to resettle in the U.S. have already been screened to determine their favorable health status. Although hospitalization is common among the "overutilizers," the majority do not have high admission rates. Only 4 out of the 47 individuals with inpatient experience had 3 admissions and 1 had 7 admissions.

Based on the finding shown in Table XI, predominant health problems are non-chronic, the perception that "overutilizers" have higher than average utilization rates because of their chronic medical problems can be refuted. Findings from the analysis of "overutilizers" indicate that the health problems found in this subset do not require extensive hospitalization and are amenable to outpatient treatment. The most used services are obstetric and child health care.

IMPLICATIONS FOR REFUGEE HEALTH SERVICES MAN GEMENT

Although there is an abundance of published articles on refugee health, these studies are predominantly related to the clinical aspects of refugee medical care. To date, only a few studies have addressed refugee health policy issues, and these have been conducted by the Refugee Policy Group (RPG). According to RPG's scrutiny of the refugee health policy concerns with respect to options for change in Refugee Medical Assistance, the preeminent issues are: enrolling refugees in Health Maintenance Organizations (HMO's), and separation of Refugee Cash Assistance and Refugee Medical Assistance. The focus of this section will be on the implications of the findings of the health service utilization as described in the previous sections on these 2 issues.

Analysis of health service utilization patterns among the SEA refugees indicates the following characteristics about their health-seeking behavior:

- After the first 3 months of initial resettlement when refugee health screening is required, the utilization of health services begins to decrease at a rapid rate.
- Overall, the SEA refugees use health services at a much lower rate than the general population.
- Predominant health services used are outpatient based.
- Hospitalization is relatively infrequent. Even the "overutilizers" do not require repeated admissions.

- Health problems found among the "overutilizers" are predominantly non-chronic and are amenable to outpatient treatment.
- Obstetric care and child care are the two most common reasons for health service usage among the "overutilizers."

Based on these key findings, the following discussion will support or dispute the recommendations made by previous policy studies on 2 issues: potential for enrolling refugees in HMO's and separation of RCA and RMA.

Potential for Enrolling Refugees in HMO's

Suggestions have been made to offer HMO enrollment to the refugees as a means of managed care in order to improve the quality and appropriateness of health service provision. In evaluating the feasibility of this option, an RPG study noted that the difficulty of establishing prospective capitation rate for HMO's would be a major problem for purchasers of health care and also identified the need for utilization and cost data.

The data compiled and presented herein indicate refugees eligible for Medical Assistance, by and large, had low health service utilization rates. It was estimated that the general population of Rhode Island had an average of 3.2 physician contacts per person in 1980 (2). The number of physician encounters for the SEA observed was 1.9 per person for the same year. The SEA population primarily used outpatient services, and hospital admissions were rare. Only about 2 percent

of all health service encounters and 2 to 3 percent of the total patient-load were related to hospital inpatient care. Of this inpatient usage, about half of the admissions and patients were related to obstetric care. The low hospital admission rate and predominantly outpatient service utilization in this population is amenable to an HMO's objective in emphasizing outpatient care.

The results obtained in this study are similar to the findings of research conducted in Oregon. According to the experience of Project Health, Multromah County, Oregon (3), the refugees have low usage of health services, low hospital admission rates, and predominant outpatient service utilization. However, health utilization patterns of SEA refugees in California may differ from the patterns that emerge from the Oregon and Rhode Island studies (4). Data available from California are the number of medical eligibles and number of users. For December, 1982, there were 116,371 Medicaid eligible refugees and 56,828 refugees actually used health services, or 48.8 percent of those refugees eligible for Medicaid were users. The non-refugee AFDC population had 42.4% of users, which is slightly less than the refugees. The number of claims made for the 56,828 refugees during the same time was 300,223. On the average, there were 5.28 claims per user for December, 1982. These figures indicate that California's refugees have much higher health service utilization rate than Rhode Island and Oregon. Nevertheless, according to Strand et al. (5),

the refugees are observed to "underutilize" health services. It should be emphasized that the California Medicaid data, in its present form, provides only a very rough approximation of refugee health service utilization patterns. The large discrepancy in encounter rates may be explained by regional variation in the number of lab tests, prescription drugs, follow-up visits, etc. generated from one physician or out-patient clinic contact. Without detailed analysis of California's data by service types, comparisons made are non-conclusive.

Based on the fee-for-service experience, average expenditures per Rhode Island refugee family are: $1,013 for 18.3 encounters in 1980, $1,283 for 24.9 encounters in 1981, and $1,497 for 25.3 encounters in 1982. The national average Medicaid payment per AFDC family of three was estimated to be $1,449 for fiscal year 1980 (1). This comparison shows that the Medical Assistance expenditures are lower for the refugees than for the general AFDC population, especially given that the SEA households are on the average larger than three.

Rhode Island's average Medical Assistance expenditures per refugee (on fee-for-service system) are: $433.69 for 8.13 encounters in the first year upon arrival; $358.77 for 5.76 encounters in the second year; $332.31 for 5.92 encounters in the third year, and $209.48 for 2.33 encounters in the fourth year. As compared to Oregon, Rhode Island's annual average expenditures per capita are much lower. In Oregon, the Medicaid/Refugee Medical Assistance averaged $750

per capita for the first year refugees. For subsequent years, Oregon's Project Health cost for enrolling the SEA refugees in an HMO plan with Kaiser Portland is $720 per capita per year (1).

As discussed earlier, hospital admission rate is low for the refugees; however, the inpatient expenditures remained high. HMO studies have shown that on the average, inpatient care costs between 40% to 50% of an HMO's total expenditures (6). Results from the Rhode Island study provide an approximation of this finding. Inpatient expenditures were 37% (1980), 33% (1981), and 45% (1982) of the total annual Medicaid/ Refugee Medical Assistance expenditures.

Based on the analysis of Rhode Island data and the comparisons made with other studies, inference can be made that from an HMO's perspective, enrolling the SEA refugees is eminently feasible. In addition to the health service utilization and expenditure patterns seen in Rhode Island's SEA's, this population is youth-dominated and utilize hospital-based care at a lower rate than the general population. These characteristics make the SEA's prime candidates for an HMO. However, longitudinal health status data on the SEA population are not currently available and would require data collection on an extended period of time.

All evidence described so far points positively to the HMO option with regard to a prepaid capitation financing mechanism. However, the issue of refugee acceptability, accessibility, and appropriateness of HMO services should also be of major concern. Given that the SEA's as a whole "underutilize" health services and that the most commonly used health service sites are community health centers (CHC's), transferring the refugees from facilities that are familiar and accepted to another one that had no previous experience with this population may in fact have a negative impact on refugee access to health care. As found in this study, CHC usage accounted for about 72% of all outpatient service encounters. An RPG study also found that many CHC's across the country have already become the major health providers for refugees (7). The refugees' acceptance of CHC's and the CHC's extensive experience with the SEA refugees imply that this pattern should not be disrupted, but rather be promoted. Given this situation, one should consider the HMO option in terms of a prepaid and managed service mechanism, but should not oblige the refugees to change their health providers.

Although RPG's HMO study (1) indicated that nearly every major refugee resettlement area across the country has at least one HMO, these HMO's are not necessarily easily accessible to the refugees. For example, the Rhode Island Group Health Association (RIGHA), an HMO in Providence, R.I., is located far from where the SEA refugees live. The inconvenience

in using public transportation creates a major barrier for the refugees if they are required to seek care from the RIGHA site. The CHC's, on the other hand, are located within walking distance from where a majority of the SEA's reside. It is therefore important to consider the geographic match in terms of the ease of getting to an HMO within a city rather than merely the availability of an HMO in any city with large numbers of refugees.

Currently, there are numerous state and local initiatives in developing and implementing demonstration projects to explore possible strategies in controlling Medicaid costs. As result of such cost containment efforts, many innovative programs which focus on incentives for cost-effectiveness have been developed. Prominent among these demonstration projects is the primary care network (PCN) model. PCN's consist of primary care physicians and a panel of specialists who agree to participate in the network. The primary care physician serves as the patient's "case manager" and refers the patient to the designated panel of specialists when such need arises. In essence, the primary care provider is the "gate keeper" of those Medicaid patients to the more expensive speciality care and hospital care (8). In many respects, the PCN model is similar to the Individual Practice Association (IPA) form of HMO. Given the less than ideal situation of enrolling refugees in an HMO for all cases, the option of modified PCN model can be considered. In this option, the community health centers can become the PCN "case managers" for their refugee clients, hence

creating a CHC-PCN model. Fiscally, negotiations should be made with the CHC-PCN to reimburse for the refugee clients on a prepaid capitation basis. Where inpatient care is concerned, it is feasible for the CHC-PCN to prearrange with a local hospital for its patients. An advantage with this arrangement is that the provider has a financial incentive to use a less expensive community hospital rather than costly tertiary care teaching hospital. The CHC-PCN provider can also enter into re-insurance to protect itself from financial risks. With this CHC-PCN model, issues of managed care, accessibility and appropriateness of care are addressed, and at the same time costs can be contained.

All evidence indicates that the best approach to take in order to overcome the shortcomings of the current refugee health care "non-system" is the CHC-PCN model. From an economic perspective, enrolling refugees in HMO's has strong potential and addresses the issue of cost savings for RMA program. In terms of improving the access, acceptability, and appropriateness of health services, the advantages of CHC's outweigh HMO's. The CHC-PCN approach incorporates the best features of HMO's and CHC's.

Linkage Between Refugee Cash Assistance and Refugee Medical Assistance

The linkage between Refugee Cash Assistance and Medical Assistance has been identified by the RPG as a potential problem in refugees gaining self-sufficiency (9). Study of the effects of Medicaid-Cash linkage on AFDC recipients' financial disincentives to work vis-a-vis the refugee population indicate that the net financial gain in accepting employment is substantially lower when Medicaid is no longer available (10). In

this section, arguments in support of the notion that dependency on Medical Assistance is a potential disincentive to employment will be made from the health service utilization perspective.

Since the low health service utilization rate observed in the Rhode Island study may partly be explained by the confounding variables of language and cultural barriers and utilization of traditional health practices, immediate inference cannot be made on the demand and need for health services from the available utilization data. In the absence of longitudinal health status data, other gross health outcome measure on this population can be used in conjunction with the utilization data to assess whether or not the low service utilization implies that the SEA's are relatively healthy and have a low demand for services. Data on Rhode Island's refugee population's birthing outcome measures (low birth weight (LBW) births and Apgar scores) will be used in this instance.

In the Rhode Island SEA population, the percent of LBW births (weighing less than 2500 grams) to the number of live births was 7.65% for 1978-1981 combined (11). In 1980, the state average was 6.36% (12). The SEA LBW births are slightly greater than the state average. Given the poor living conditions the SEA refugees experienced prior to their arrival in the United States, the rate of LBW births is unexpectedly low. However, a recent Oregon study (13) found that the SEA LBW rate was 8.5% as compared to 4.9% to the general Oregon population. This study noted that mothers who are recent arrivals (been in

the United States three (3) months or less) are more apt to have LBW infants than those who have been in Oregon 10 to 12 months. The study also found that the improved birth outcome is not maintained for those who have been in Oregon for 18 months or longer prior to delivery. The LBW rate of Rhode Island's SEA refugees is comparable with Oregon and lower than the national average of 8.3% (14). In addition, a survey of selected perinatal characteristics of Rhode Island SEA infants born within years 1978 to 1981 found that 95% of the newborns had an Apgar score of 7 to 10 (15).

The LBW and Apgar score data suggest that Rhode Island's refugee population is generally in good health. The low health service utilization rate among this population may, therefore, be associated with their favorable health status and the pattern of their demand for health services. However, as found in the Oregon study, the SEA's have a higher-than-average fertility rate and LBW births as compared to the general Oregon population. The type of service that is needed, but not clearly reflected in the utilization data,is prenatal care. This observation also can be confirmed by the "overutilizer" analysis, where obstetric care was the most commonly used service. Given the demographic profiles of the SEA population and the high fertility rate (which is to be expected), the demand for obstetric services should be high.

What has been established thus far is that the low health service utilization rate observed is a good reflection of the

"true demand" for health services among Rhode Island's SEA population. The next implication from this observation, then, is that the need for third-party medical coverage is for reasons other than poor health and/or heavy usage of health services. As shown by the evidence provided in the RPG study, the fear of major medical expenses when there is no third-party coverage is strongly associated with refugee welfare dependency (16). Reservations about denying Medicaid benefits to the refugees often stem from the service providers' and State and local officials' preconceived notion that harsh refugee experience has taken its toll on their health status and that they need ongoing medical attention that entails major expenses. Without health satus information such anecdotal evidence cannot be substantiated nor refuted.

The steady decrease in health service utilization as shown by the lag time analysis (Figure 25) is a strong evidence that the need for medical treatment decreases over time. In addition, if there is an existing medical problem that impedes one's daily activities and employment, the service providers in the refugee resettlement network would have made a referral to a doctor. Moreover, it is inconceivable that a seriously ill person would not have shown up in a hospital emergency room in the course of three years. Also, those who have chronic disabling medical problems would have been identified during the initial refugee health screening and placed for SSI benefits shortly after their arrival. There are certainly a few SEA

individuals who have chronic and serious health problems and they deviate from the general pattern of decreased medical are usage over time in this country. However, if there were large numbers of refugees who have such debilitating problems that medical attention is warranted, one would expect an increase in the utilization rate sometime during the three years studied. However, this was not observed.

The number of hospital admissions in the SEA's studied was very low. In the three years, there were only 200 individuals who had been hospitalized. The total number of admissions for these three years was 271. This again indicates that the need for medical insurance is not totally based on the actual experience of high hospitalization rate.

Recently, the Rhode Island/Office of Refugee Resettlement Targeted Assistance Program (RI/ORR TAP) completed a comprehensive assessment of the "over 36 months" welfare cases (March'84). Of the 161 cases reviewed, 51 cases (or about 32% of the total cases assessed) are still on welfare for medical reasons. However, of these 51 cases, only 4 cases are definitely receiving ongoing medical treatment. The rest are found to be eligible for State General Public Assistance because a doctor's signature has been obtained for the form that states the case in question has a medical problem, but it is not clear if these individuals are receiving any ongoing treatment from these providers. Preliminary screening of these 51 cases indicates that about 50% of them are able to join the work force and that their medical problems do not require extensive medical treatment.

Implicit in the fact that 1) birthing outcome is favorable, 2) inpatient admission rate is low, and 3) majority of those welfare dependent cases for medical reasons are not receiving ongoing medical attention and actually do not require extensive medical treatment, is that low health service utilization rates observed in this study indeed reflect the SEA population's pattern of low demand for health services. This population's need for third-party coverage for health care is not so much for the actual services used but more because of their anticipation for major medical expenses. For that matter, even obstetric care expenses are viewed as a catastrophic cost. Whether or not one uses the medical services is not of a major concern as long as there is third-party coverage, it is the fear of loss of such security that impedes one from abandoning the Mediciad benefits, hence Refugee Cash Assistance. In summary, this study refutes the notion that dependency is due to heavy usage of medical care because of ill health. Most of the evidence indicates that refugees' dependency on Medical Assistance is a work disincentive if becoming employed would mean loss of medical coverage. Separation of Refugee Cash and Medical Assistance, therefore, should be given serious consideration. Even on a fee-for-service basis, the low health service utilization rates and the low hospitalization rates suggest that it would cost the Government much less to provide medical coverage even for those with employment but no health insurance benefits until one's medical benefits are covered by an employer than paying for medical assistance only when one is eligible for cash assistance.

Of course, the public policy issue here is equity. The need for medical coverage and its disincentive to work are not unique to only the SEA refugees. Resolution to this public policy dilemma can be justified only if it can be established that the refugees make up a special population and that extending the length of medical coverage for refugees will save the states from spending their GPA monies on refugees for a prolonged time.

RECOMMENDATIONS

Based on the findings from this SEA health service utilization study, recommendations to improve upon the current refugee health policy in reference to the 2 areas of HMO enrollment and separation of RCA and RMA are:

1) Initiate pilot projects that utilize a prepaid capitation reimbursement mechanism by either enrolling the refugees in HMO's (if the facilities are easily accessible to the refugees) or use Medicaid Program's Primary Care Network (PCN) model, but modify it so the provider is a community health center that has had long-standing experience with the SEA refugees.
2) Separation of Refugee Cash and Medical Assistance should be considered. Demonstration of this option can be conducted on a small scale to test its feasibility. Consideration should also be given to prepaid capitation negotiations with HMO's or CHC-PCN's using the Medicaid/Refugee Medical Assistance monies.
3) HMO or modified HMO (CHC-PCN) demonstration projects should consider the inclusion of mental health service component.

Intricacies regarding the first two recommendations have already been discussed in the previous sections. Therefore, they will not be elaborated here. However, it should be emphasized at this point that mental health problems among the

SEA population should not be overlooked. A utilization study of this nature does not reflect the mental health service needs of the SEA population. Nonetheless, these problems are on the rise. The SEA's typically present their mental problems with psychosomatic complaints which generate repeated visits to specialists and prompt numerous laboratory tests before referrals are made to a mental health center. Even then, the existing mental health resources are not adequate to meet the unique SEA needs. Unless the issue of refugee mental health needs is addressed, it is likely that low medical service utilization rates will not be maintained in the years to come. In this respect, a prepaid capitation refugee health care financing mechanism will not be a viable alternative in the future. In designing pilot projects, it is important to also consider building in a mental health service component. This aspect is crucial, but often overlooked in refugee health policy discussions. Even in terms of promoting self-sufficiency among the refugees, the mental health needs are ignored. Since SEA's with emotional difficulties present themselves with physical complaints, the provision of mental health services can be non-threatening in a medical care setting. In this respect, inclusion of a mental health component to pilot projects should be encouraged.

TABLES

Table I. Description of Data Base

	# of Patients	# of Cases	# of Encounters
38 Months (Oct 79-Dec82) All Elig. Factors	2,744	654	28,241
36 Months (Jan80-Dec82)			
All Elig Factors	2,742	654	28,134
Refugee Med. Assist.	1,602	349	15,201
AFDC	1,074	278	12,500
Medically Needy	66	27	433

TABLE II. ANNUAL ENCOUNTERS PER PATIENT AND COST PER PATIENT

ALL SERVICES COMBINED
1980, 1981, 1982

Year	Encounters/Patient	Cost/Patient
1980	5.16	$286.64
1981	6.79	$348.68
1982	7.05	$418.43

TABLE III

DISTRIBUTION OF TOTAL ENCOUNTERS
BY SERVICE TYPES IN 1980, 1981, AND 1982

	1980 % of total	1981 % of total	1982 % of total
Ambulatory Care			
Community Health Cneters	25	22	21
Hospital Outpatient Clinics	9	8	9
Visiting Nurse	0.2	0.2	0.2
Drugs	22	21	25
Ancillary Services	17	15	15
Physician Services			
Doctor's Office	9	9	9
Hospital Inpatient	3	3	2
Dental Care	10	16	11
Optometric Care and Goods	3	4	6
Hospital Inpatient	1	1	1
Obstetrics and Newborn	1	1	1
TOTAL ENCOUNTERS	1,797	10,547	13,990

TABLE IV

DISTRIBUTION OF TOTAL NUMBER OF PATIENTS
BY SERVICE TYPES IN 1980, 1981, AND 1982

	1980 % of total	1981 % of total	1982 % of total
Ambulatory Care			
Community Health Centers	20	20	20
Hospital Outpatient Clinics	8	6	9
Visiting Nurse	0.1	0.1	0.3
Ancillary Services	24	23	21
Drugs	23	21	24
Physician Services			
Doctor's Office	10	10	8
Hospital Inpatient	3	3	3
Dental Care	7	10	9
Optometric Care and Goods	2	3	4
Hospital Inpatient	2	2	1
Obstetrics and Newborn	1	2	1
TOTAL PATIENTS	403	1,745	2,015

TABLE V

DISTRIBUTION OF TOTAL EXPENDITURES
BY SERVICE TYPES IN 1980, 1981, AND 1982

	1980 % of total	1981 % of total	1982 % of total
Hospital Inpatient	37	33	45
Obstetrics and Newborn	18	15	17
Ambulatory Care			
Community Health Centers	6	6	5
Hospital Outpatient Clinics	7	9	9
Visiting Nurse	0.4	0.1	0.1
Ancillary Services	10	8	6
Dental Care	10	14	7
Physician Services			
Doctor's Office	2	3	3
Hospital Inpatient	4	5	4
Optometric Care and Goods	0.7	1	1
Drugs	0.3	3	3
TOTAL EXPENDITURES	$114,112	$599,250	$722,245

TABLE VI. COMPONENTS OF OUTPATIENT SERVICES

Oct. 1979 to Dec. 1982

	# OF PATIENTS	# OF ENCOUNTERS	% OF TOTAL ENCOUNTERS	# ENCOUNTERS/ PT./YR.
COMMUNITY HC	1634	5995	71.8%	1.2
HOSPITAL-SPECIALTY CLINIC	460	1293	15.5%	0.9
HOSPITAL-ER	538	825	9.9%	0.5
HOSPITAL-MED CLINIC	92	201	2.4%	0.7
VNA	28	104	1.2%	1.2
HOSPITAL-AMB. SURGE	39	45	0.5%	0.4
ALL OUTPATIENT CARE	1993	8348	101.3*	1.4

* PERCENTS WILL ADD TO MORE THAN 100 BECAUSE MOST PATIENTS RECEIVED MORE THAN ONE SERVICE.

TABLE VII. DISTRIBUTION OF 200 HOSPITALIZED PATIENTS BY # OF ADMISSIONS

# OF ADMISSIONS	# OF PATIENTS	% OF TOT. PTS.
1	156	78%
2	36	18%
3	4	2%
+3	4	2%
TOTAL	200	100%

TABLE VIII. ELIGIBILITY FACTORS OF THE HOSPITALIZED PATIENTS
(JAN. 1980 - DEC. 1982)

# OF ADM.	AFDC TOT PTS.: 1074 # OF PTS. (% TOT PTS.)	RMA TOT PTS.: 1602 # OF PTS. (% TOT PTS.)	MED. NEEDY TOT PTS.: 66 # OF PTS. (% TOT PTS.)	ALL ELEG FAC TOT PTS.: 2742 # OF PTS. (% TOT PTS.)
1	65 (6.0%)	91 (5.7%)	0 (0%)	156 (5.7%)
2	13 (1.2%)	20 (1.2%)	3 (4.5%)	36 (1.3%)
3	3 (0.3%)	1 (0.1%)	0 (0%)	4 (.14%)
+3	2 (0.3%)	2 (0.1%)	0 (0%)	4 (.14%)
TOTAL	83 (7.8%)	114 (7.1%)	3 (4.5%)	200 (7.3%)

TABLE IX. AVERAGE COSTS PER PATIENT:
BY SERVICE TYPE,
BY ELIGIBILITY FACTORS.
(OCT. 1979 - DEC. 1982)

SERVICE TYPES	ELIGIBILITY FACTORS		
INPATIENT CARE	MEDICALLY NEEDY	AFDC	REFUGEE STATUS
MED-SURGE	$4900	$3211	$2733
OB & NEWBORN	$1829	$1133	$ 688
ANCILLARY CARE			
LAB & X-RAY	$ 75	$ 64	$ 58
DRUGS	$ 30	$ 29	$ 27
OUTPATIENT CARE	AFDC	REFUGEE STATUS	MEDICALLY NEEDY
HOSPITAL-OP	$ 120	$ 104	$ 37
M.D. SERVICE	$ 107	$ 107	$ 90
DENTAL	$ 196	$ 183	$ 92
OPTOMETRICS	$ 58	$ 53	$ 48

TABLE X

Definition of "Overutilizers"

Service Type	Total Patients	NON-OVERUTILIZERS # of Pt. Encounters (38 mos.)	NON-OVERUTILIZERS # of Patients	NON-OVERUTILIZERS % of Total Patients	"OVERUTILIZERS" # of Pt. Encounters (38 mos.)	"OVERUTILIZERS" # of Patients	"OVERUTILIZERS" % of Total Patients
Neighborhood Health Centers	1,634	<11.50	1,588	97.2%	>11.50	46	2.8%
Inpatient Medical	141	< 2.00	110	78.0%	> 2.00	31	22.0%
Inpatient Surgical	67	< 1.50	55	82.1%	> 1.50	12	17.9%
Inpatient OB	176	< 1.50	160	90.9%	> 1.50	16	9.1%
Inpatient Newborn	185	< 1.50	182	98.4%	> 1.50	3	1.6%
VNA	28	< 9.50	25	89.3%	> 9.50	3	10.7%
Hospital ER	538	< 4.00	521	96.8%	> 4.00	17	3.2%
Hospital - OP Medical Clinic	92	< 3.75	79	85.9%	> 3.75	13	14.1%
Hospital - OP Specialty Clinic	460	<10.50	444	96.5%	>10.50	16	3.5%
M.D. Service - Medical - OP	709	<10.50	693	97.7%	>10.50	16	2.3%
M.D. Service - Minor Surgery - OP	52	< 2.00	37	71.1%	> 2.00	15	28.9%
M.D. Service Surgery - IP	278	< 3.00	245	88.1%	> 3.00	33	11.9%
M.D. Service - Medical - IP	197	< 1.90	151	76.6%	> 1.90	46	23.4%

Total Patient Encounters: 267

Multi-Service Overutilizers: 63

Actual # of Overutilizers: 190

TABLE XI

PREVALENT HEALTH PROBLEMS AMONG THE "OVERUTILIZERS"

Principal Diagnosis	# of Cases	% of "Overutilizers"* N = 174
Obstetrics	42	24%
Childhood Diseases	36	21%
Parasites	33	19%
Diseases of Respiratory System	26	15%
Diseases of Digestive System	25	14%
Diseases of Sense Organs	21	12%
Anemia	19	11%
Gynecological Diseases	18	10%
Skin Diseases	17	10%
Infections (other than intestinal parasites)	9	5%
Mental Problems	8	5%
TB	8	5%
Diseases of Circulatory System	6	3%
Serious Infancy Problems	5	3%
Thyroid Related Problems	5	3%
Injury	4	2%
Allergy	3	2%
Diseases of Musculoskeletal System and Connective Tissue	3	2%
Neoplasms, Malignant	2	1%
Others	15	9%

*Percent will add to more than 100 because most patients had more than 1 problem.

FIGURES

Figure 1

VARIATION IN NUMBER OF INPATIENT ADMISSIONS PER PATIENT
1980 - 1982

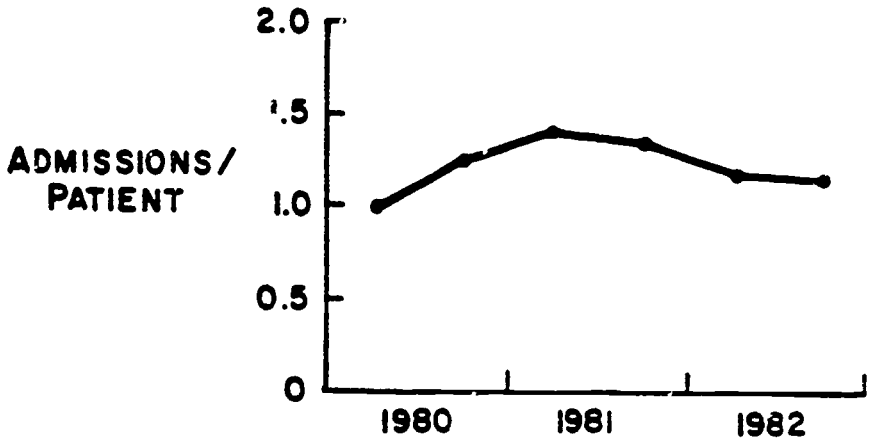

Figure 2

VARIATION IN NUMBER OF OBSTETRICS AND NEWBORN HOSPITAL ADMISSIONS PER MATERNAL-CHILD PAIR
1980 - 1982

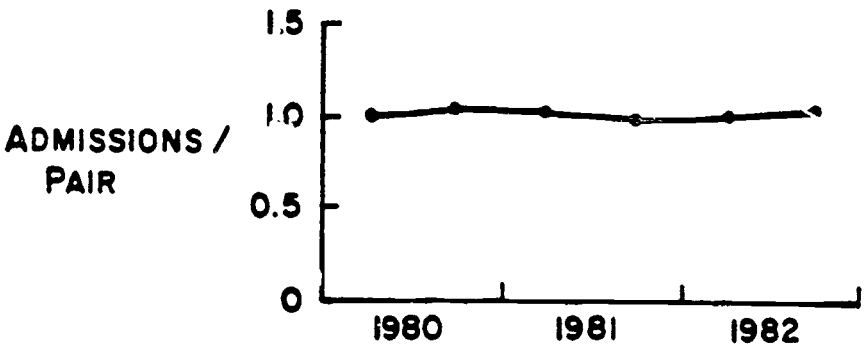

Figure 3

VARIATION IN NUMBER OF OUTPATIENT ENCOUNTERS PER PATIENT
1980 - 1982

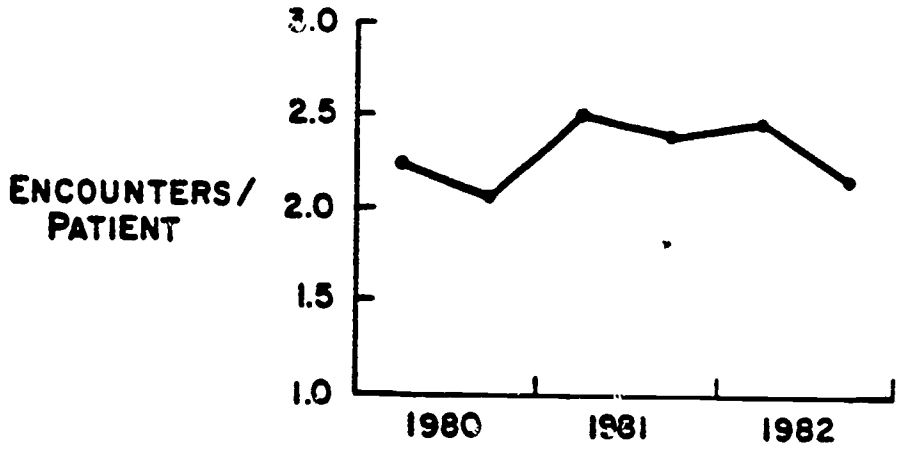

Figure 4

VARIATION IN NUMBER OF M.D. ENCOUNTERS PER PATIENT
1980 - 1982

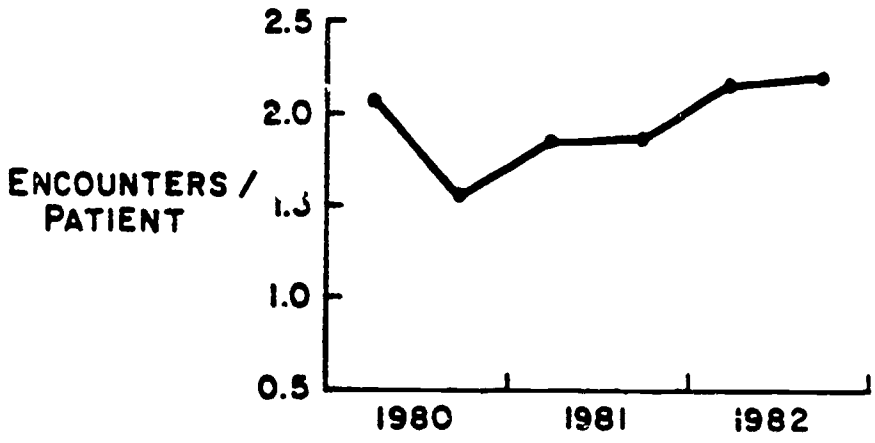

Figure 5

VARIATION IN NUMBER OF ANCILLARY CARE ENCOUNTERS PER PATIENT
1980 - 1982

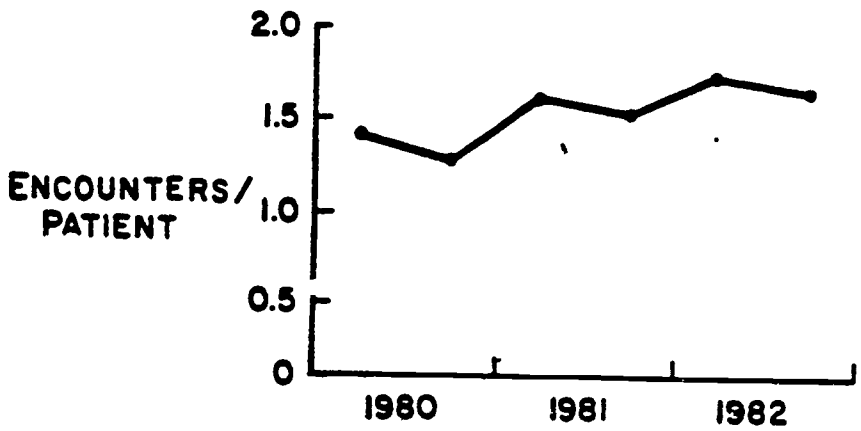

Figure 6

VARIATION IN NUMBER OF DRUG ENCOUNTERS PER PATIENT
1980 - 1982

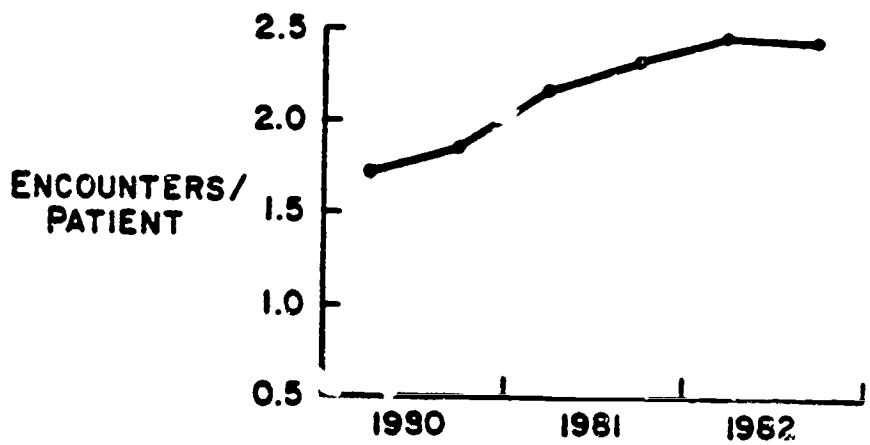

Figure 7

VARIATION IN NUMBEP OF OPTOMETRIC ENCOUNTERS PER PATIENT
1980 - 1982

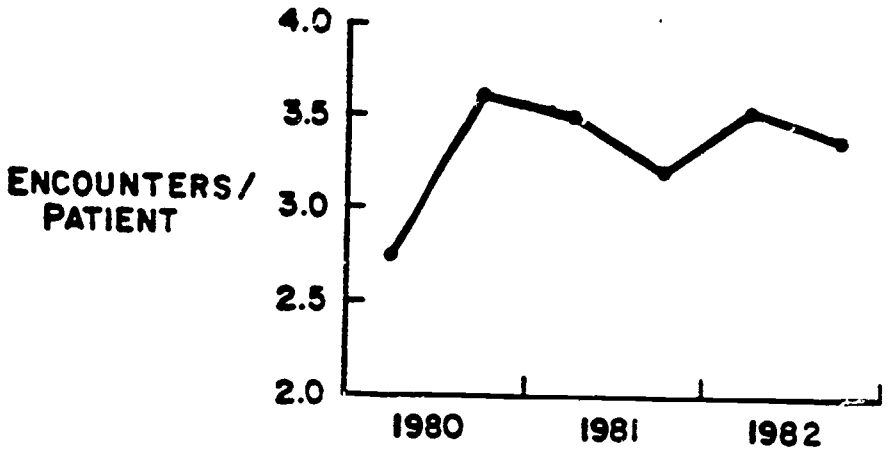

Figure 8

VARIATION IN NUMBER OF DENTAL ENCOUNTERS PER PATIENT
1980 - 1982

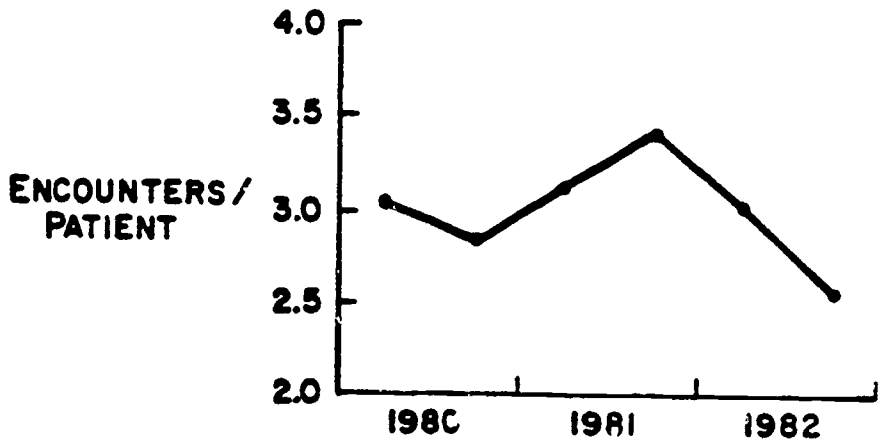

Figure 9

VARIATION IN INPATIENT EXPENDITURES PER PATIENT
1980 - 1982

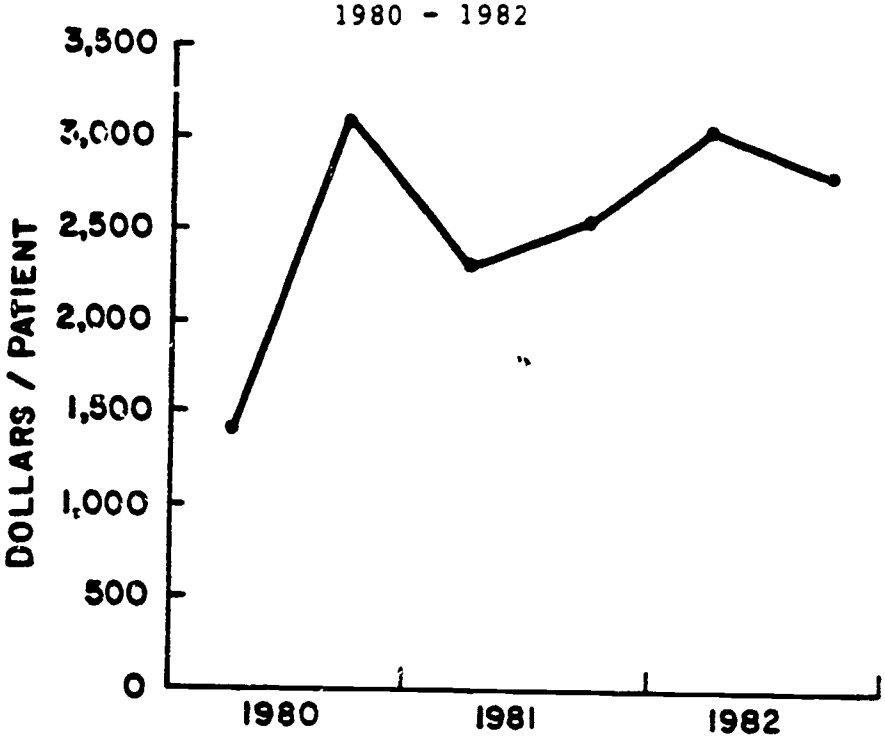

Figure 10

VARIATION IN OBSTETRIC AND NEWBORN EXPENDITURES
PER MATERNAL-CHILD PAIR
1980 - 1982

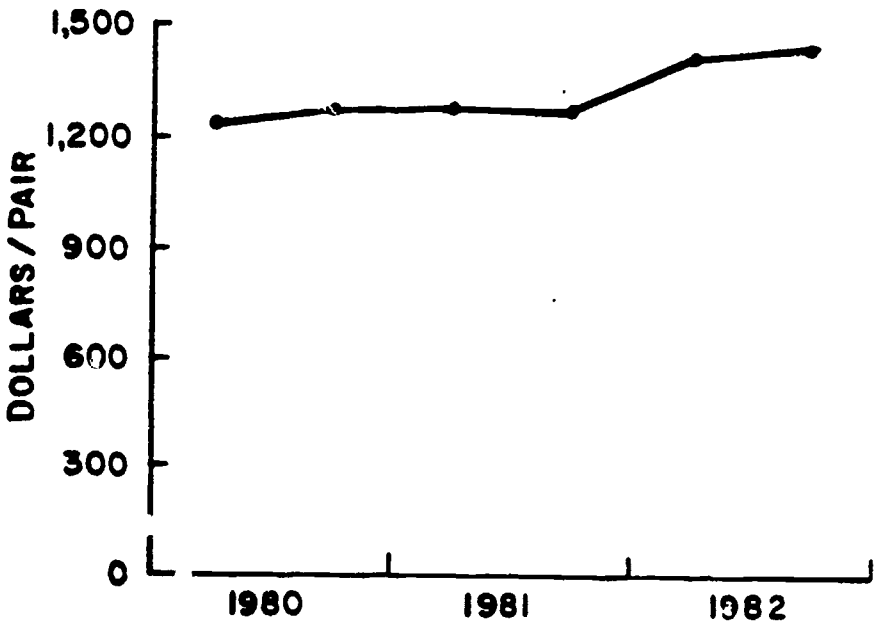

Figure 11

VARIATION IN OPTOMETRIC EXPENDITURES PER PATIENT
1980 - 1982

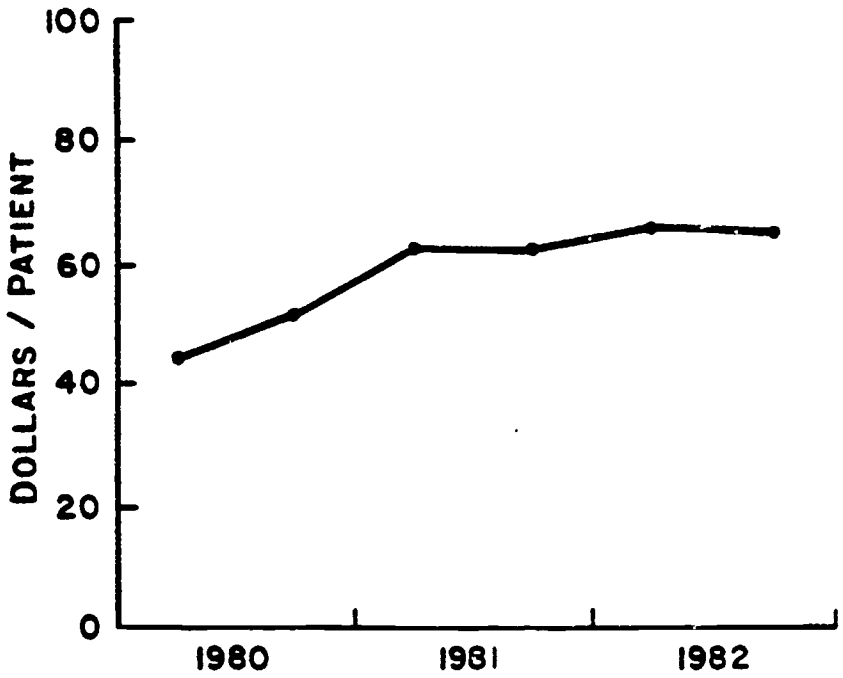

Figure 12

VARIATION IN OUTPATIENT EXPENDITURES PER PATIENT AND PER CASE
1980 - 1982

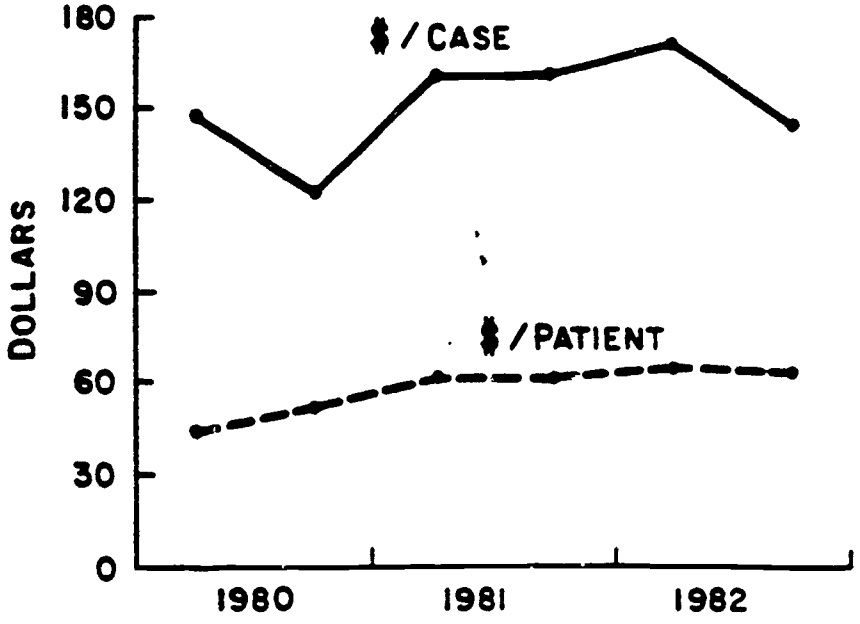

Figure 13

VARIATION IN M.D. EXPENDITURES PER PATIENT AND PER CASE
1980 - 1982

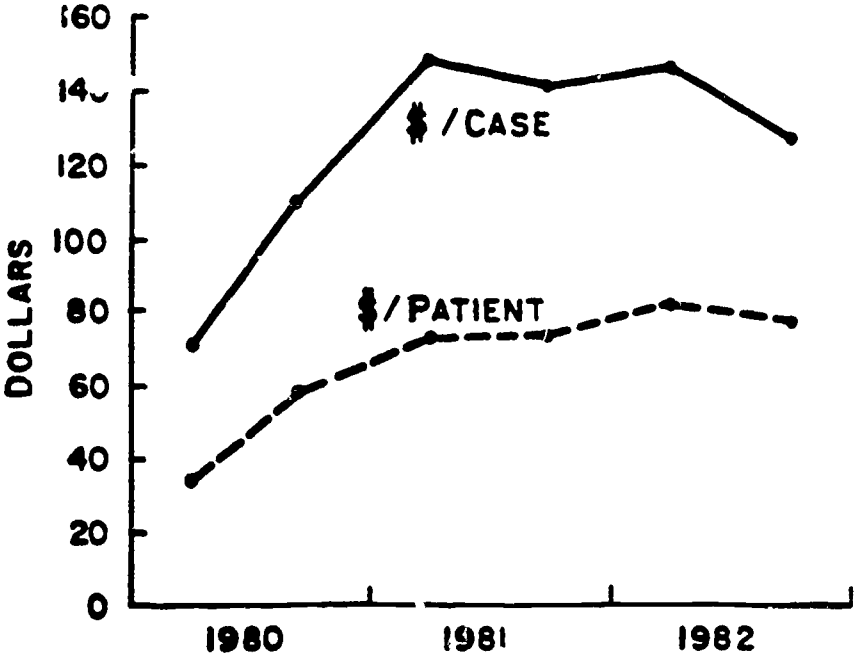

Figure 14

VARIATION IN ANCILLARY CARE EXPENDITURES PER PATIENT AND PER CASE
1980 - 1982

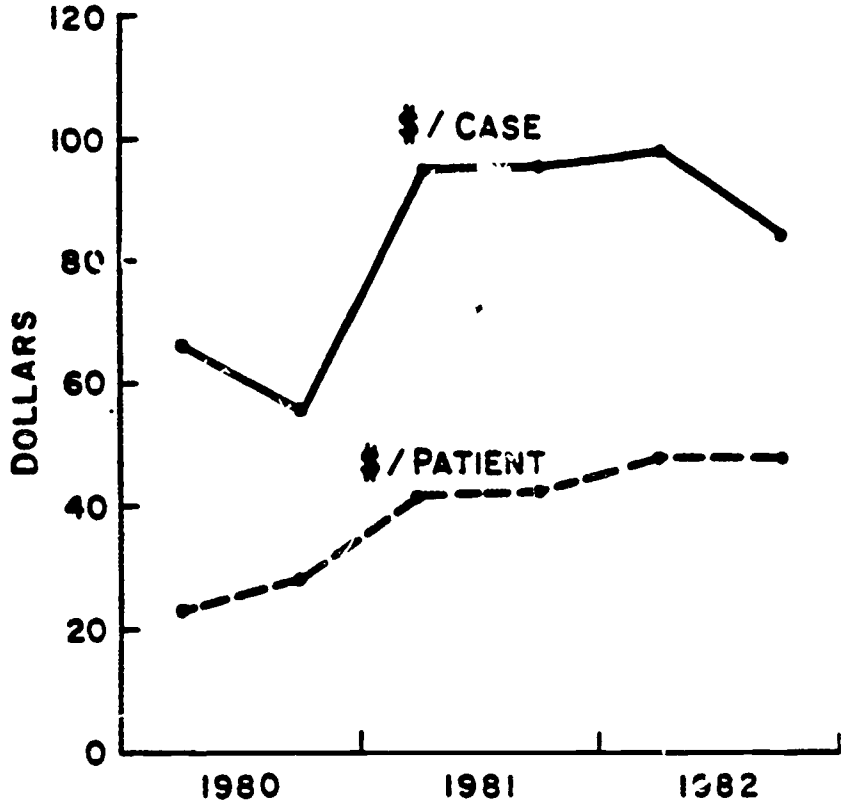

Figure 15

VARIATION IN DRUG EXPENDITURES PER PATIENT AND PER CASE
1980 - 1982

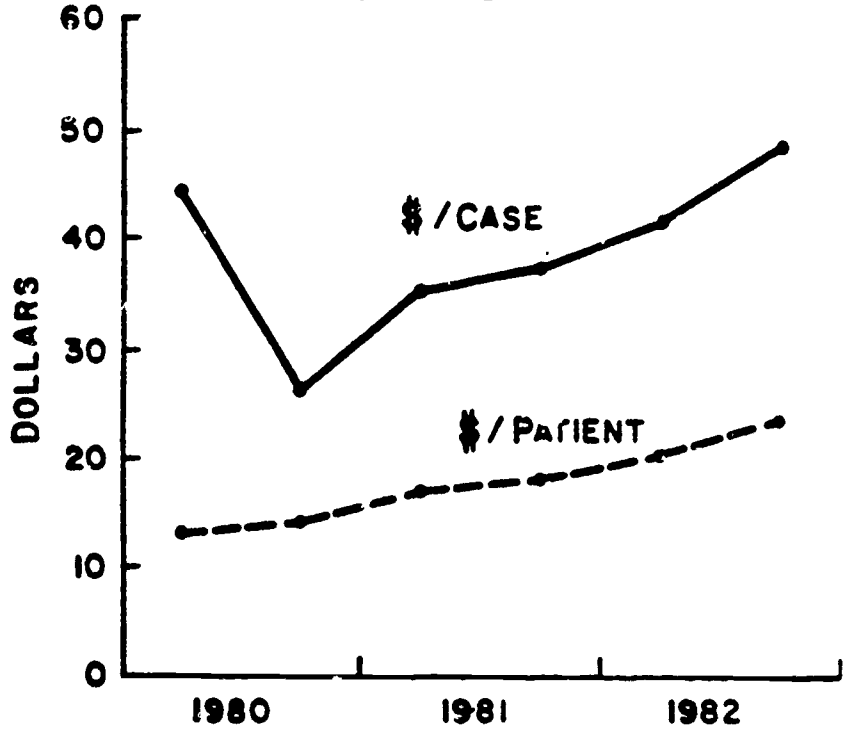

Figure 16

VARIATION IN DENTAL EXPENDITURES PER PATIENT AND PER CASE
1980 - 1982

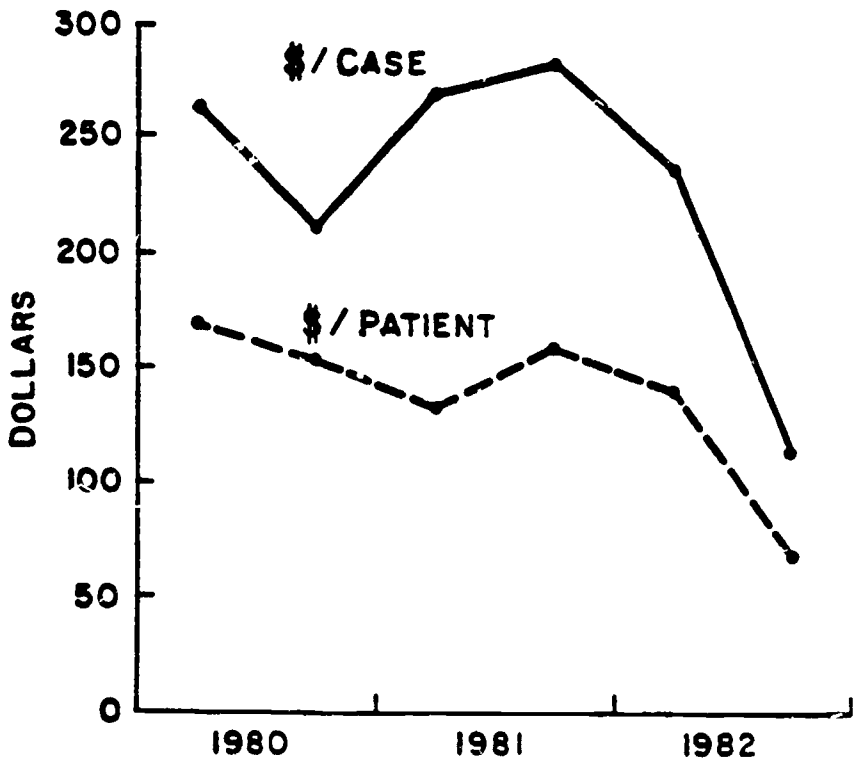

Figure 17

FREQUENCY OF HOSPITAL ADMISSIONS RELATIVE TO TIME IN THE U.S.
(October, 1979 - December, 1982)

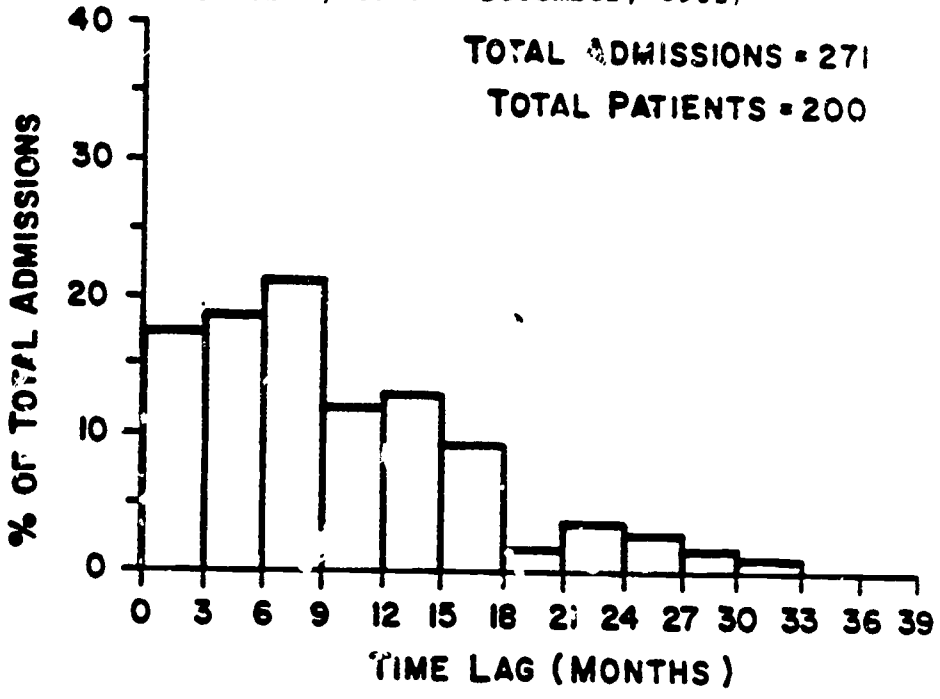

Figure 18

FREQUENCY OF OBSTETRIC AND NEWBORN ADMISSIONS
RELATIVE TO TIME IN THE U.S.
(October, 1979 - December 1982)

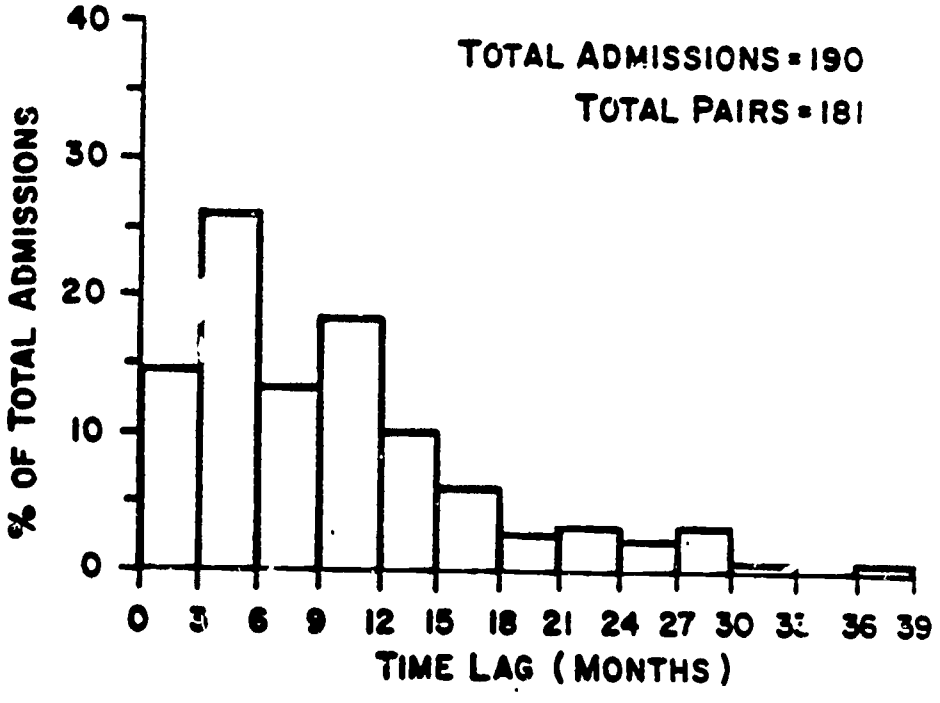

Figure 19

FREQUENCY OF OUTPATIENT ENCOUNTERS RELATIVE TO TIME IN THE U.S.
(October, 1979 - December, 1982)

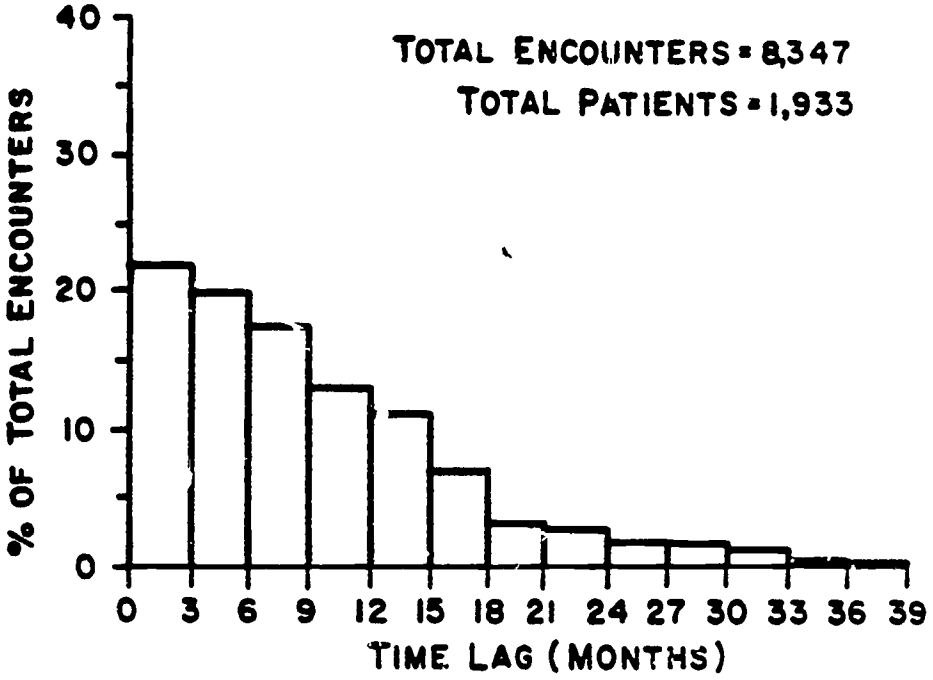

Figure 20

FREQUENCY OF M.D. ENCOUNTERS RELATIVE TO TIME IN THE U.S.
(October, 1979 - December, 1982)

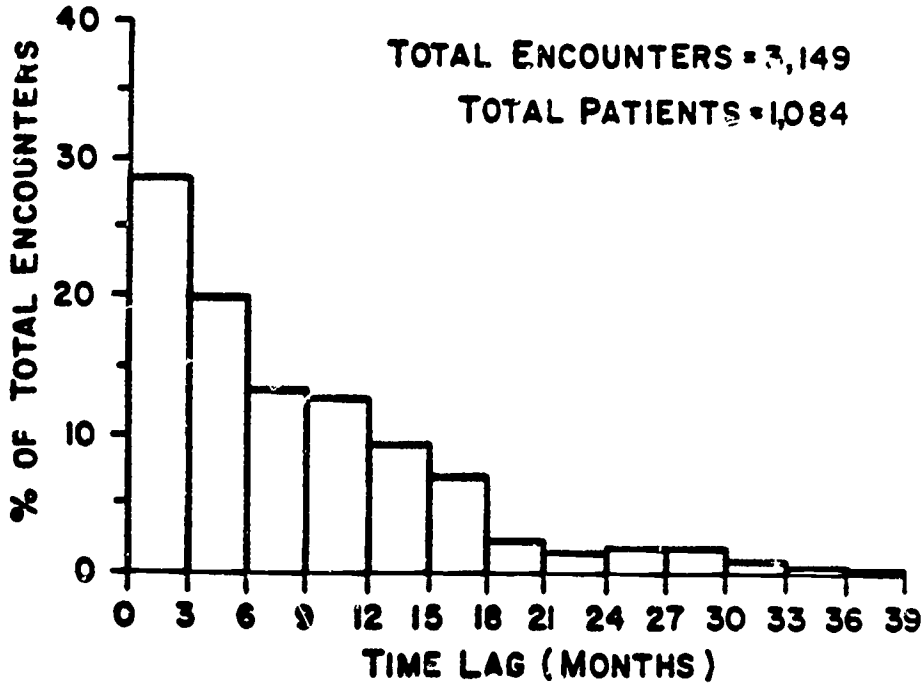

Figure 21

FREQUENCY OF ANCILLARY CARE ENCOUNTERS RELATIVE TO TIME IN THE U.S.
(October, 1979 - December, 1982)

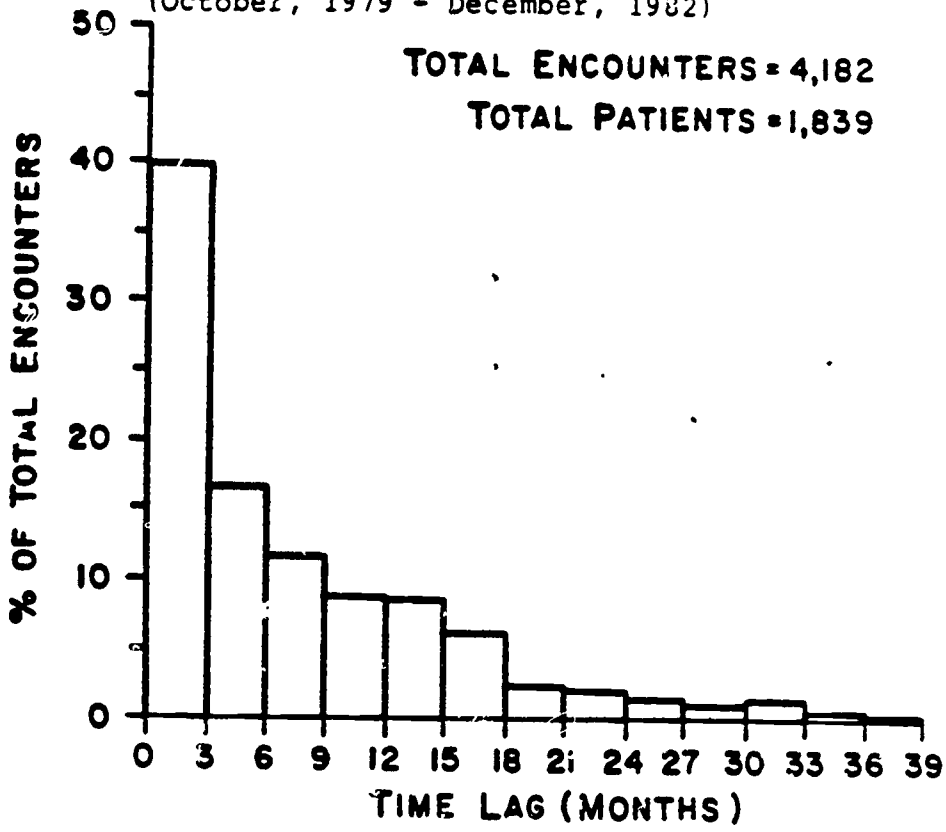

Figure 22

FREQUENCY OF DRUG ENCOUNTERS RELATIVE TO TIME IN THE U.S.
(October, 1979 - December, 1982)

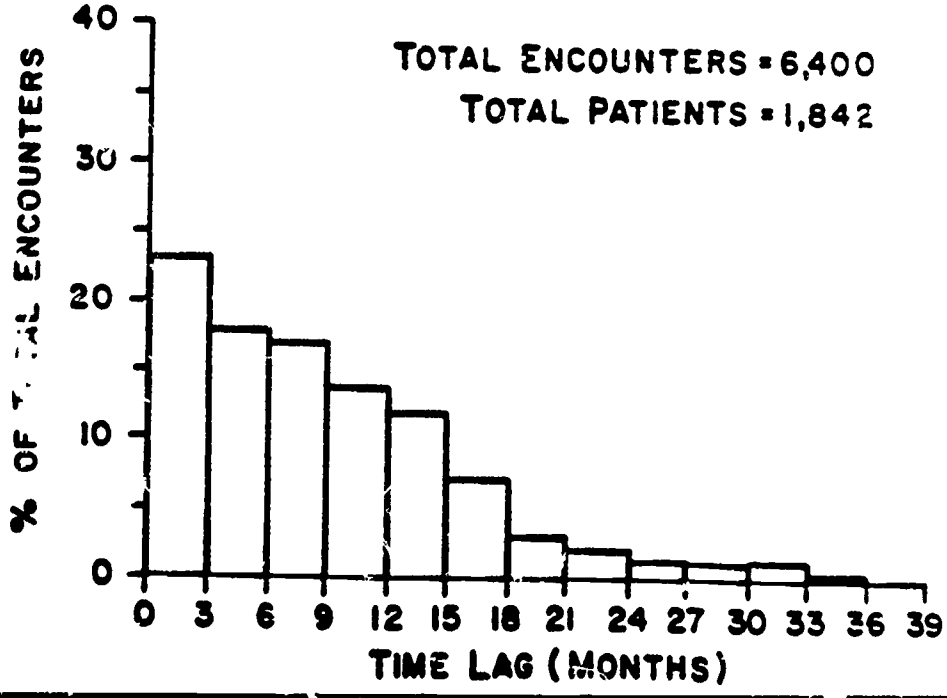

Figure 23

FREQUENCY OF OPTOMETRIC ENCOUNTERS RELATIVE TO TIME IN THE U.S.
(October, 1979 - December, 1982)

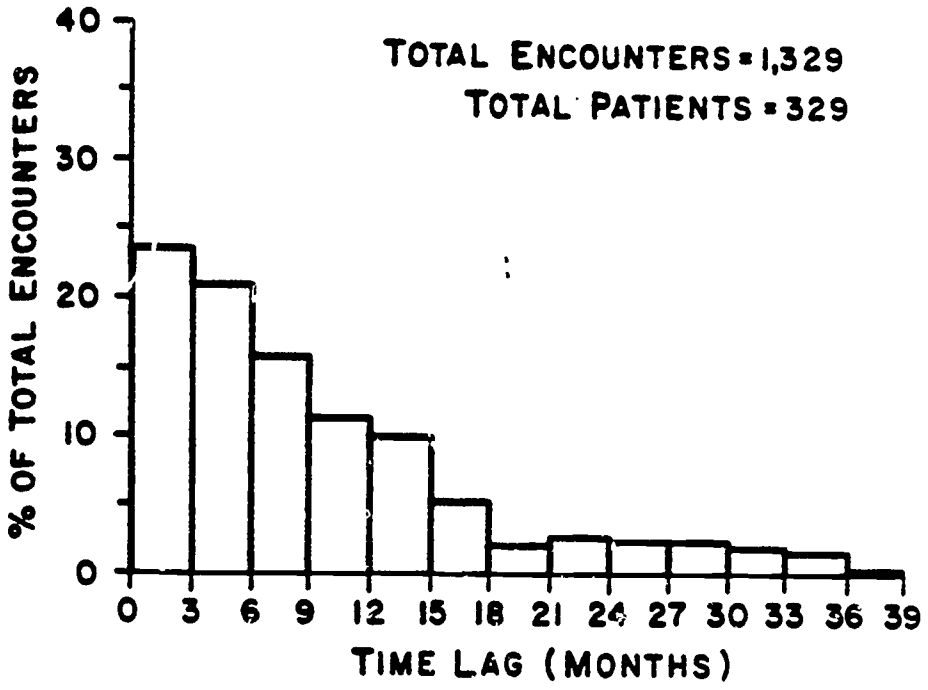

Figure 24

FREQUENCY OF DENTAL ENCOUNTERS RELATIVE TO TIME IN THE U.S.
(October, 1979 - December, 1982)

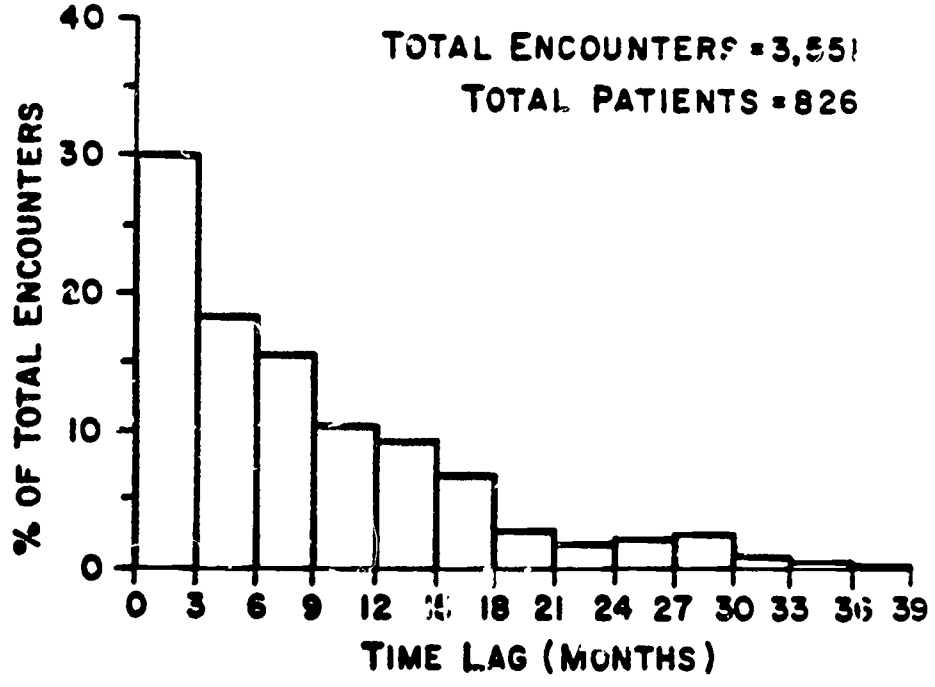

Figure 25

FREQUENCY OF ALL HEALTH SERVICE ENCOUNTERS
RELATIVE TO TIME IN THE U.S. (October, 1979 - December, 1982)

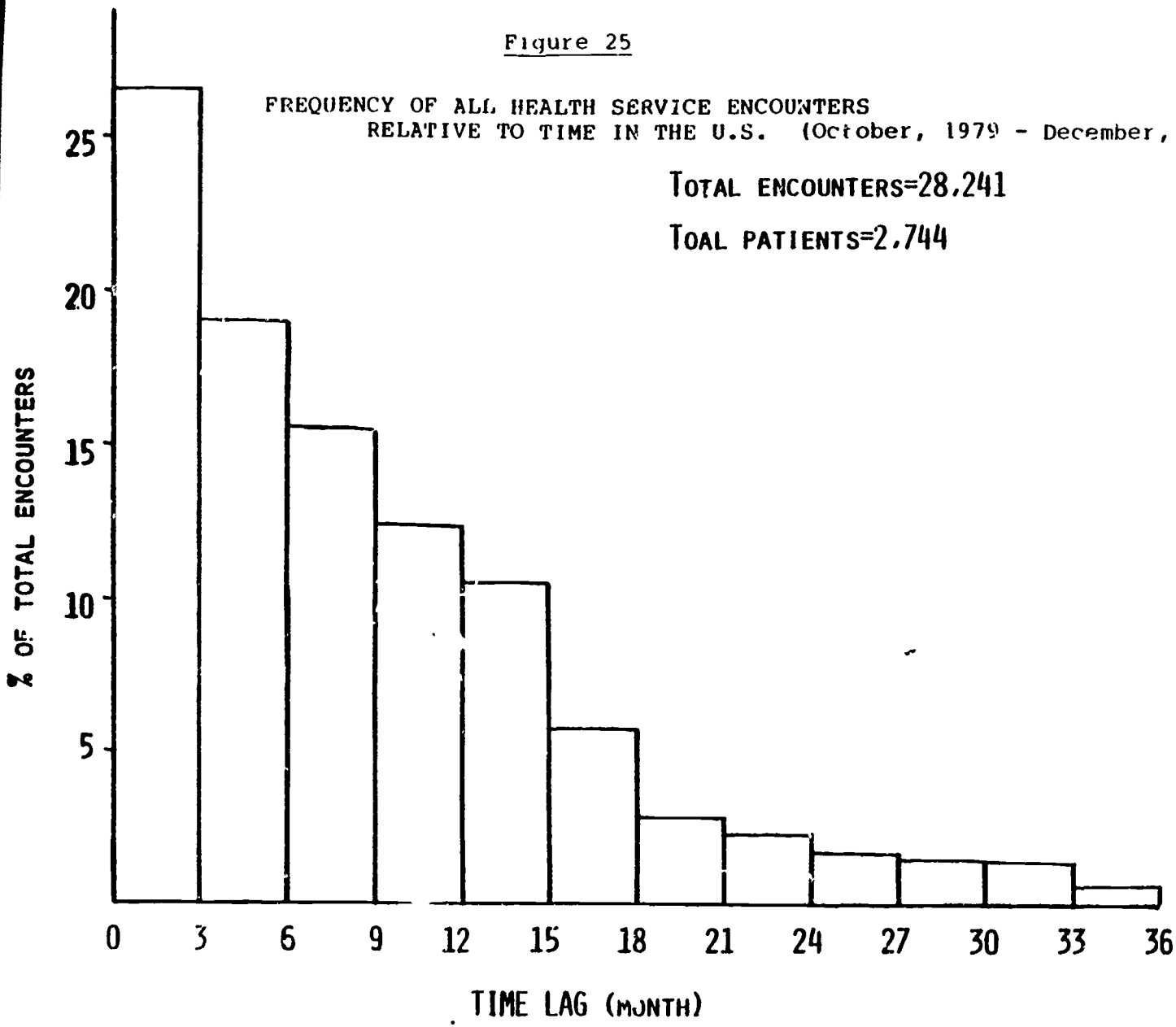

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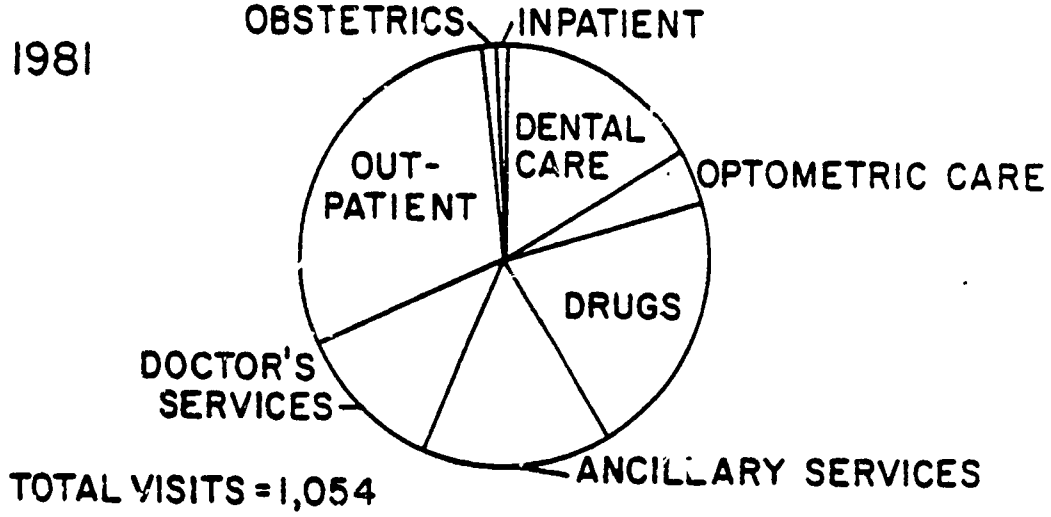
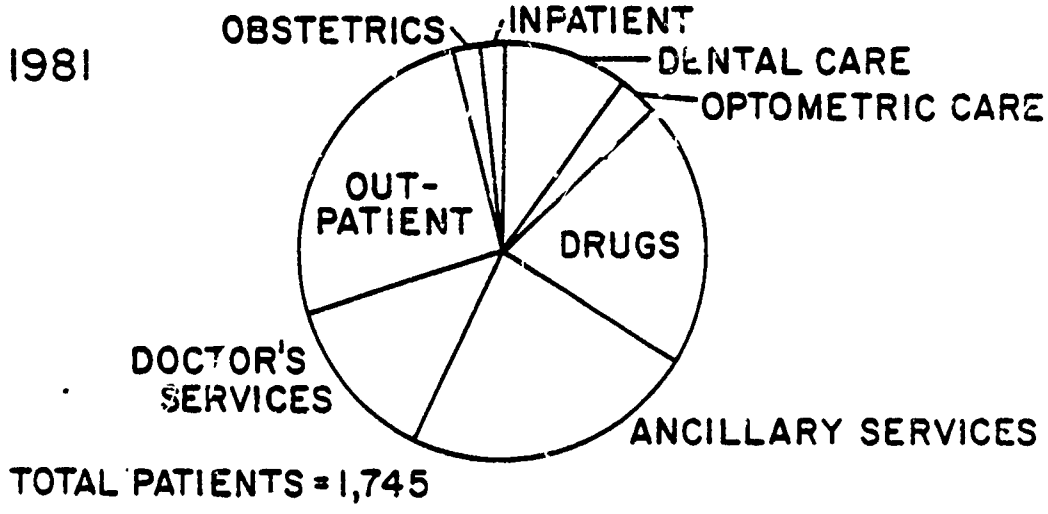
Figure 26 DISTRIBUTION OF TOTAL VISITS, PATIENTS, AND EXPENDITURES BY SERVICE TYPES IN 1981





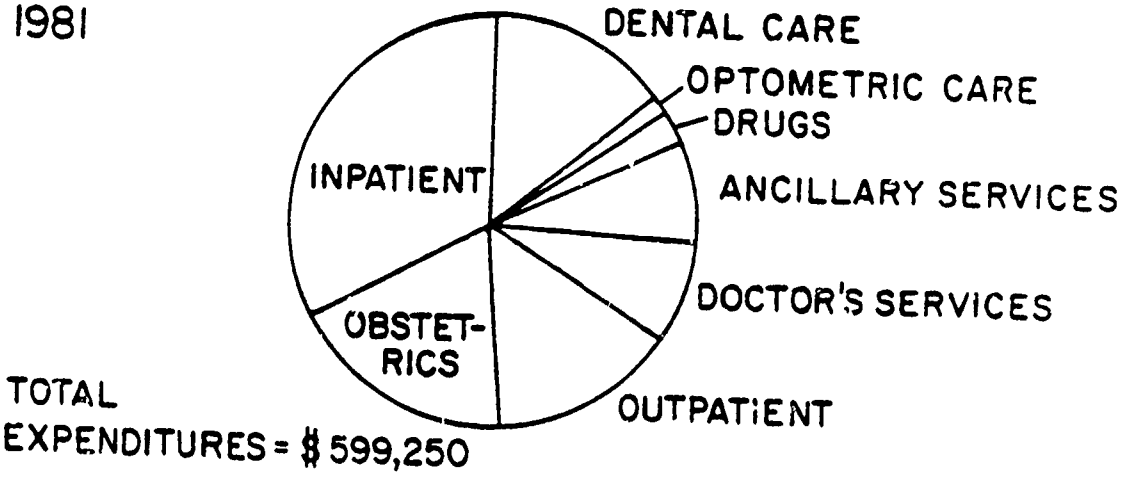


Figure 27

COMPARISON OF ETHNIC DISTRIBUTION BETWEEN GENERAL SEA POPULATION ON PUBLIC ASSISTANCE AND "OVERUTILIZERS"

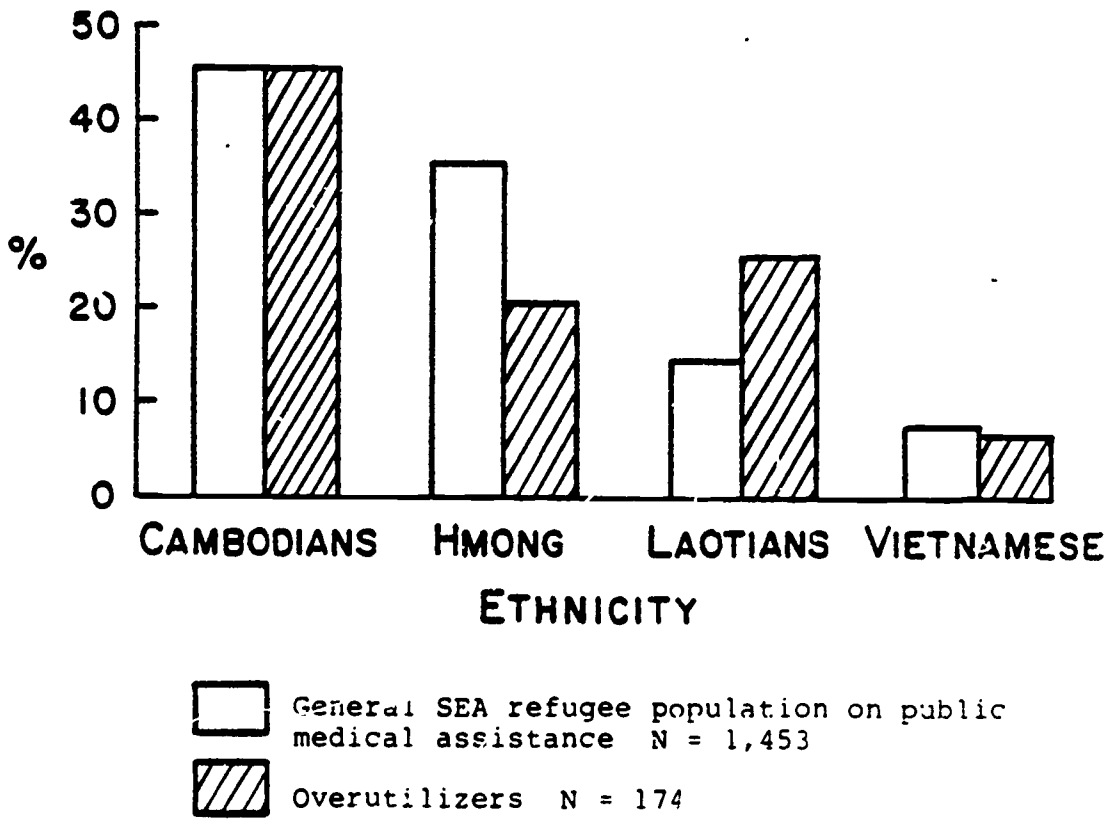


Figure 28

COMPARISON OF AGE DISTRIBUTION BETWEEN
GENERAL SEA POPULATION ON PUBLIC ASSISTANCE AND "OVERUTILIZERS"

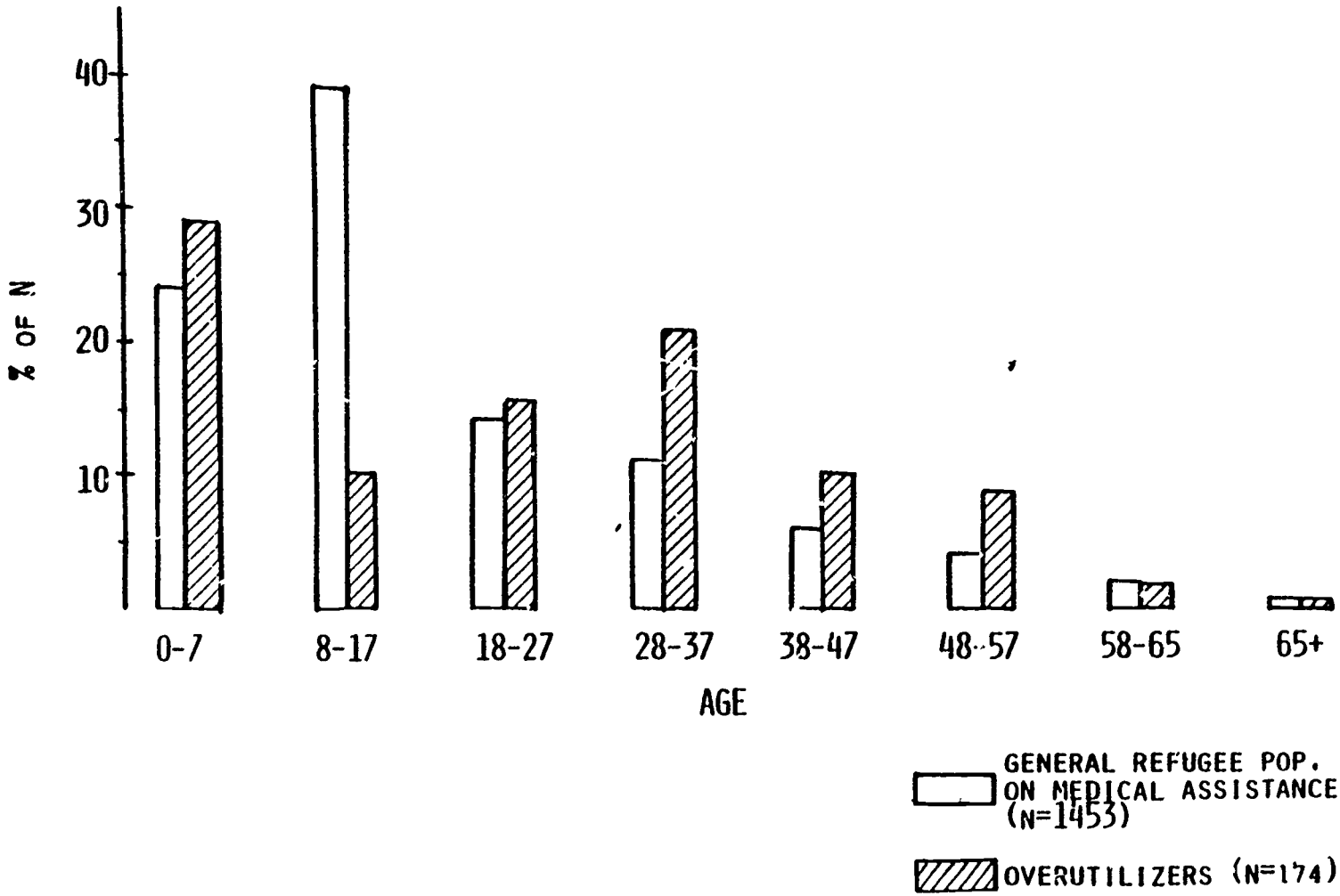


Figure 29

COMPARISON OF GENDER DISTRIBUTION BETWEEN
GENERAL SEA POPULATION ON PUBLIC ASSISTANCE AND "OVERUTILIZERS"

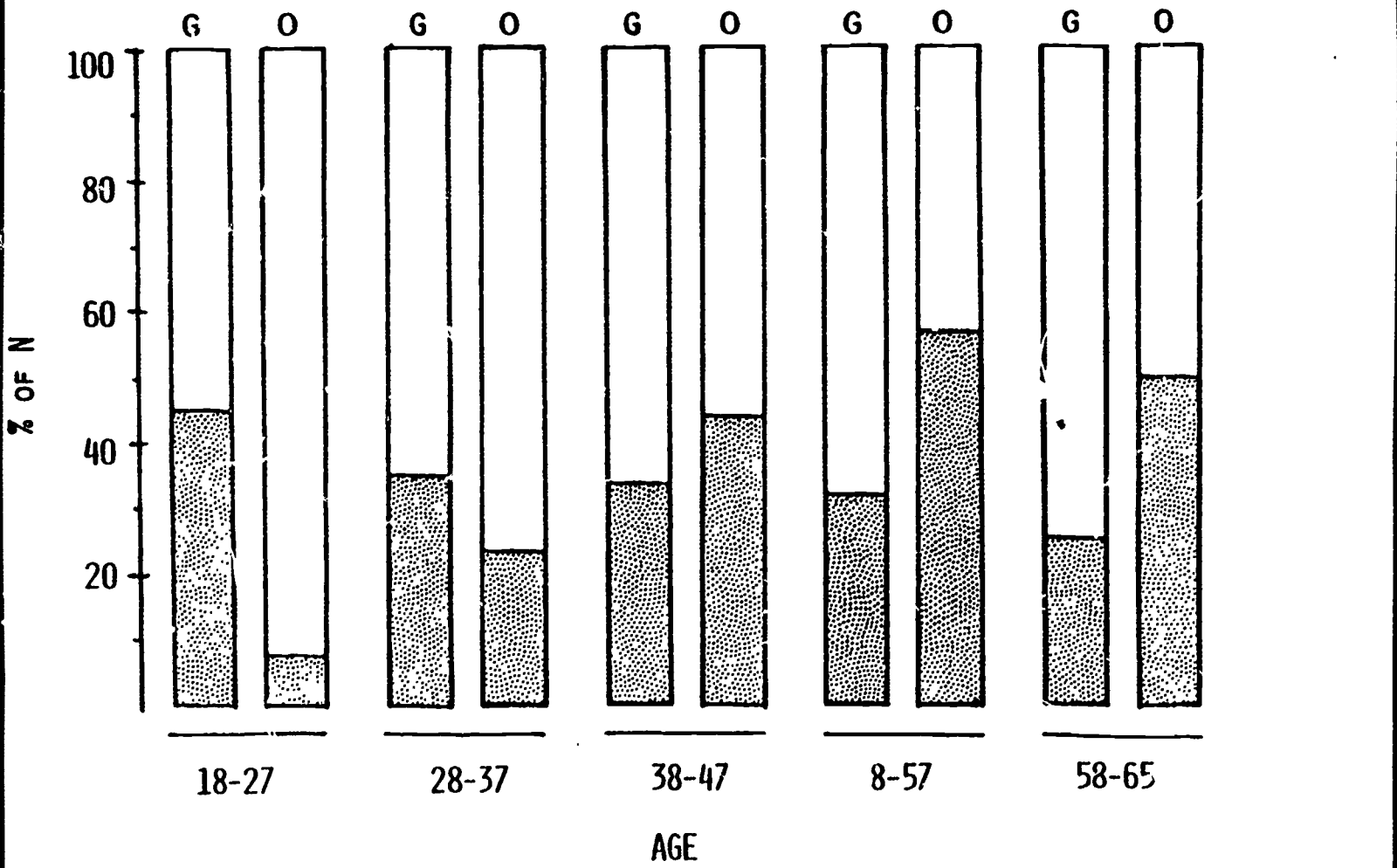
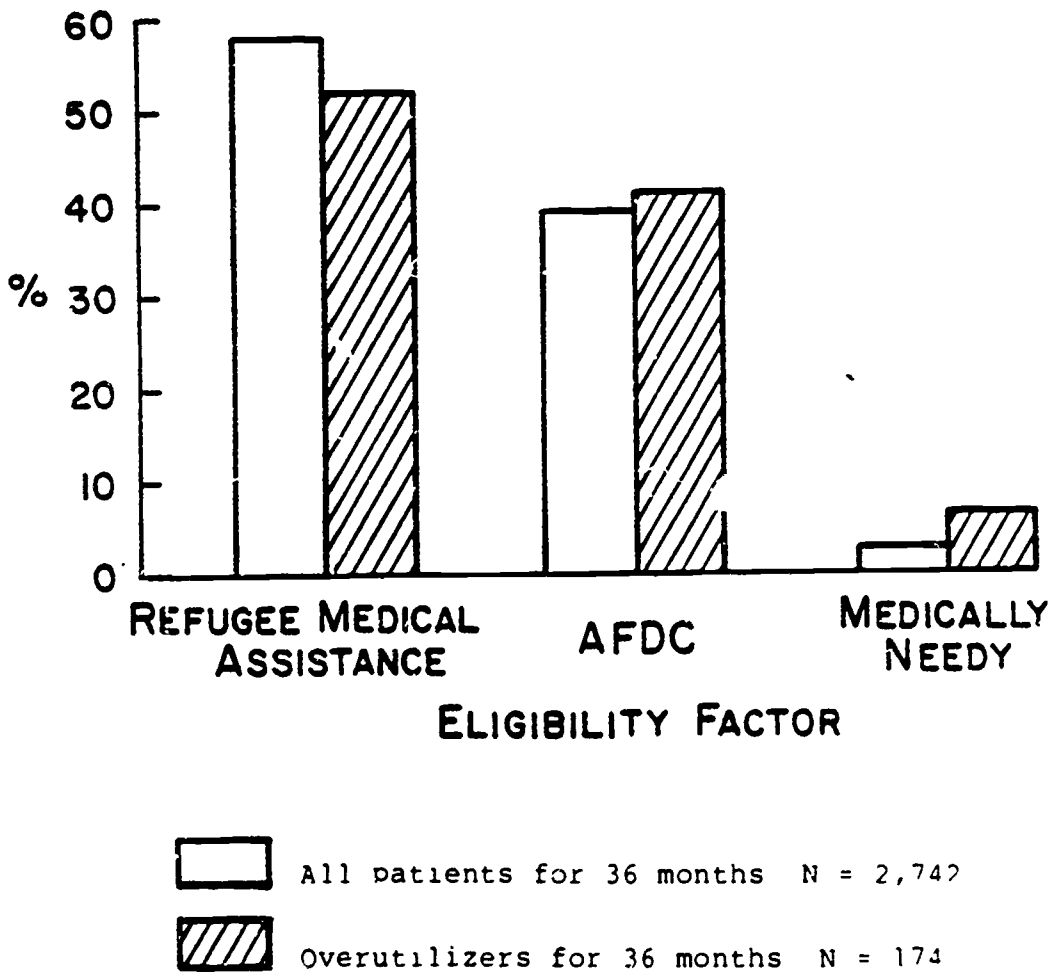


Figure 30

COMPARISON OF ELIGIBILITY FACTOR DISTRIBUTION
BETWEEN GENERAL SEA POPULATION ON PUBLIC ASSISTANCE AND "OVERUTILIZERS"



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