FRONTIER HEALTH CENTERS: FRONT LINE HEALTH CARE

Analysis of Data submitted to
the Bureau of Primary Health Care

a Report by
Frontier Education Center

Ojo Sarco, New Mexico

for the Bureau of Primary Health Care and
the National Rural Health Association

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ABSTRACT

The Bureau of Primary Health Care (BPHC) requires projects receiving BPHC funding or other support to submit an annual data report, the Uniform Data Set (UDS). The UDS report summarizes productivity, financing, health status and population demographics.

The Frontier Education Center was provided UDS data from BPHC for 24 Frontier Health Centers. The centers were identified by the Bureau, using the BPHC 1986 definition of ≤ 6 persons per square mile. The data for the individual centers were aggregated and analyzed. This report is the result of the study.

The analysis was hampered by two deficiencies with the data collected by the Bureau and reported by the Centers. There were a significant number of errors and omissions in the data. One of the most significant problems with the UDS data submitted by the Centers was that the data in the different tables did not relate or reflect data on other tables. For example, in several cases the Centers reported staffing and providing a particular service, but there were no costs associated with the services. In other reports, costs were shown without any staff, users or encounters. While in other examples, costs and staff were shown (ie substance abuse) but very few users with related diagnoses were reported on Table 6.

The greatest value of the data studied is its value as a baseline rather than as a complete description of the current status. Comparison with current and future years will enable the plotting of trends and changes in the frontier health care system.

Despite the problems with the available data, several important findings emerged from the analysis of the UDS data. First, is the tremendous importance of the Frontier Health Centers to the overall, national frontier health care delivery system infrastructure. With only 24 organizations and 118 sites, the Frontier Health Centers provided health care services to 11% of the total frontier population of areas ≤ 6 persons per square mile. Most Frontier Health Centers receive only Community Health Center funding from BPHC and do not receive other BPHC resources.

Fifty-five percent of the users of the Centers were below 150% of poverty. The rate of uninsurance was very high at 37%. The Centers are very dependent on reasonable cost based reimbursement. In the year studied, there was almost no participation in managed care. This situation may have changed and is an area identified as being important for further study.

Probably the most significant accomplishment of the Frontier Health Centers is their excellent outcomes with regard to perinatal care. The fertility rate for Frontier Health Center users is 28% higher than the national fertility rate. The Centers need to improve entrance into prenatal care in the first trimester. Importantly, they have already met and exceeded the goals in Healthy People 2000 for Low Birth Weight and Very Low Birth Weight prevention.

The Frontier Education Center recommends that the Frontier Health Centers receive technical assistance to help them understand the importance of the UDS and the accuracy of data for their own planning purposes. The data in the different tables should be inter-relational.

Further study of several areas is warranted:

- The impact of National Health Service Corps resources and Federally Qualified Health Center (FQHC) "look alikes" in frontier communities.
- The causes of the tremendous variability in costs among the centers.
- The continuing impact of managed care.
- Provider type and productivity compared to the range of services provided by the centers.

1. Background

The Bureau of Primary Health Care is one of the Bureaus within the Health Resources and Services Administration (HRSA), Department of Health and Human Services (DHHS). All programs receiving funding or support from the Bureau of Primary Health Care (BPHC) are required to submit an annual report which summarizes productivity, financing, health status, and population demographics to the Bureau.

This report is usually referred to as the UDS, for Uniform Data Sets. This report replaced the BCRR (Bureau Common Reporting Requirements) beginning with the 1996 reporting year. The BPHC contracted with the Frontier Education Center to aggregate and analyze the UDS data for the Community and Migrant Health Centers which the Bureau has identified as being located in frontier areas. BPHC used the definition they established in 1986, those counties with ≤ 6 persons per square mile, to compile the set of Frontier Health Centers.

Not all of the Frontier Health Centers identified by the Bureau of Primary Health Care had UDS data available on the data base that was provided by the Bureau to the Frontier Education Center.

UDS data was available for a total of 24 organizations which formed the set of Frontier Health Centers. Among them, these Centers operate a total of 118 service sites. Of these 24, only five are single site centers, 11 have two to four sites, four have six to seven sites, and four are large systems of 10 to 19 sites each (Chart 1). For the purpose of this report, each of the 24 organizations will be referred to as a frontier center, whether single site or multi-site.

BPHC transferred the UDS data from these sites to the Frontier Education Center on disk in February and March of 1998. Upon receipt of this very large data base, the Frontier Education Center prepared aggregate tables for each of the elements of the UDS reports. Many of these tables were incorporated into a series of graphs and charts to facilitate further analysis. A total of 51 tables consisting of the complete aggregate data are found in the Appendix of this report. The report begins with some general observations on the UDS data.

2. Overall Observations on the UDS Data Received from BPHC-Identified Frontier Sites

The most significant overall finding that emerged during the analysis of the data is the tremendous importance of the Frontier Health Center to the overall, national frontier health care delivery system infrastructure.

For this study, BPHC identified the centers as frontier using the ≤ 6 persons per square mile criterion it adopted in 1986. Nationally the total population of frontier areas, using less than six persons per square mile, is 2,385,319. Frontier Health Centers served 252,058 users in 1996 - **nearly 11% of this total population** - despite having only 118 service delivery sites in this vast area, 50% of the total land area of the United States.

When further study looking at National Health Service Corps sites has been completed, BPHC will likely prove to be the most important, single provider of health care services in the frontier United States. This should facilitate policy changes to increase federal resources in frontier communities.

Clinica Sierra Vista - Outlier in the Database

Clinica Sierra Vista is based in Lamont, California. This center was included in the data base received from BPHC and most of its sites and services are provided in very frontier communities. However, the location of two service delivery sites in Bakersfield, a city of more than 110,000 people, skews not only their data, but also some of the comparative, aggregated data. This was adjusted whenever possible by looking at percentages rather than total number.

There are four immediate observations that relate to the overall validity of this report.

- Accuracy of Data Supplied by Centers

  The 1996 UDS data base was one of the first full reporting years using the version of the report revised 10/95.There were a significant number of errors and omissions in the data provided by BPHC to the Frontier Education Center. **This becomes a *caveat* to the reader; the greatest value of the 1996 data is to create a baseline for plotting trends rather than as a definitive description of the current status of the Frontier Centers.** The Frontier Education Centers assumes that the most recent UDS is more accurately completed and that future reports will continue to improve as the centers adapt to the new reporting requirements.

  One of the most significant problems with the UDS data submitted by the Centers was that the data in the different tables did not relate or reflect data on other tables. For example, in several cases the Centers reported staffing and providing a particular service, but there were no costs associated with the services. In others reports, costs were shown without any staff, users or encounters.

  In other examples, costs and staff were shown (ie substance abuse) but very few diagnoses were reported on Table 6.

- Frontier Migrant Centers Are Different From Other Frontier Centers

  Nationally, migrant centers are quite different from other Community Health Centers. This observation holds with frontier migrant centers, as well. Migrant centers serve a very different population, with a significantly different age and health status of the patient population.

- Multi-site and Very Large Centers Are Different From Other Frontier Centers

  The multi-site centers which serve a very large number of total users, are most difficult to analyze. Many of these systems prepare a consolidated UDS for all of their sites. This blends more urban and large community data into the consolidated report. To improve future data assessment of Frontier Health Centers, it is recommended that the multi-site systems submit individual frontier site-specific data as well as the consolidated report. This should not create a burden on the sites because they are already collecting the relevant data to submit in the consolidated report.

- Inadequate Data Collection for Bureau Six Priority Health Indicators

  In May of 1998, the Frontier Education Center was informed that the BPHC had identified six priority health indicators: cancer, heart disease, diabetes, HIV/AIDS, immunizations, and infant mortality. The Frontier Education Center attempted to analyze the incidence and prevalence of these six indicators through the UDS report.

  The UDS report was inadequate to the task; particularly with regard to cancer. No specific cancer data was collected. Abnormal Breast Findings, Female (ICD-9-CM 174.xx; 198.81; 233.Ox; 793) and Abnormal Cervical Findings (ICD-9-CM 180.xx; 198.82; 233.1x; 795.Ox) can only work as weak surrogates of some cancer-related data collection. Not all findings within these diagnosis codes are actually cancer and no information about any other cancers is collected.

Heart Disease appeared to be under-reported for the high risk population served by Frontier Health Centers until the Hypertension ICD-9 codes (ICD-9-CM 401.xx - 405.xx) were added in to the category.

3. Organization of the Report

This report is organized in two sections. All of the basic aggregate data is available in the 51 tables of the Appendix. This allows the reader to refer to all of the original data as it was provided by BPHC.

The body of the report is divided into chapters. Each Table of the UDS has become a chapter which contains the analysis of the aggregate data as well as explanatory charts and tables. Several of the tables were able to be organized into charts which clearly demonstrate the data. In other cases, the data was so incomplete that a comparative analysis was very difficult.

4. The Eight UDS Tables

The following section of this report introduces each of the tables in the UDS and comments on relevant findings.

a.) TABLE 1 - BPHC Resources Received

Table 1 provides information on which BPHC resources are received by the Frontier Health Centers. All of the Centers, with the exception of Northwest Community Action in Worland, Wyoming, receive Community Health Care funding. The only BPHC resource received by Northwest Community Action is Migrant Health funding.

Only one other BPHC program is widely accessed by the Frontier Centers and that is the National Health Service Corps (NHSC). Fourteen centers (58%) have NHSC resources.

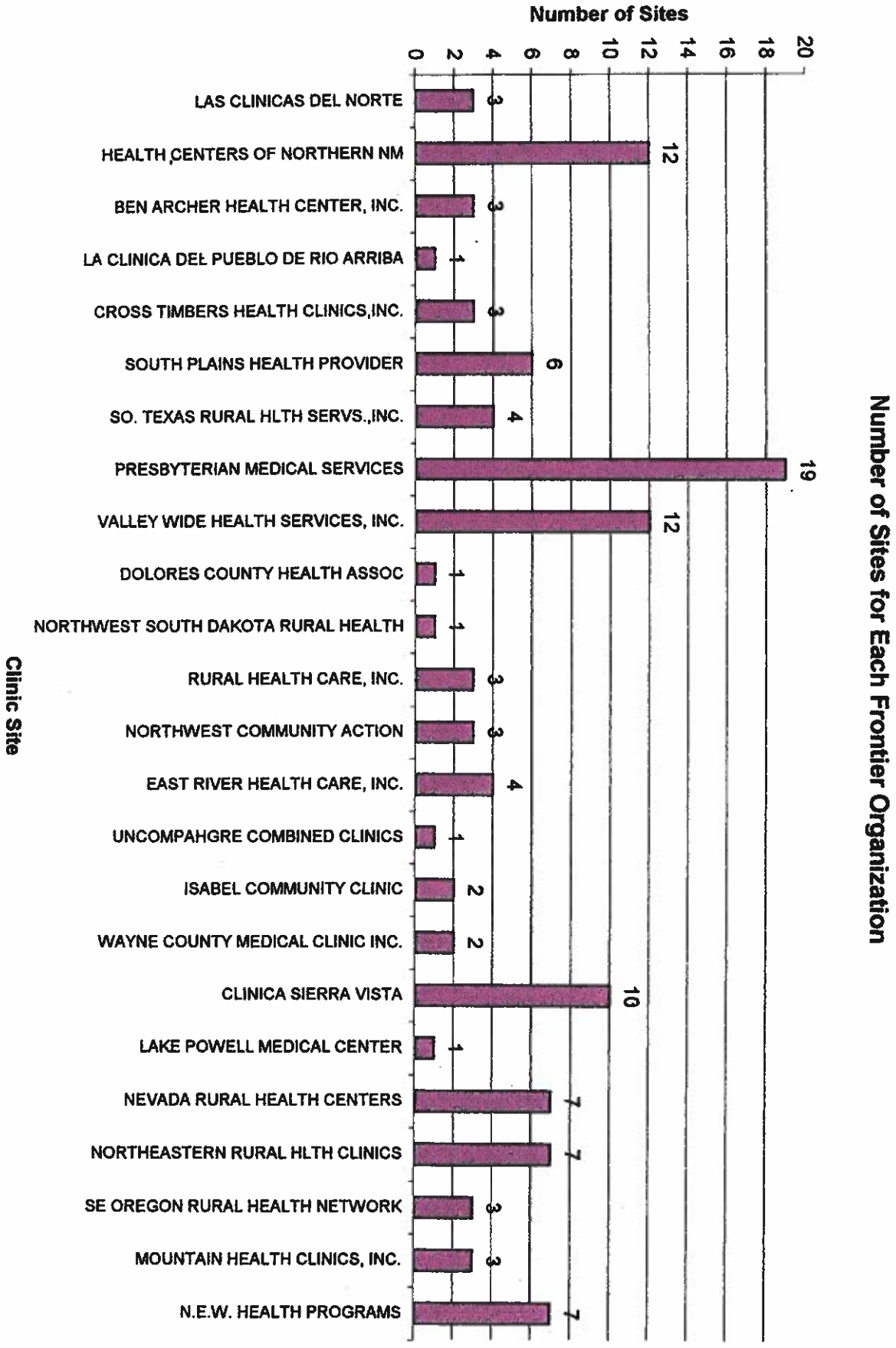
Only a small number of the Frontier Health Centers have qualified for or accessed other BPHC resources. Some of these resources, such as programs serving homeless populations, public housing residents, and HIV Early Intervention programs are more usually directed to urban locations.

Clinica Sierra Vista is unique among the Frontier Centers in receiving funding from the greatest number of BPHC programs. In addition to Community and Migrant funding, it also receives support from the Comprehensive Perinatal Care Program, Healthcare for the Homeless (section 340), Special Infant Mortality Reduction Initiative, Healthy Schools Healthy Communities, and Ryan White Title IIIb HIV Early Intervention. Clinica Sierra Vista is also one of the largest systems, having 10 service delivery sites and more than 55,000 users, or nearly 22% of the total users for all of the Frontier Centers studied.

Only four (1.6%) of the Centers receive Comprehensive Perinatal Care Program funds; two centers (.08%) receive Health Care for the Homeless funds, and as stated above, only one center (.04%), Clinica Sierra Vista, receives the Special Infant Mortality Reduction Initiative, Healthy Schools Healthy Communities, and Ryan White Title IIIb HIV Early Intervention.

Valley Wide Health Services of Alamosa, Colorado receives "Other BPHC support" although the specific type of support is unidentified on their UDS report.

Chart 1 - Center/Grantee Profile



Percentage of Frontier Sites Receiving BPHC Funding by Type

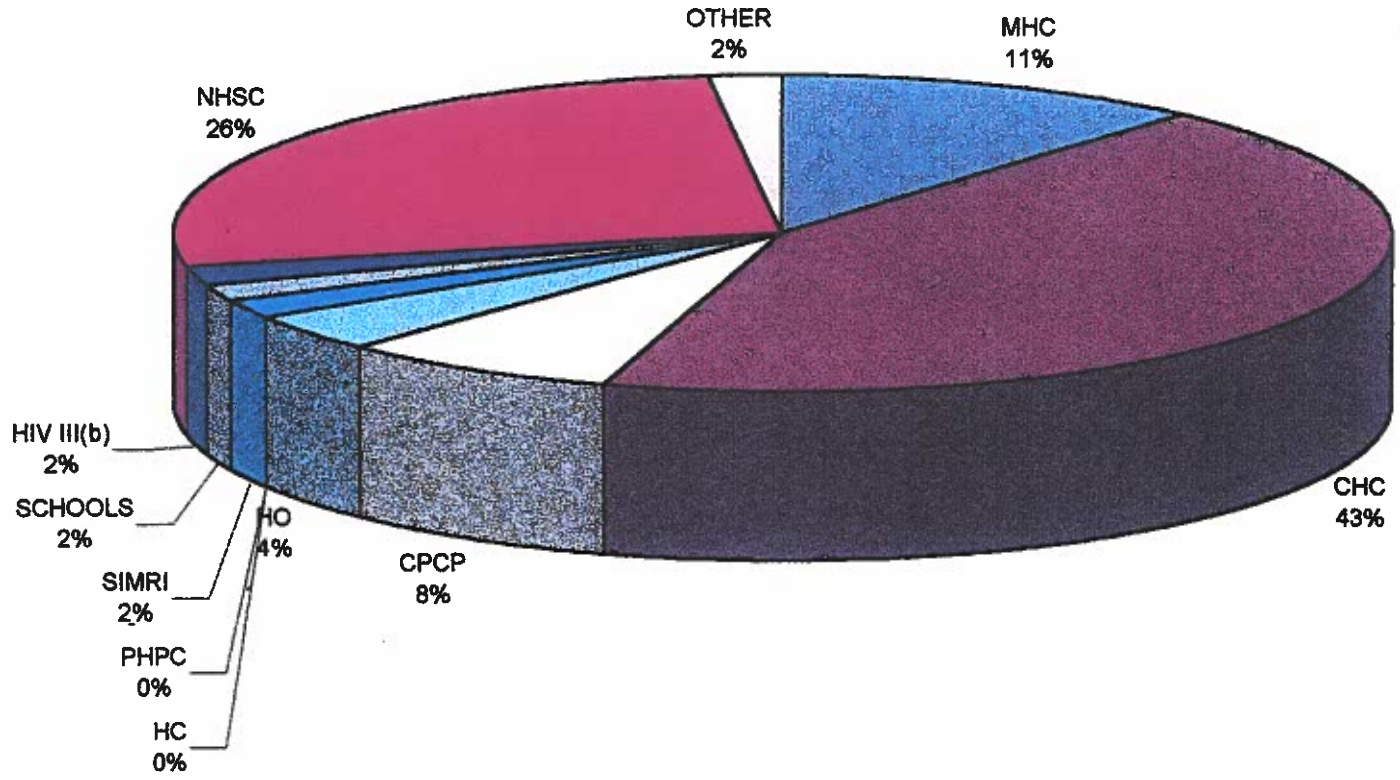


Chart 2 - Table 1

b.) TABLE 2 - Services Offered and Delivery Method

The data in Table 2 reports 53 different services provided by the Centers and the delivery methods of each of those services. These include primary medical services, obstetrical and gynecological care, specialty medical care, dental care services, mental health and substance abuse services, other professional services (i.e. nutritional, pharmacy), and enabling services (i.e. transportation, childcare).

Chart 3 of Table 2 looks at a select group of services under primary medical services and shows a majority of sites providing urgent, emergency, and after-hours services. However, without defined parameters to delineate the scope of these services, it is difficult to clearly assess and compare the actual care that is available among the different sites.

Gynecological and prenatal care (Chart 4) are available at a majority of sites (83%), and three-quarters of deliveries at those sites are referred out. Screening services which are routine for pregnancies in women ≥ 35 years and in higher-risk pregnancies, such as ultrasound, genetic counseling and testing, and amniocentesis, are largely unavailable except through referral with the patient responsible for the payment.

All but one center reports providing some level of dental care, as indicated on Table 2 (Chart 5). While 22 sites report providing preventive dental services, nearly one-third of those sites provide care by referral only, 86% of which is paid for by the patient. Restorative care is available on-site at 10 centers. Fifty percent of centers refer out and do not pay for restorative care. Emergency dental care is available at 13 sites, with 29% of care referred and paid for by the patient.

Mental health and substance abuse services are only available at a minority of centers, despite the great need for these services (Charts 6 - 7). Less than one-third of centers provide mental health treatment and counseling on-site, and of the 17 sites that provide these services by referral, 71% of those referrals are paid for by the patient. Twenty-five percent of centers provide substance abuse counseling and treatment, and 95% of this care is referred out and paid by the patient. This may explain the notably low number of encounters in Table 6 which reflect diagnoses of Alcohol Dependence (ICD-9-CM Code: 303.xx; 291.xx; 357.5x) and Drug Dependence ((ICD-9-CM Code: 304xx: 292.xx: 648.3x; 357.6x).

Table 3 (below) demonstrates differences in utilization by gender, with women of childbearing age utilizing services at a greater level than men. However, enabling services (Table 2) which support women's access to health care (childcare during visit to the center, transportation) are rarely provided by the centers. Additionally, WIC (Women, Infants, and Children Nutrition Program) services which are central to maternal and child health promotion, are available at only one-third of Centers. However, as the discussion of Table 7 indicates, 64% of all pregnant users are enrolled in WIC, suggesting that when WIC services are available, they are utilized by a majority of eligible clients. It suggests also that WIC services are available and accessible through other providers in these communities.

Percentage of Frontier Sites That Provide Selected Primary Medical Care Services

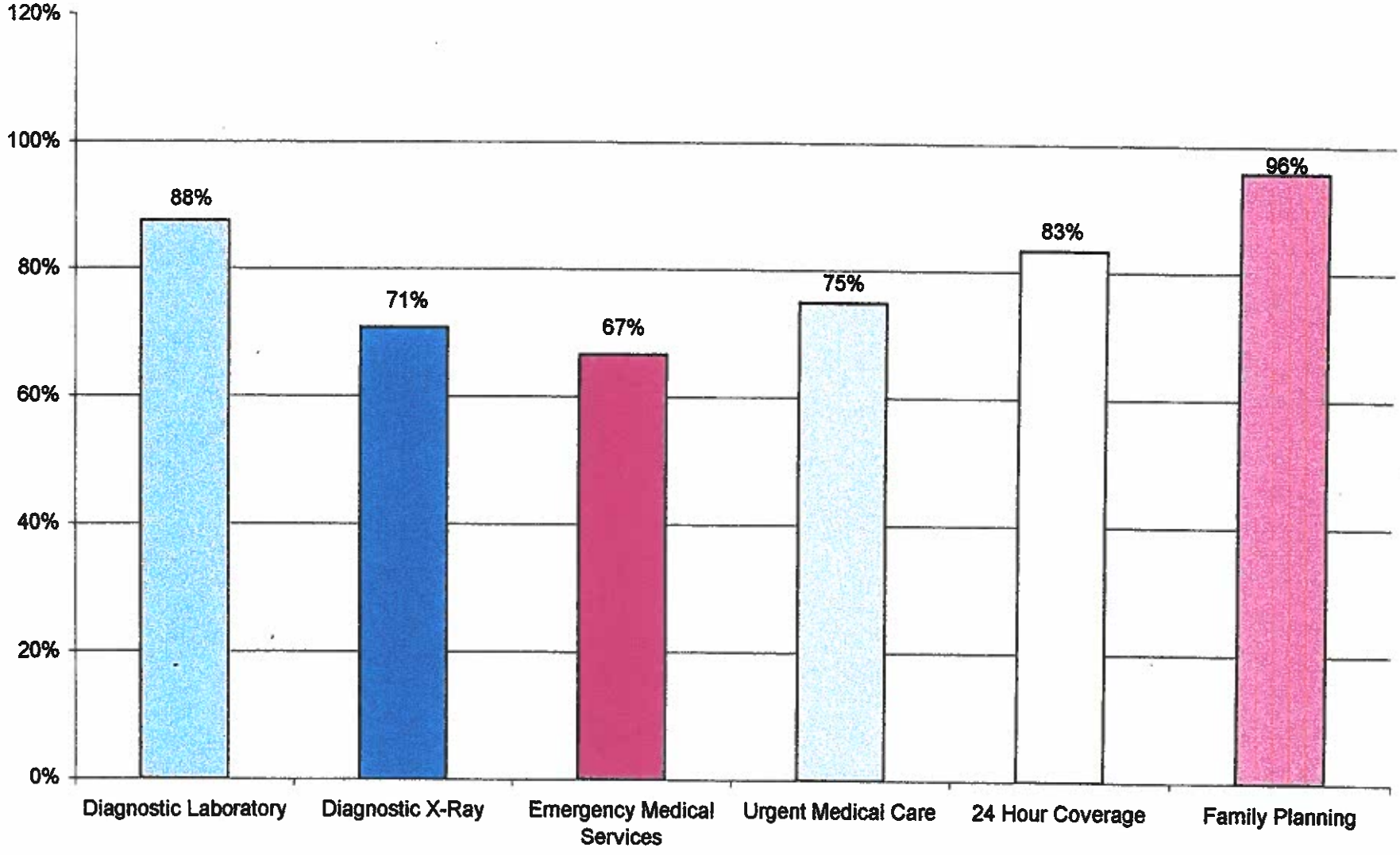


Chart 3 - Table 2 (Lines 2,3, 5-8)

Percentage of Frontier Sites That Provide Obstetrical and Gynecological Care

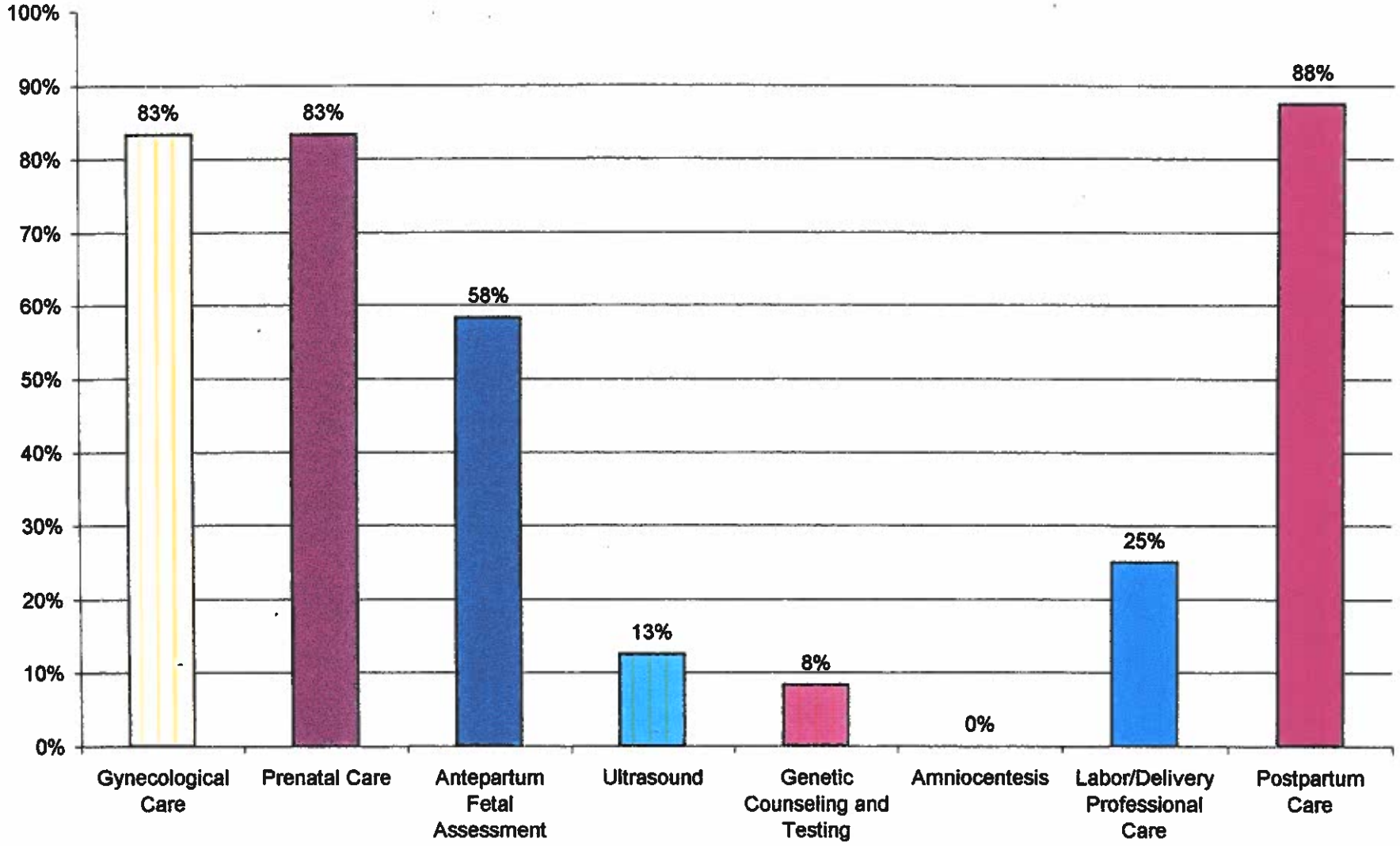


Chart 4 - Table 2 (Lines 12-19)

Percentage of Frontier Sites That Provide Mental Health/Substance Abuse Services
A=Provided by Grantee
B=By Referral/Grantee Pays
C=By Referral/Grantee Doesn't Pay

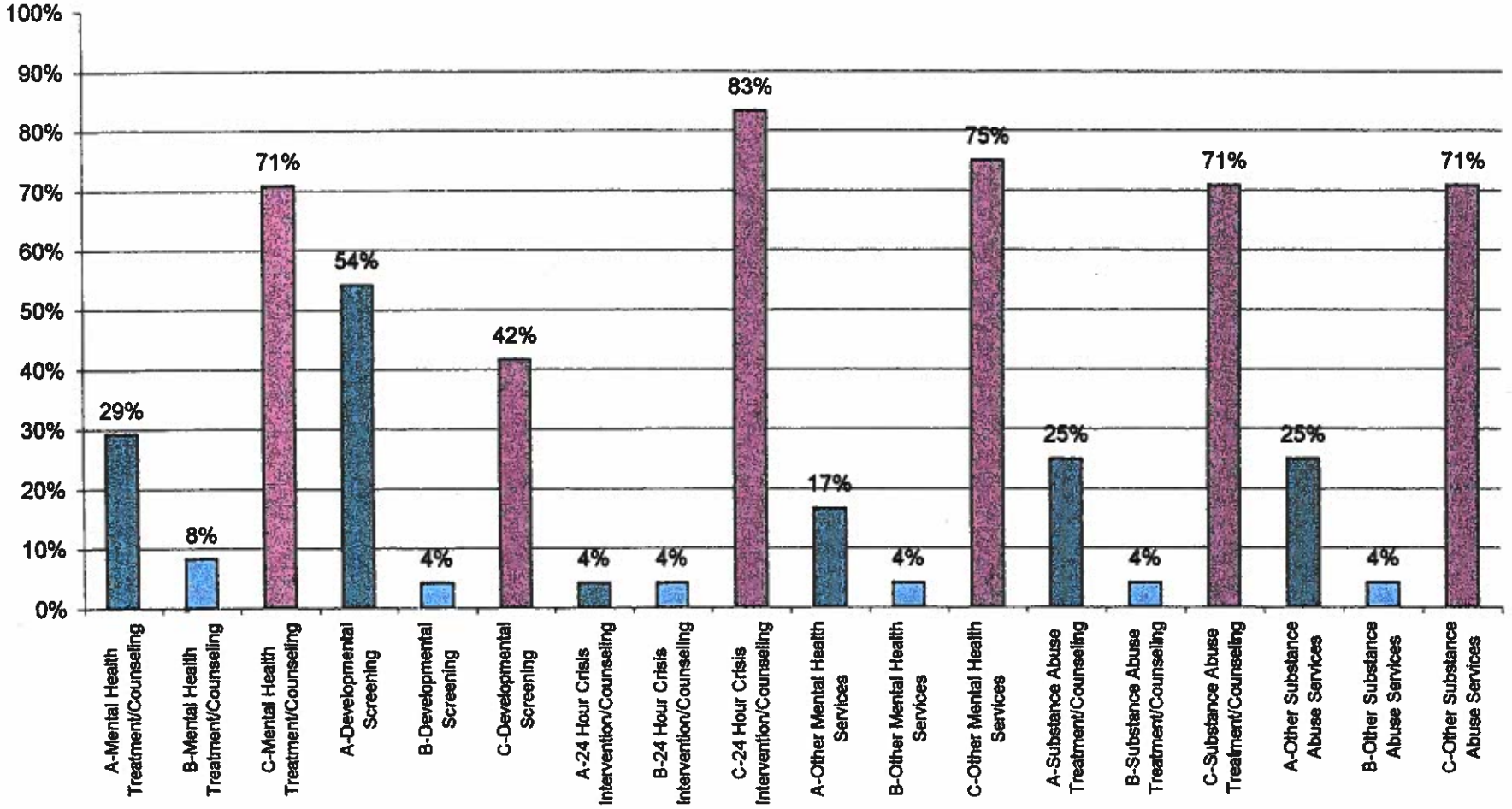
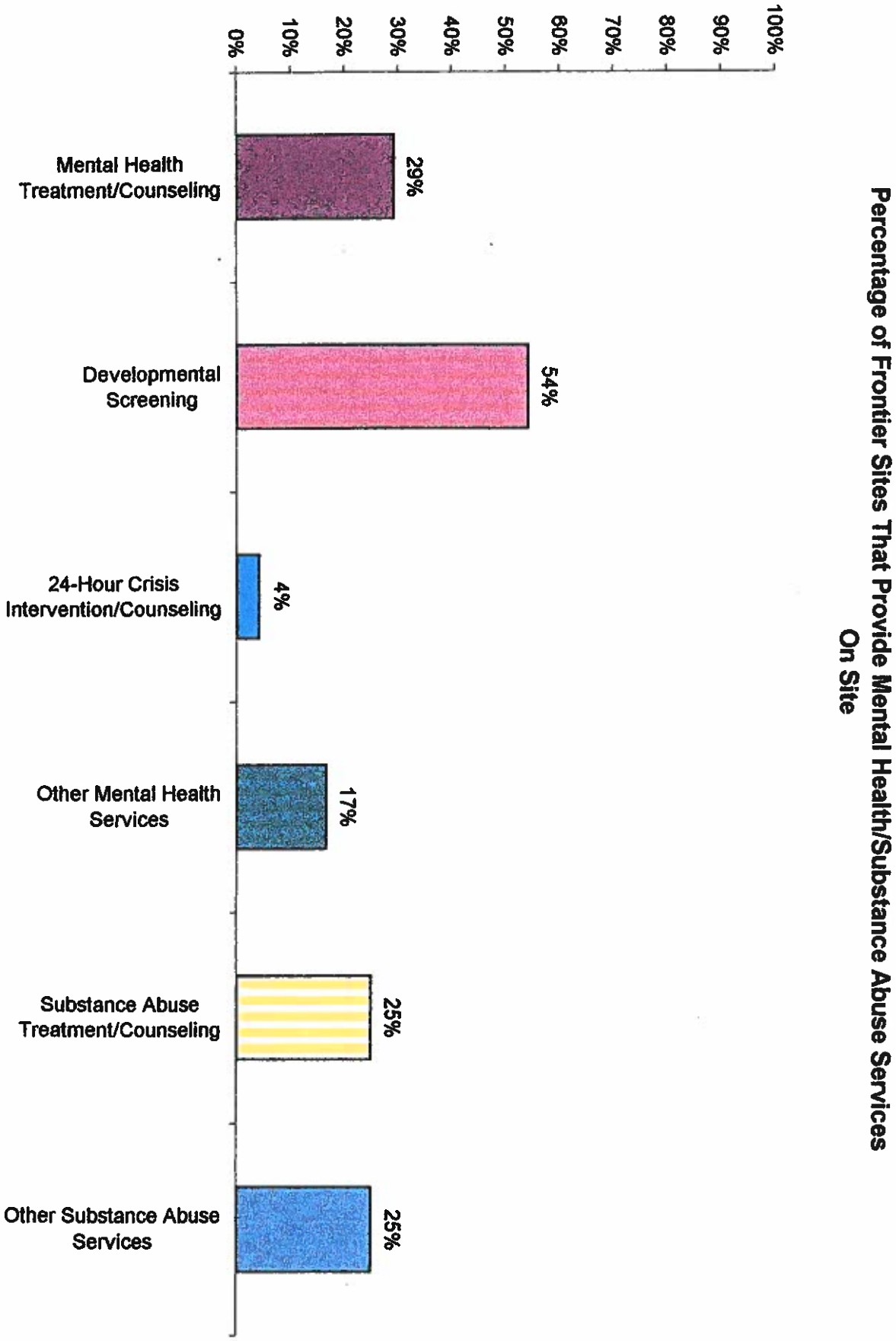


Chart 7 - Table 2 (Lines 25-30)

Chart 6 - Table 6 (Lines 25-30)



Percentage of Frontier Sites That Provide Dental Care Services
A = Provided by Grantee
B = By Referral/Grantee Pays
C = By Referral Grantee Doesn't Pay

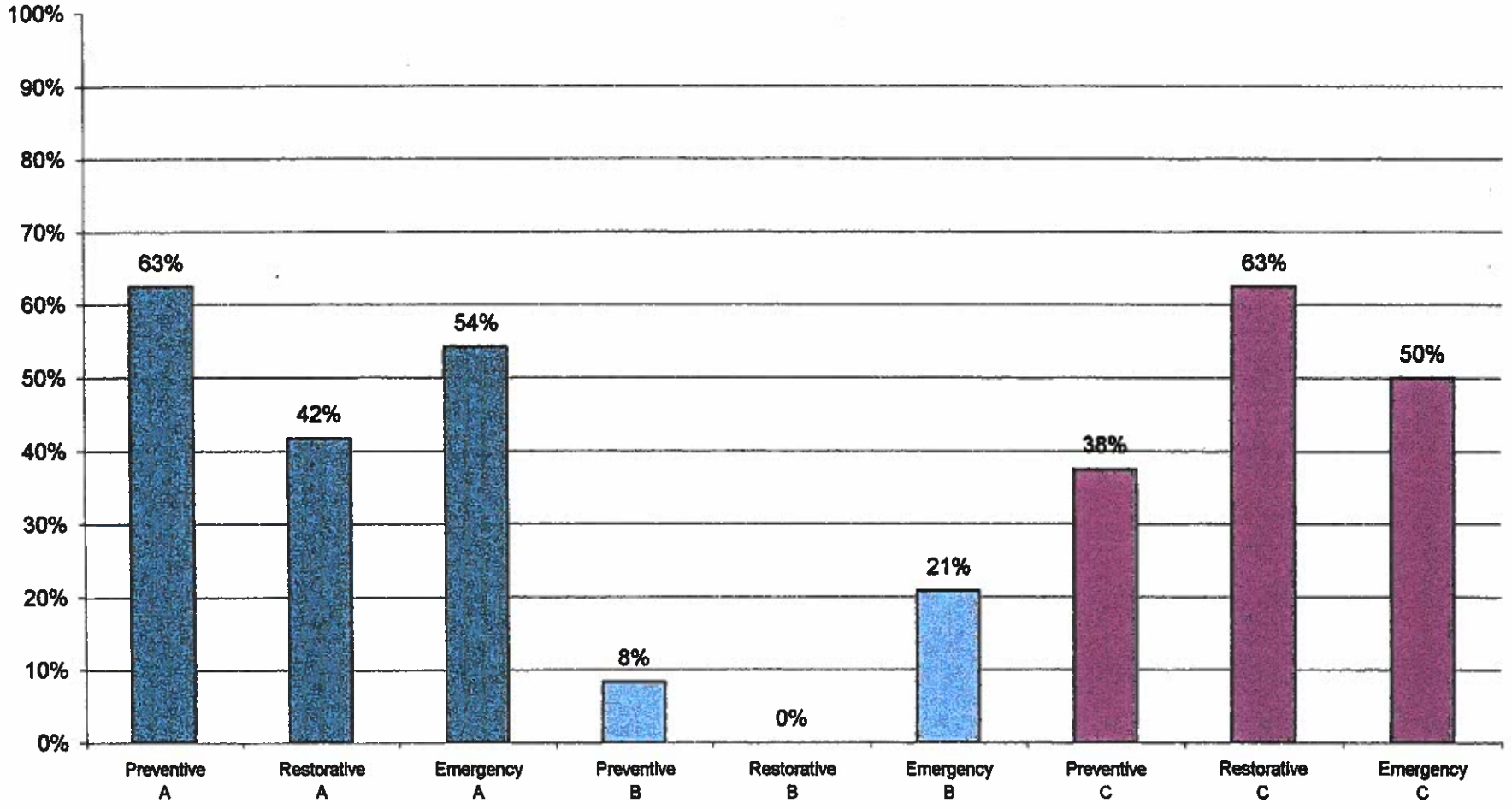


Chart 5 - Table 2 (Lines 22-24)

c.) TABLE 3

The data in Table 3 have fewer elements than most of the other tables which facilitates the analysis and manipulation of the data. The charts clearly show the breakdown of the user population by age, sex, and ethnicity.

Part A - Users by Age and Gender

The graph illustrating user population by age and sex (Chart 8) clearly documents a pattern of similar use of health services among children of both sexes which diverges into a tremendous difference between men and women beginning with the 15 - 19 age group. The greatest difference is found in the 20 - 24 year old age group where women users outnumber men by more than 200%.

User data by age and gender has been charted to illustrate several points (Chart 9). The percentages of elderly (>65 years old) and school age (5 - 19 years old) patients have been looked at and compared. Migrant clinics and those operating school-based services have the highest percentage of 5 - 19 year olds. The two frontier clinics with the largest percentages of elderly users are both located in South Dakota. Rural Health Care in Pierre, SD has an elderly population of 20.2% and at East River Health Care in Howard, SD, it is 25.6%. This corroborates census projections about the aging of the Great Plains population.

Women's greater use of health care services compared to men occurs primarily in the childbearing years of 15 - 44 years old. Additionally, the recommendation that women have at least an annual exam for early detection of cervical cancer assures more visits by women. The gap between men and women closes from 45 - 84 years, and increases again in the >85 age group. This reflects the fact that, overall, women live longer than men, and that the total population of women in this age group is larger than the population of men.

Part B - Users by Race/Ethnicity/Language

The patient population of the Frontier Health Centers appears to mirror the population of the overall community where the center is located. This is shown in the user data by race and ethnicity (Chart 10). All frontier centers serve white (not hispanic) users, although for Northwest Community Action in Wyoming, a migrant clinic, only 1% of the users were white.

Two centers reported 100% white users, seven were 90 - 99% white. Hispanic (all races) users were the next group most frequently seen at frontier centers. Eight of the centers reported 60 - 94% hispanic users. American Indian/Alaska Native was the only other significant user population, ranging from a high of 51% of the users at the Lake Powell Medical Center in Arizona, to 35% at Isabel Community Clinic in South Dakota, 22% at Presbyterian Medical Services in New Mexico, and 11% at South East Oregon Rural Health Network in Oregon. Fourteen other centers serve American Indian/Alaska Native users, ranging from 9% to 1% of total users.

There appears a need for clarification of the Users Needing Interpretive Services item in the UDS report. There is a tremendous variability in the responses, even among centers serving similar ethnic and racial populations. Centers with migrant health funding and/or those located close to the U.S. Mexico border indicate the highest use of interpretive services.

Percentage of Total Users by Age Range and Gender

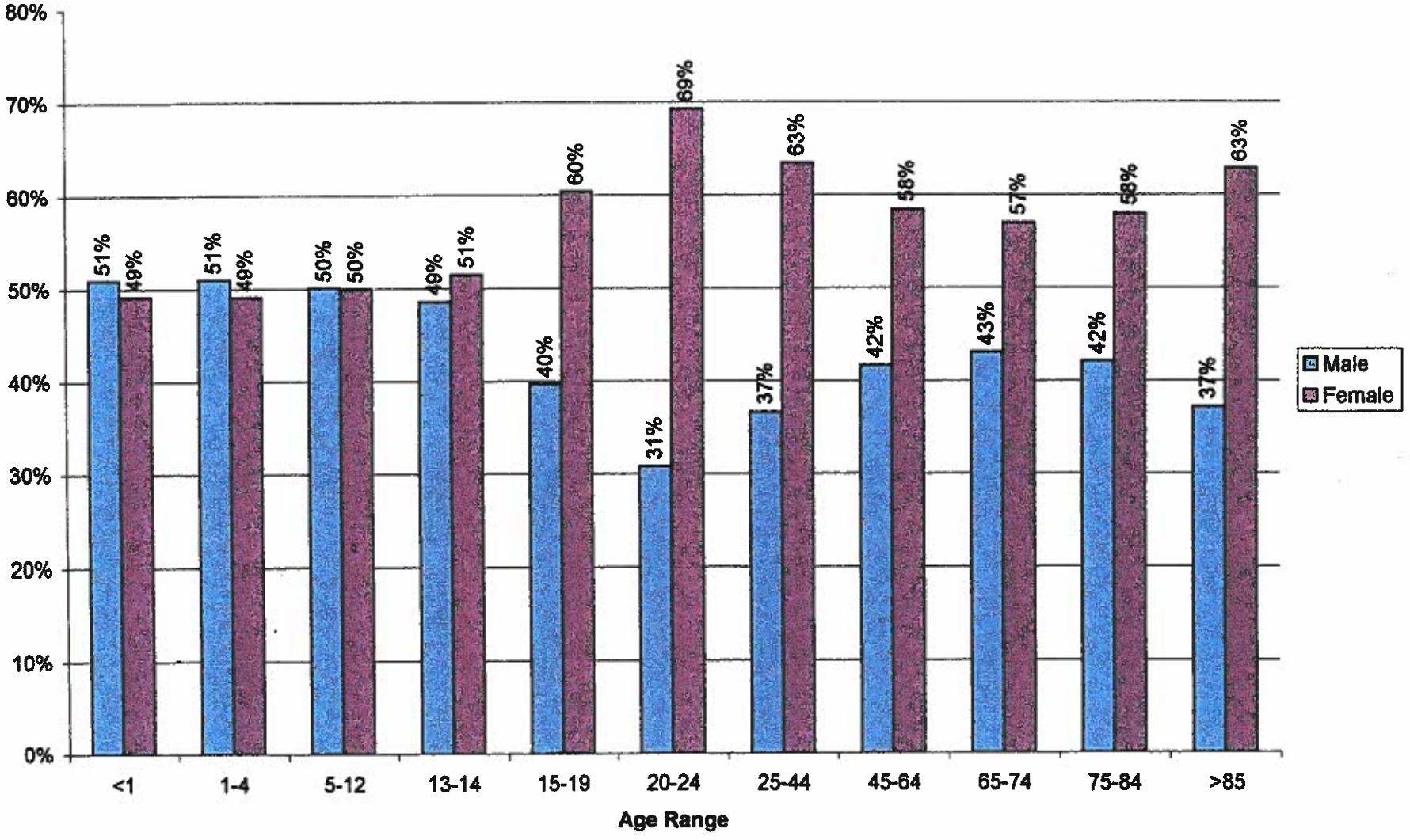


Chart 8 - Table 3 Part A

Chart 9 - Table 3 Part A (Lines 5, 9-11)

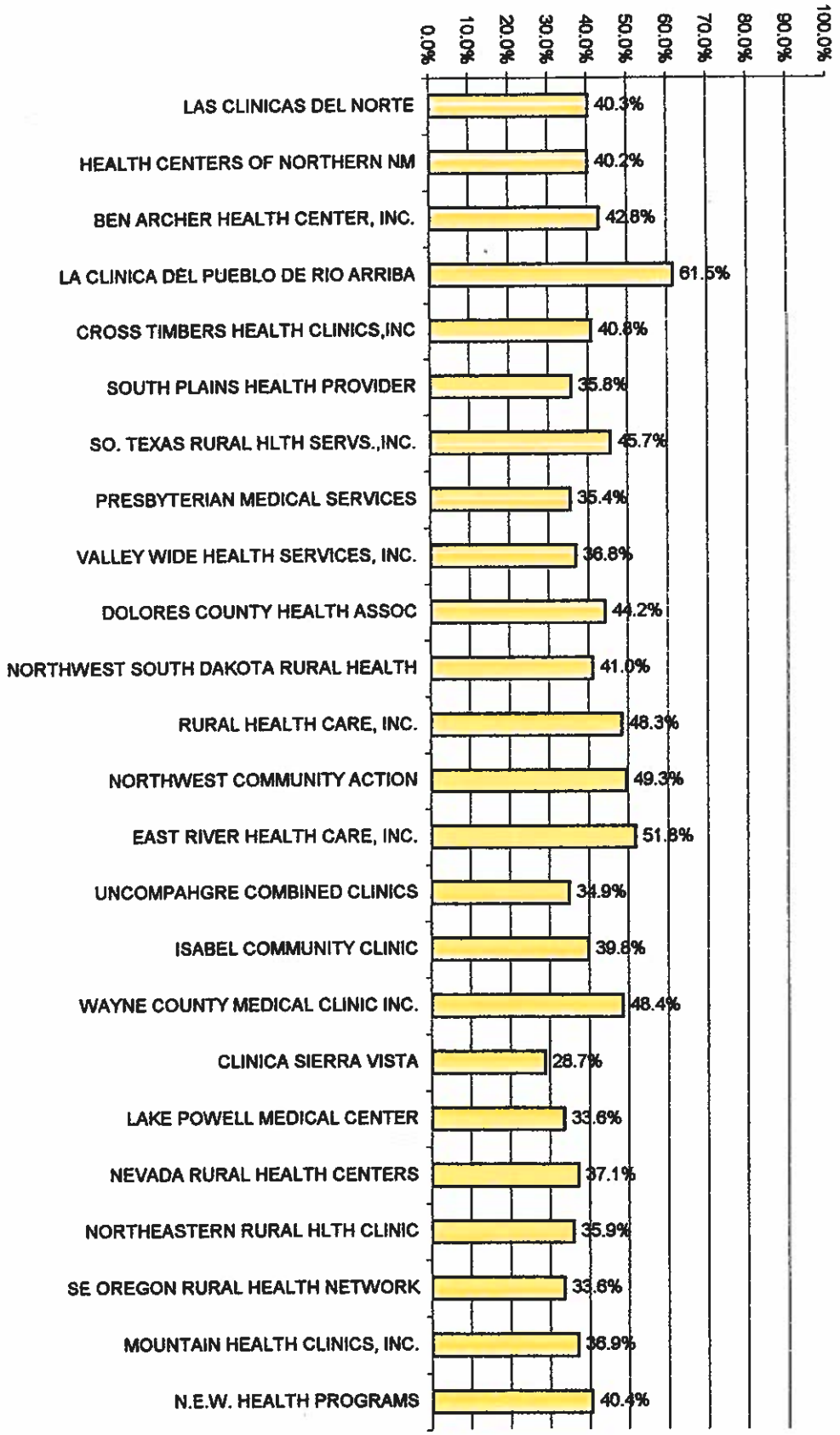
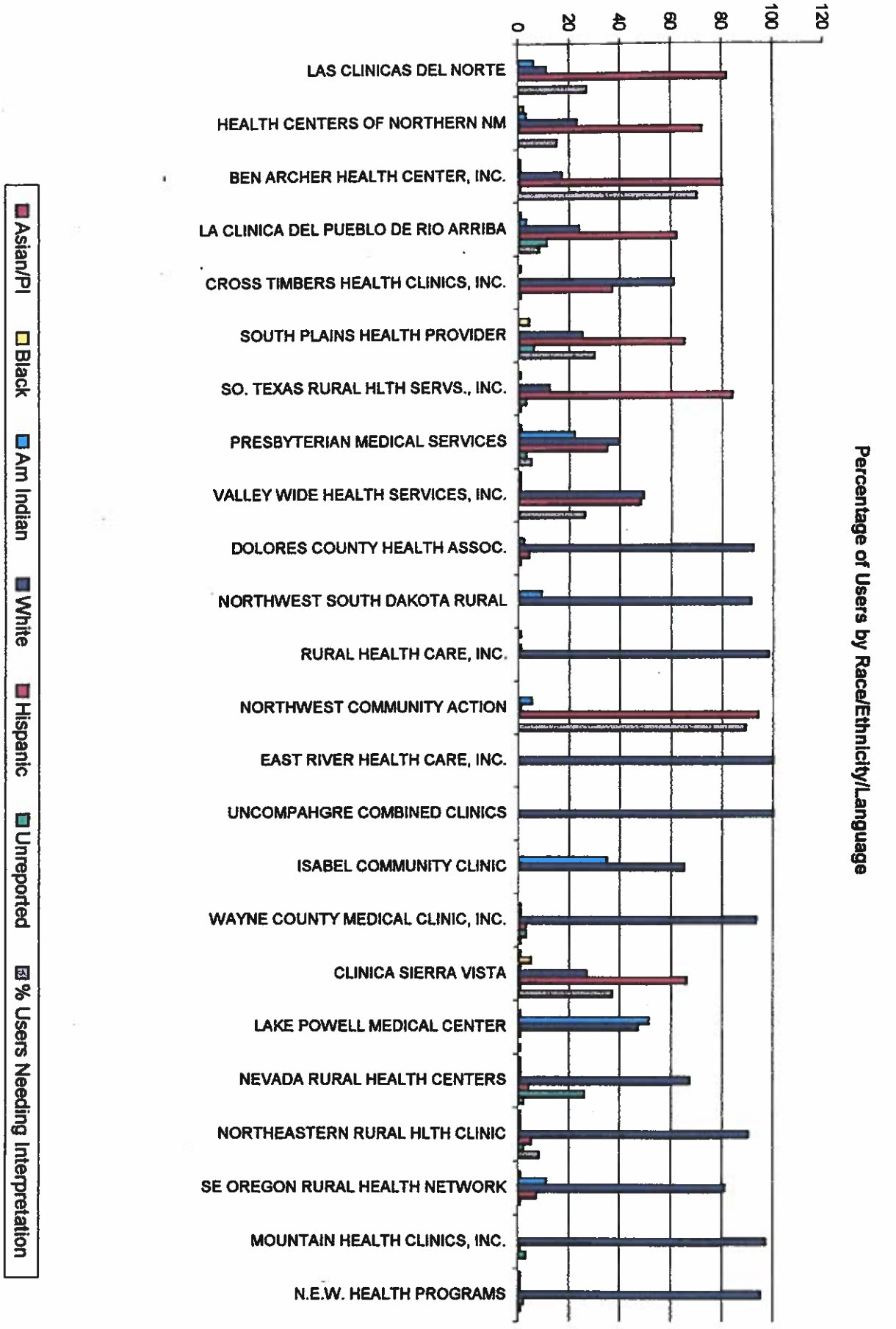


Chart 10 - Table 3 Part B



d.) TABLE 4 - Socioeconomic Characteristics

The aggregate data for the Frontier Health Centers indicate clearly that they provide care to a low income, uninsured patient population. Forty-four percent of the users are at or below the poverty level. Adding in the group at 101 - 150% of poverty (11% of total users), increases the user percentage near or at poverty to 55% (Chart 11).

However, because Frontier Health Centers often are the only health care provider in their service area, they usually serve the whole population, not just low income people. This is shown by the 22% of users who are above 200% of poverty and the 20% of users who have private insurance.

- High Rate of Uninsurance

  Chart 12 illustrating the Principal Third Party Payment Source is significant in the very large number of users with no payer source - the uninsured. The aggregate rate of uninsurance for the Frontier Centers at 37% is higher than the highest rate of any state. In New Mexico with more than 30% uninsured, the state with the highest rate of uninsurance in the United States, the Frontier Health Centers report user uninsurance rates between 60 and 75%. Advocates have presented, anecdotally, a series of hypotheses for the high rates of uninsurance in frontier areas: high self-employment, seasonal and part time employment, absence of large employers, and the inability of small employers to provide benefits. Each of the suggested causes translate into the inability of individuals and families in frontier communities to affordably purchase health insurance.

  The identification of the actual causes of the high rates of uninsurance in frontier communities deserves further study.

  As the income level increases for Medicaid and as the State Children's Health Insurance Plans (SCHIP) are implemented, rates of third party coverage should increase.

- Dependence on Reasonable Cost Based Reimbursement

  With 36% of all users covered by Medicaid (27%) and Medicare (9%), and 37% of all users uninsured, these Frontier Centers are very dependent on reasonable cost based reimbursement. The Centers are also likely to remain dependent on cost based reimbursement well into the future. The current Congressionally-mandated phase out of the Federally Qualified Health Center program (FQHC) will threaten the ability of Frontier Health Centers to continue to provide services unless the lost revenue is replaced with additional grant funds. One policy option is to establish a waiver of the FQHC phase out for FQHC-dependent Frontier Health Centers.

Percentage of Total Users at Reported Poverty Levels

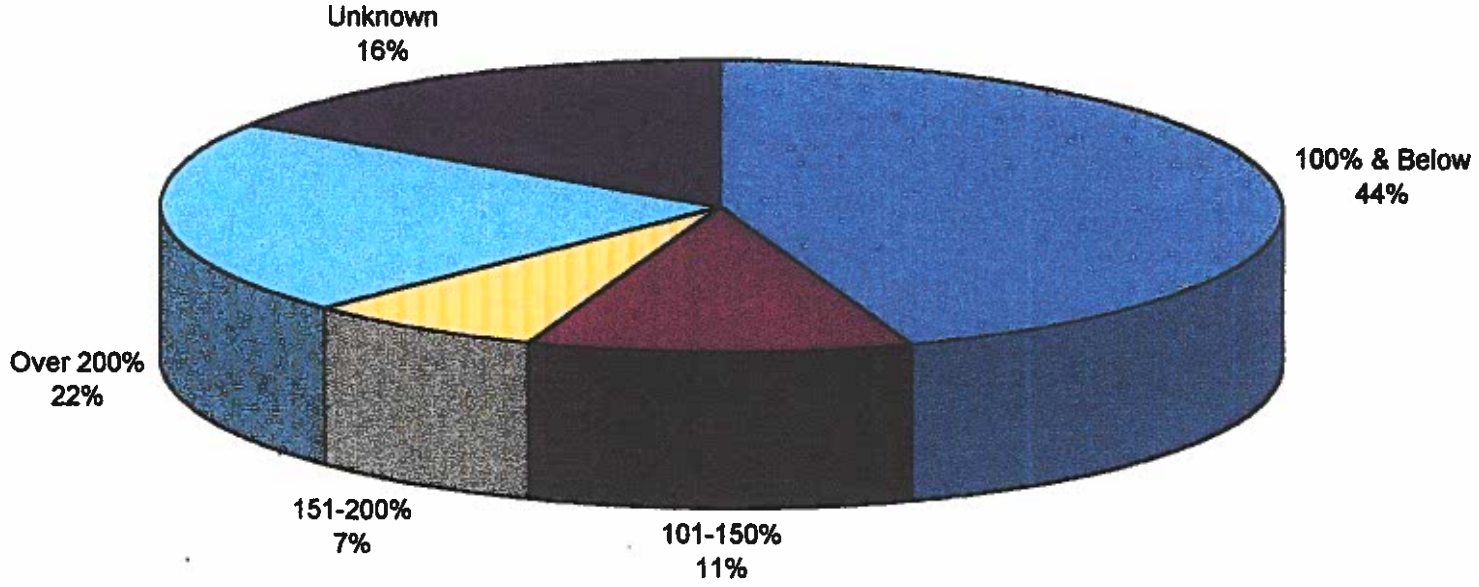


Chart 11 - Table 4 (Lines 1-6)

Principal Third Party Payment Source

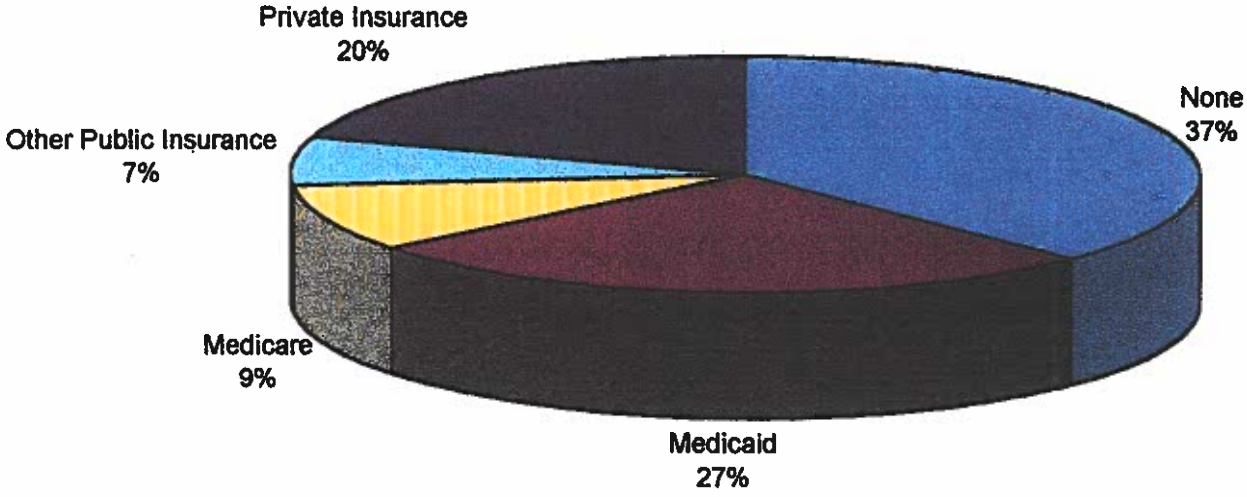


Chart 12 - Table 4 (Lines 7-12)

Percentage of Providers by Type All Sites

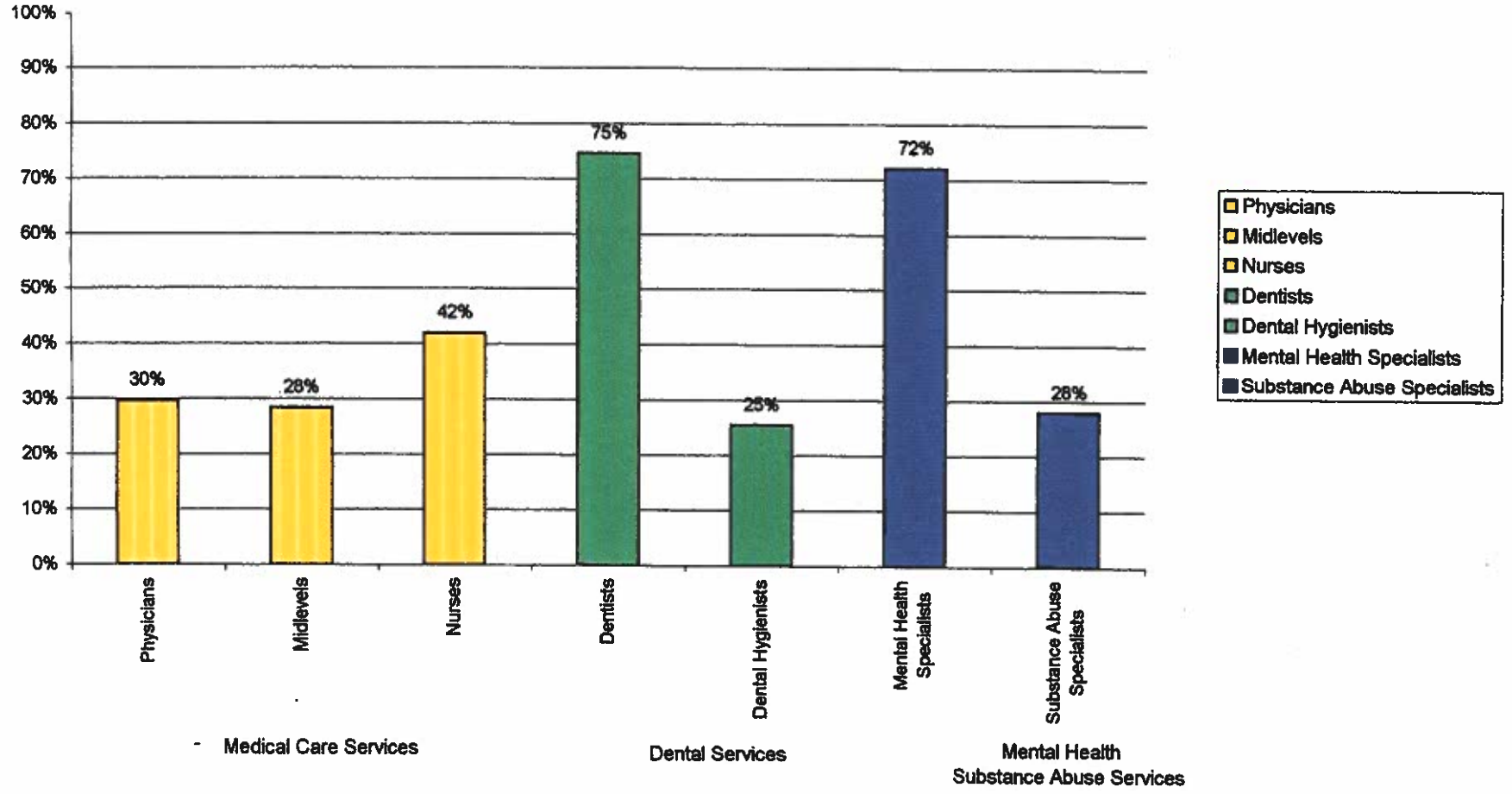
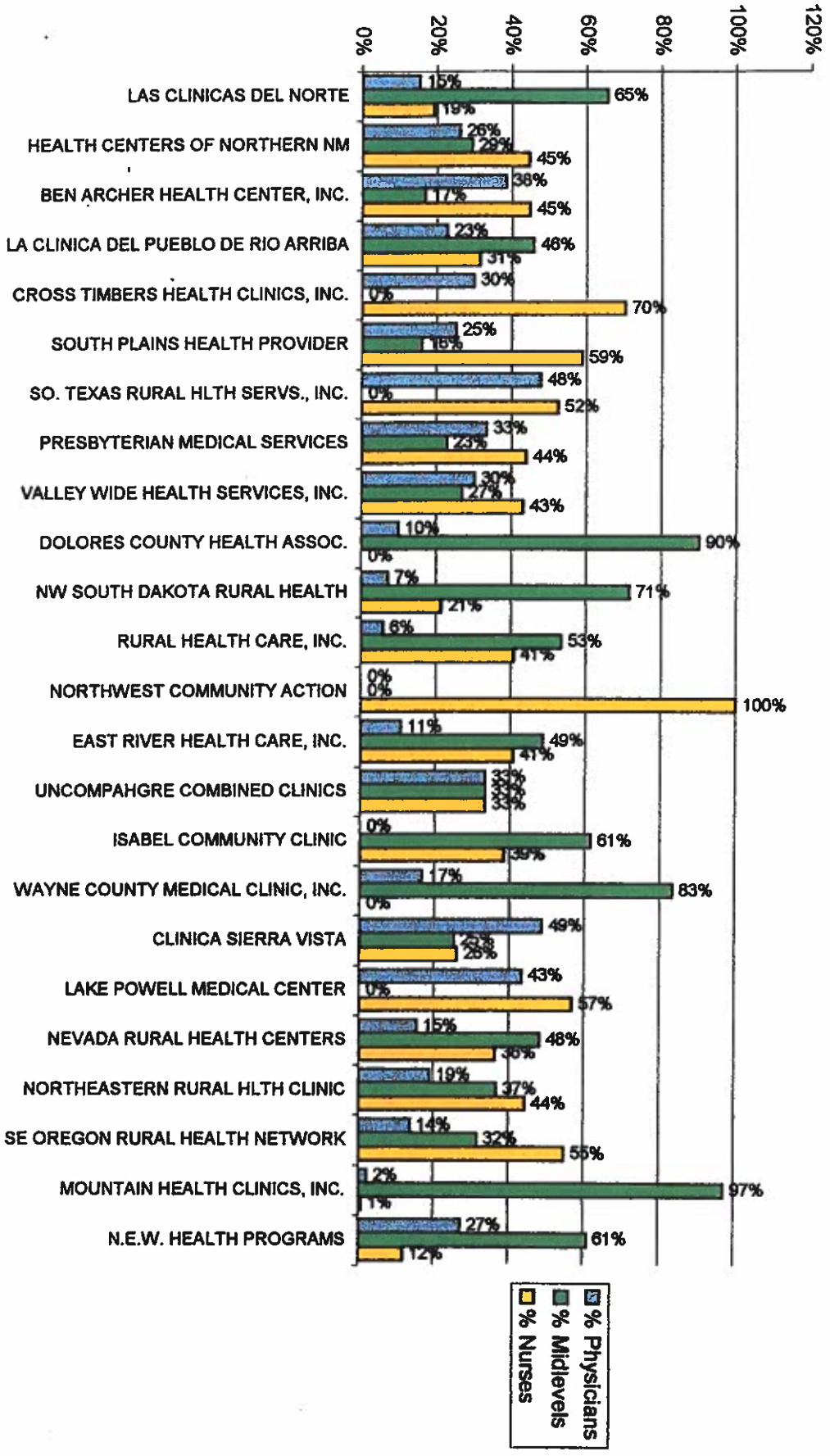


Chart 13 - Table 5 (Lines 8-11, 16-17, 20-21)

Chart 14 - Table 5 (Lines 8-11)



Percentage of Physician, Midlevels, Nurses Staffing by Site

f.) TABLE 6 - Selected Diagnoses and Services Rendered

Centers are provided with selected diagnosis and procedure codes by BPHC and asked to record the number of encounters they had for those categories.

Sources of Codes: The diagnosis codes are those in the International Classification of Diseases, 9th Revision, 4th Editions, Clinical Modification, Volumes 1 and 2, 1993, Los Angeles, California, Practice Management Information Corporations. The codes used for HIV infection reflect revisions published in MMWR, Volume 43, No. RR-12, September 30, 1994. The procedure codes are from the Physicians' Current Procedural Terminology, 4th Edition, CPT '95, American Medical Association.

• Inadequate Data Collection for Bureau Six Priority Health Indicators

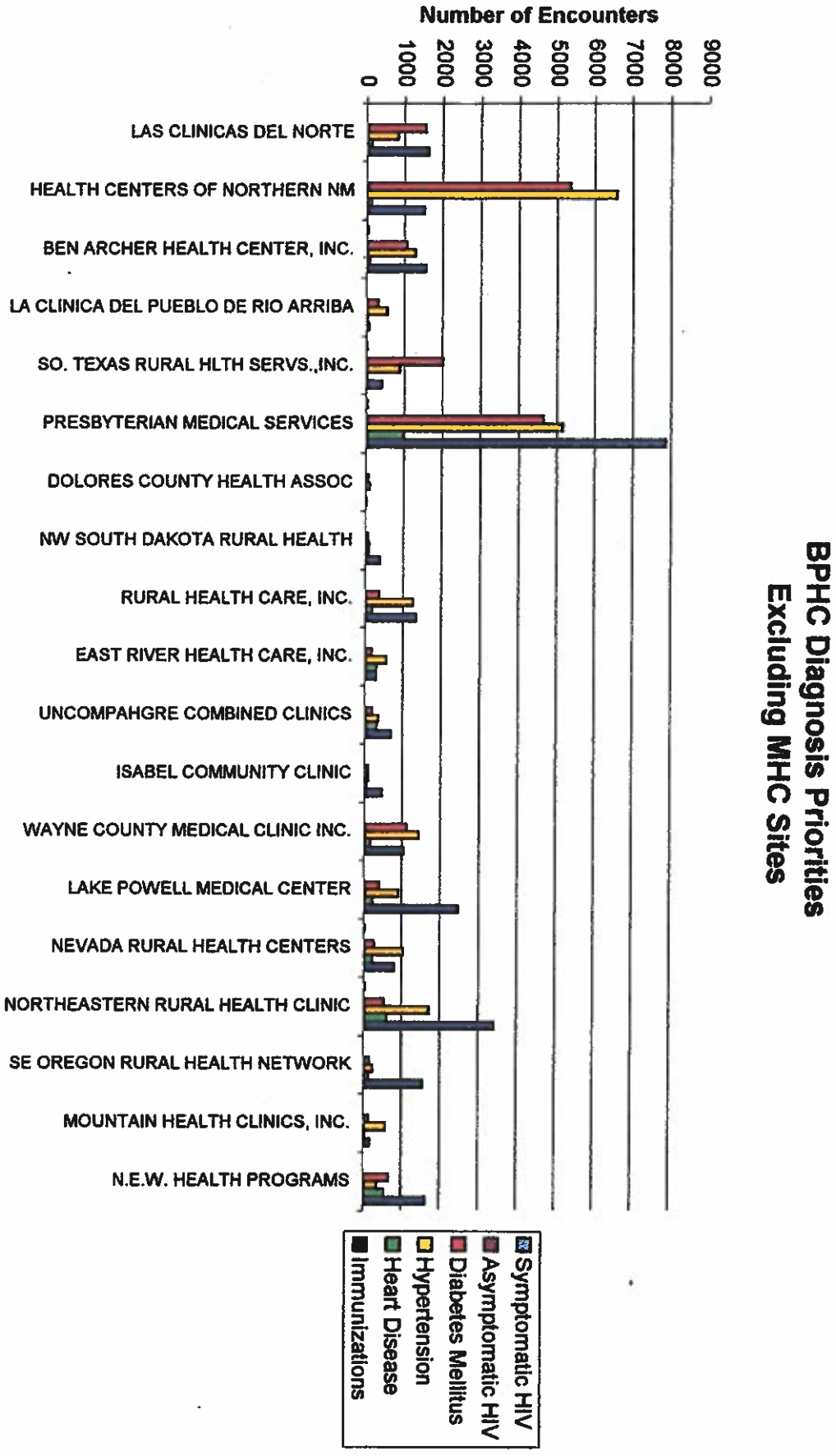
In May of 1998, the Frontier Education Center was informed that BPHC had identified six priority health indicators: cancer, heart disease, diabetes, HIV/AIDS, immunizations, and infant mortality. The Frontier Education Center attempted to analyze the incidence and prevalence of these six diseases through the UDS report (Chart 15).

The UDS report is inadequate for the task; particularly with regard to cancer. No specific cancer data was collected. Abnormal Breast Findings, Female (ICD-9-CM 174.xx; 198.81; 233.Ox; 793). and Abnormal Cervical Findings (ICD-9-CM 180.xx; 198.82; 233.1x; 795.Ox) can only work as weak surrogates of some cancer-related data collection for two reasons; 1.) not all findings within these diagnosis codes actually turn out to be cancer and 2.) no information about any other cancers is collected.

Heart Disease appeared to be under-reported for the high risk population served by Frontier Health Centers using only the UDS reported codes: ICD-9-CM Codes 391.xx - 392.xx and 410.xx - 429.xx. Hypertension ICD-9-CM UDS reported codes (401.xx - 405.xx) were added in to the category so that the data is now more reflective of the incidence and prevalence of heart disease (Charts 16,17).

Several graphic presentations of the data in Table 6 showing the incidence and prevalence of the codes reported on the UDS follow. The separation of the migrant clinics offset some of the skewing effect of Clinica Sierra Vista and the unique population served by migrant centers (Charts 18, 19).

Chart 15 - Table 6 (Lines 1-2, 9-11, 24)



Total Encounters by BPHC Priority Diagnosis Including Hypertension

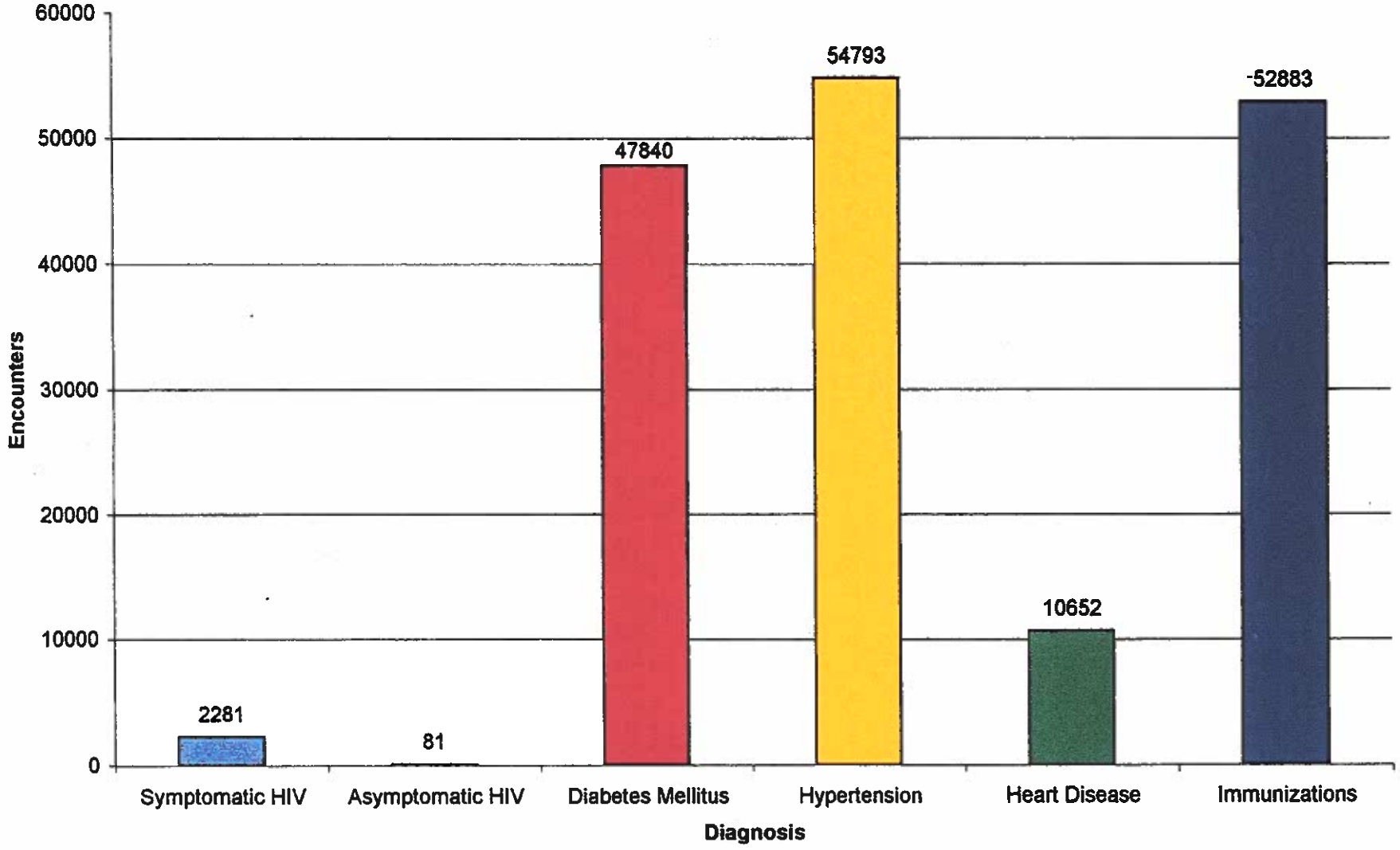


Chart 16 - Table 6 (Lines 1-2, 9-11,24)

Total Encounters by BPHC Priority Diagnosis Excluding Hypertension

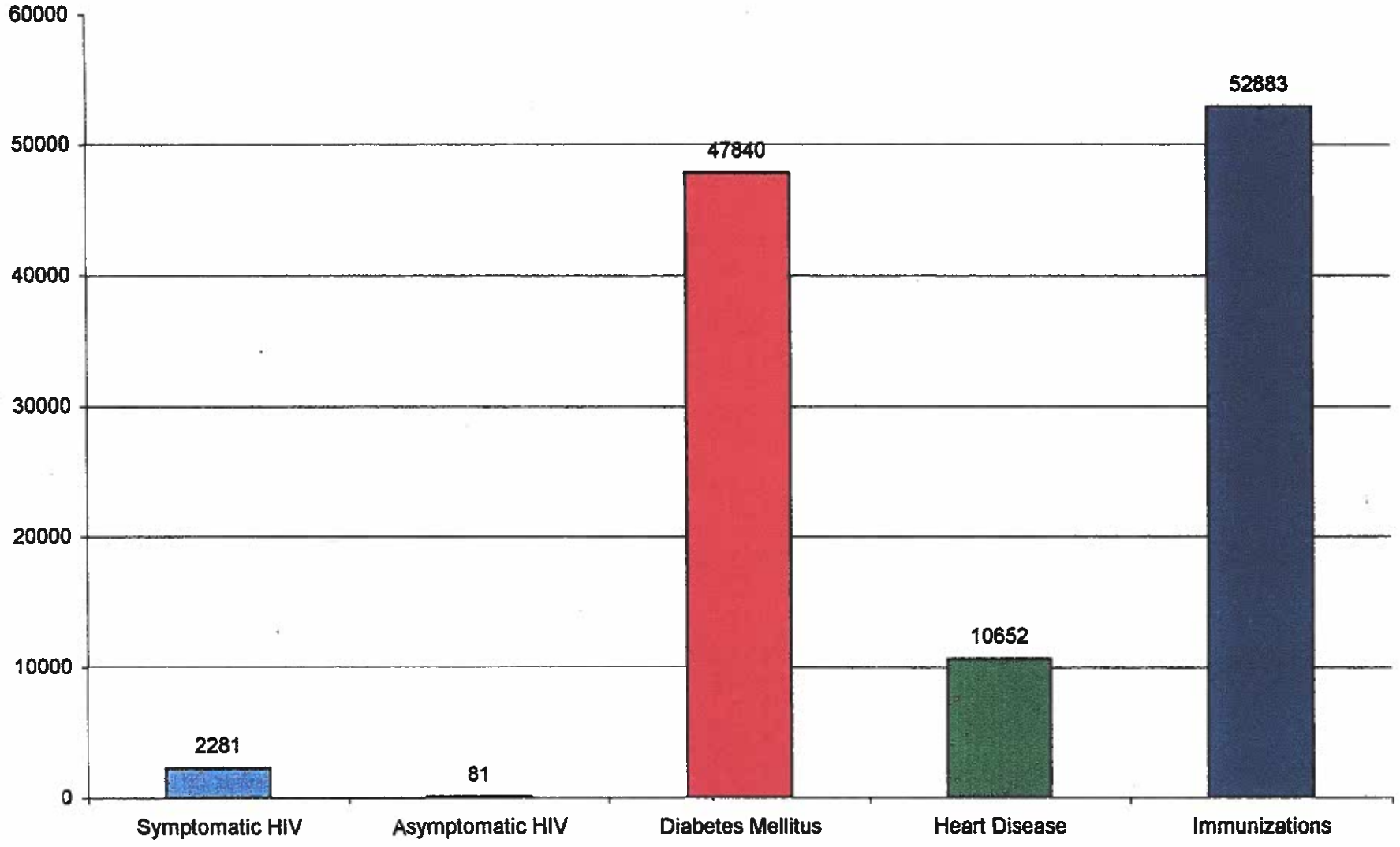


Chart 17- Table 6 (Lines 1-2, 9-10, 24)

Percentage of Total Encounters by BPHC Diagnosis Priorities at MHC Sites

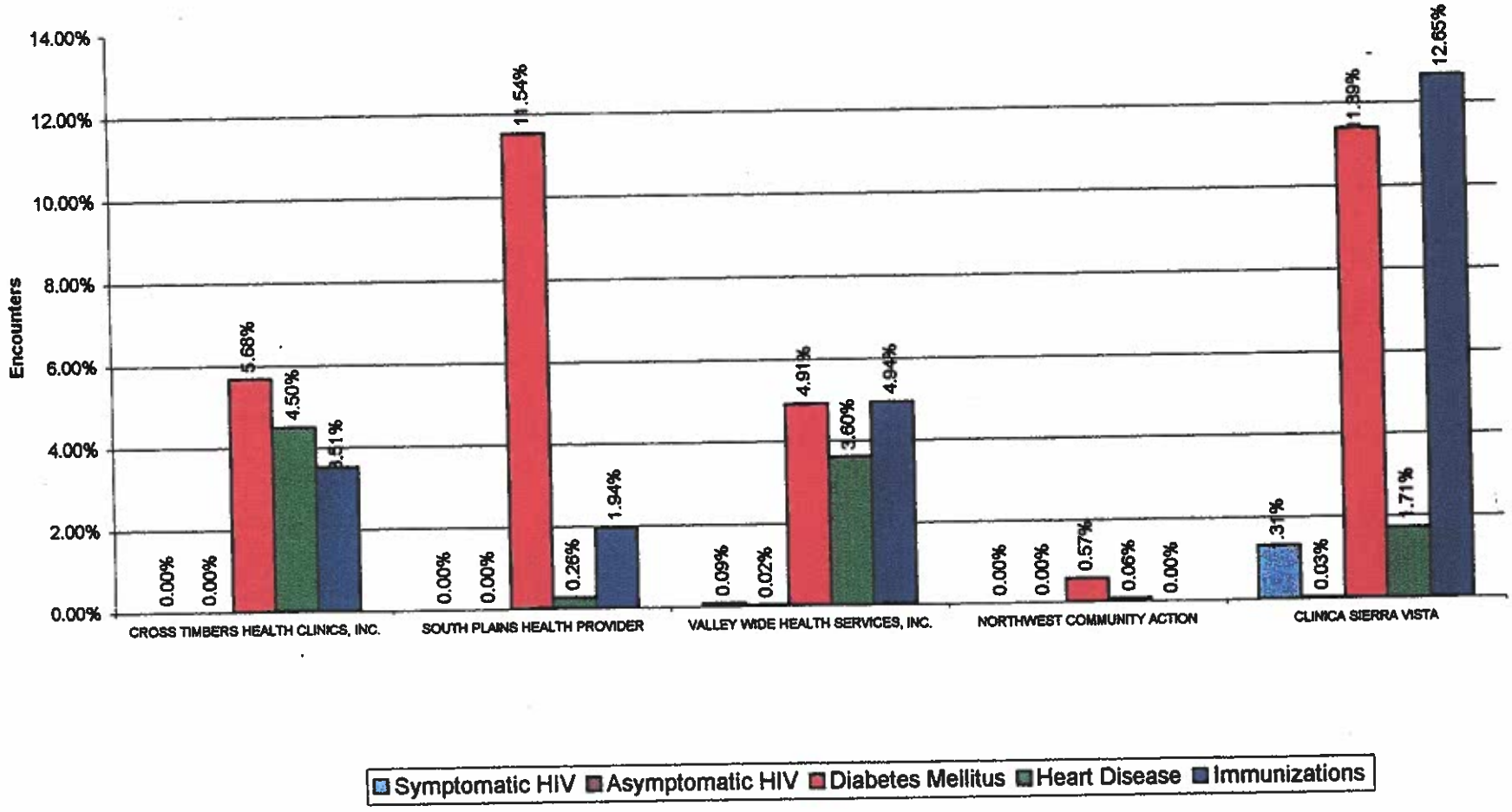


Chart 18 - Table 6 (Lines1-2, 9-10, 24)

Total Encounters by BPHC Priority Diagnosis at MHC Sites

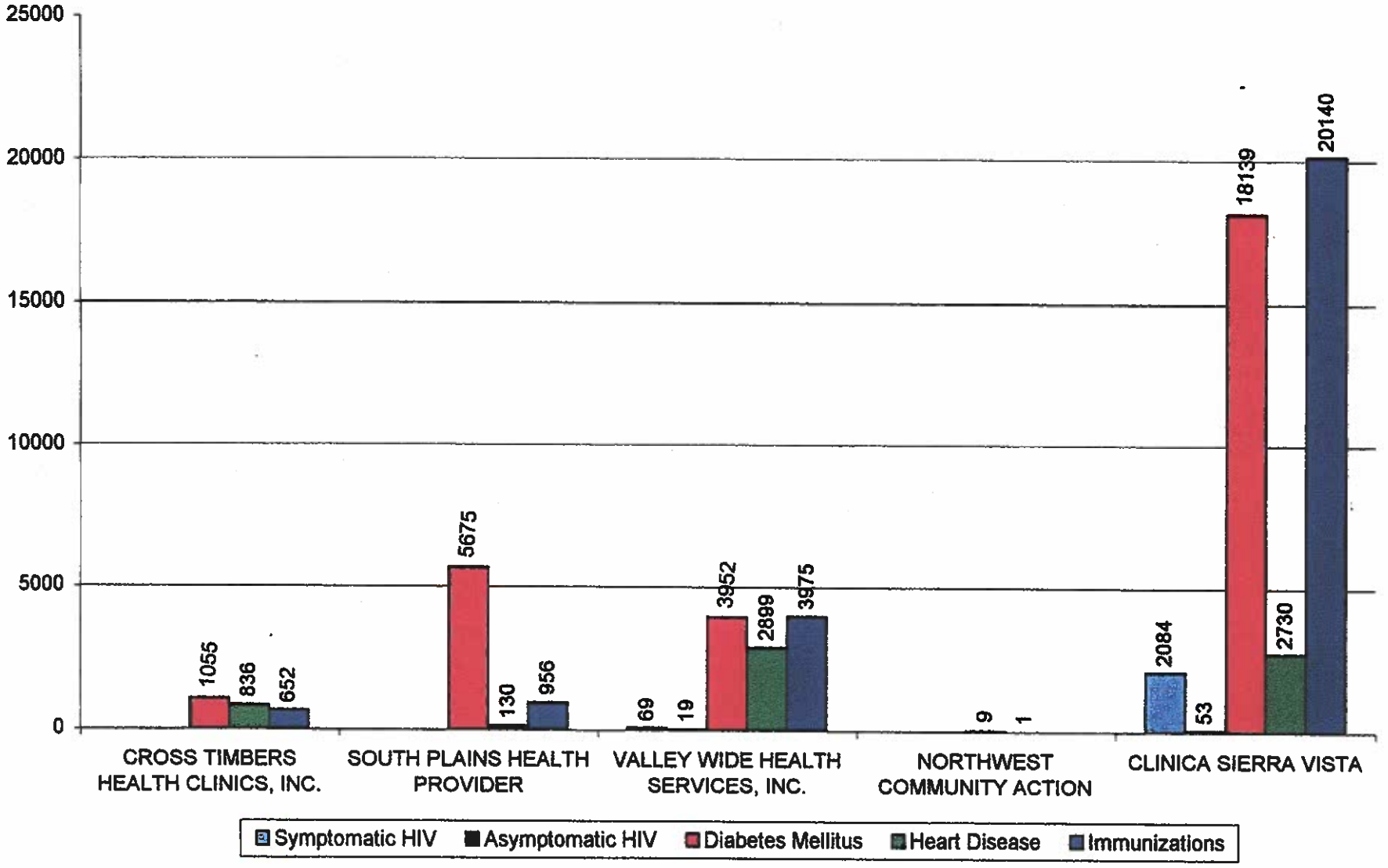


Chart 19 - Table 6 (Lines 1-2, 9-10,24)

g.) TABLE 7 - Perinatal Profile

Table 7 looks at the perinatal life cycles from several perspectives. A serious omission in the UDS report is that it does not ask centers to document the infant mortality rate.

Childbearing Population

For the analysis, childbearing age was defined as 15 - 44 years of age. The total number used to define the population is 75,344, the sum of three of the UDS-reported user groups: 15 - 19, 20 - 24, and 25 - 44 years. Although there were a total of 87 pregnancies outside of these age categories they totalled only .012 percent of the total pregnant users and are not included in the overall analysis. ($<15 = 83$ and $\geq 45 = 4$ [NOTE: all 4 were in New Mexico]) Comparative national and most states' perinatal data also uses ages 15 - 44 years as the childbearing years.

Fertility Rate

The fertility rate of Frontier Health Centers Users is 90/1000 - 28% higher than the national rate of 65.3/1000. The Centers' rate was based on the actual number of pregnant users, 6813, compared to the total number of users of childbearing age, 75,344. (Charts 20, 21, 22, 23)

Further study of this fertility rate is recommended to determine the reason the Frontier Health Center rate is higher than expected. It is important to determine if all of the increased rate is attributable to fertility rate differences between the general female population and a population of users of health services, or if frontier centers provide a disproportionate rate of prenatal care to women in their service areas. Health center advocates have stated that the combination of a sliding fee, availability of prenatal care services, and on-site Medicaid enrollment result in health centers becoming the significant prenatal care provider in a service area.

Race and Ethnicity of Prenatal Care Users

The population served by the Frontier Health Centers mirrors the general population of the communities in which they are located. This is clearly illustrated by the graph of prenatal care uses by race and ethnicity at each of the centers (Chart 24).

Hispanic pregnant women are the majority of pregnant users at all of the centers in New Mexico and the migrant centers (Valley Wide Health Services in Alamosa, Colorado; Northwest Community Action in Worland, Wyoming; and Clinica Sierra Vista in Lamont, California).

American Indian/Alaska Native constitute a large percentage of pregnant women receiving prenatal care services from Presbyterian Medical Services in New Mexico, Lake Powell Medical Center in Arizona, and Isabel Community Clinic in South Dakota.

White woman constitute the majority of pregnant women receiving prenatal care at eight of the Centers. Black and Asian/Pacific Islander populations are fewer than 1% of users at Frontier Centers.

Entry in Prenatal Care

Frontier residents, especially those served by the Frontier Health Centers, have to overcome several barriers to their access to care. Distance and financial barriers are frequently identified. Despite these access barriers, the Frontier Health Centers report high levels of early access into prenatal care. Sixty-five percent of prenatal users access services in the first trimester, the optimal level of care. An additional 26% access a mid level of prenatal care during the second trimester. Only 6% report receiving a low level of prenatal care, initiated in the third trimester (Chart 25).

Studies of entrance into prenatal care have documented that education and outreach are key factors for improving early access to care. These are resource intensive activities. As stated in the discussion of Table 1, most of the Frontier Centers do not receive additional BPHC resources for perinatal activities. Four centers receive Comprehensive Perinatal Care Program resources, and only one of the centers receives funds from the Special Infant Mortality Reduction Initiative. Frontier Centers need resources to bring the level of first trimester use of prenatal care to a higher percentage. Healthy People 2000 sets the national goal of 90% of all women initiating prenatal care in the first trimester.

Birth Outcomes

Frontier Centers reported 2936 births on the 1996 UDS. Of these births, the outcomes were excellent with 82% in the normal birth weight range (>2500 grams) (Chart 26).

- Very Low Birth Weight

  Very Low Birth Weight (≤ 1500 grams) was less than 1% of all births. The Frontier Centers already exceed the Healthy People goal for Very Low Birth Weight rate of <1% by the year 2000.

- Low Birth Weight

  Low Birth Weight at the Frontier Centers was 4%. This exceeds the Low Birth Weight rate goal established in Healthy People 2000 of <5% by the year 2000. The current U.S. Low Birth Weight rate is 7%. The Frontier Health Centers should be recognized for their tremendous success in reducing the Low Birth Weight rate among pregnant users of the centers.

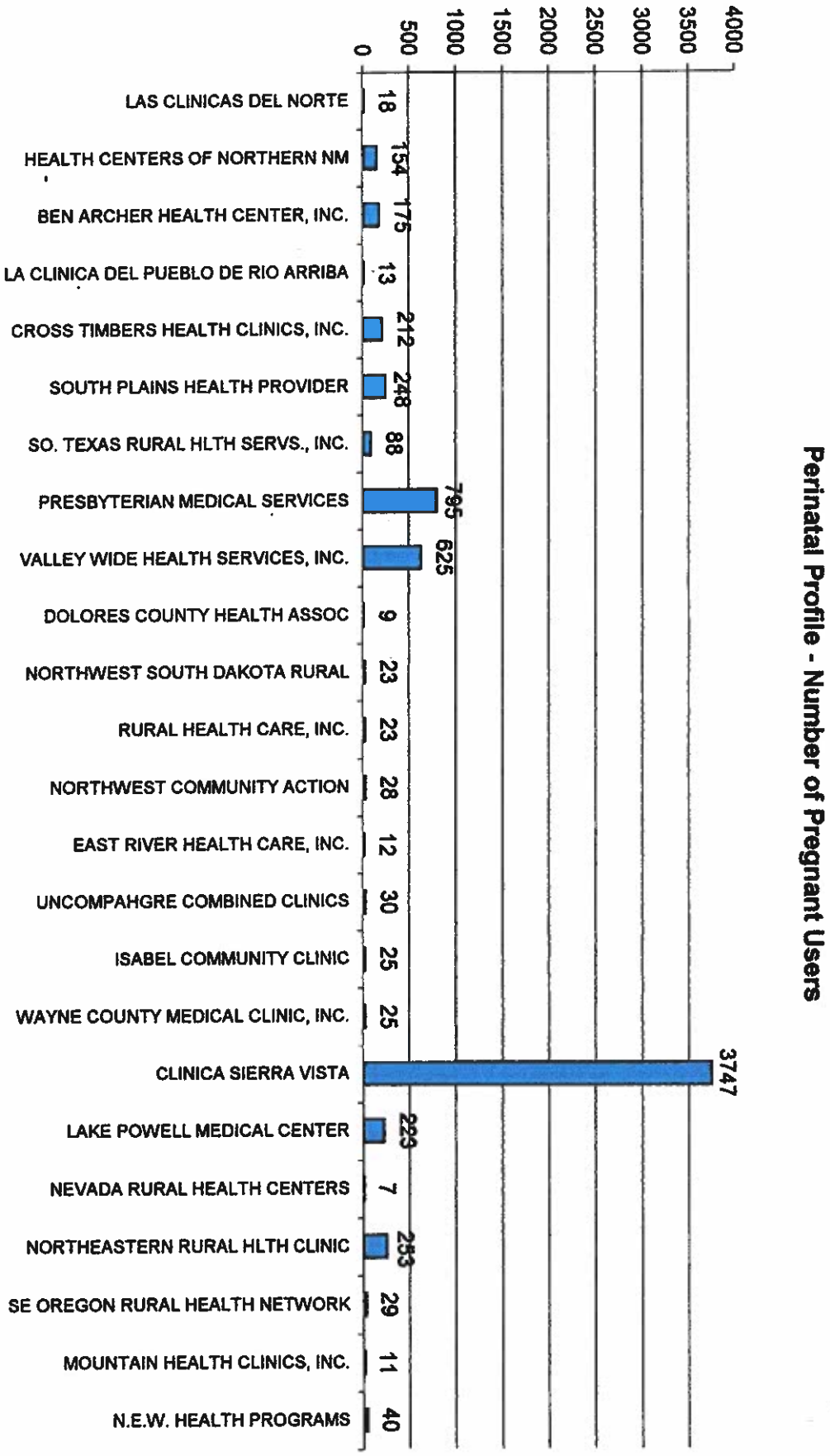
Newborn Visits

Only 69% of newborns had a visit within four weeks of birth. This is an area in need of improvement. The Bureau should consider changing the data collected on the UDS to indicate the location of the newborn visit. Because home visitation is an increasingly common method for the delivery of the newborn visit, it would be useful to know how many were provided at the clinic site and how many were in the home. Only 61% of mothers receive postpartum care within 8 weeks of delivery. This is another area in need of improvement (Chart 27).

Utilization of the WIC Program

There were 8383 frontier center users enrolled in the WIC Program (Women, Infants, and Children Nutrition Program). Of these WIC participants, 51% (4330) were prenatal care users, 25% were infants (2077) and 24% (1976) were postpartum care users. Sixty-four percent of pregnant users were enrolled in the WIC program in 1996 (Chart 28).

Chart 20 - Table 7 (1-2)



Perinatal Profile - Percent of Pregnant Users by Age

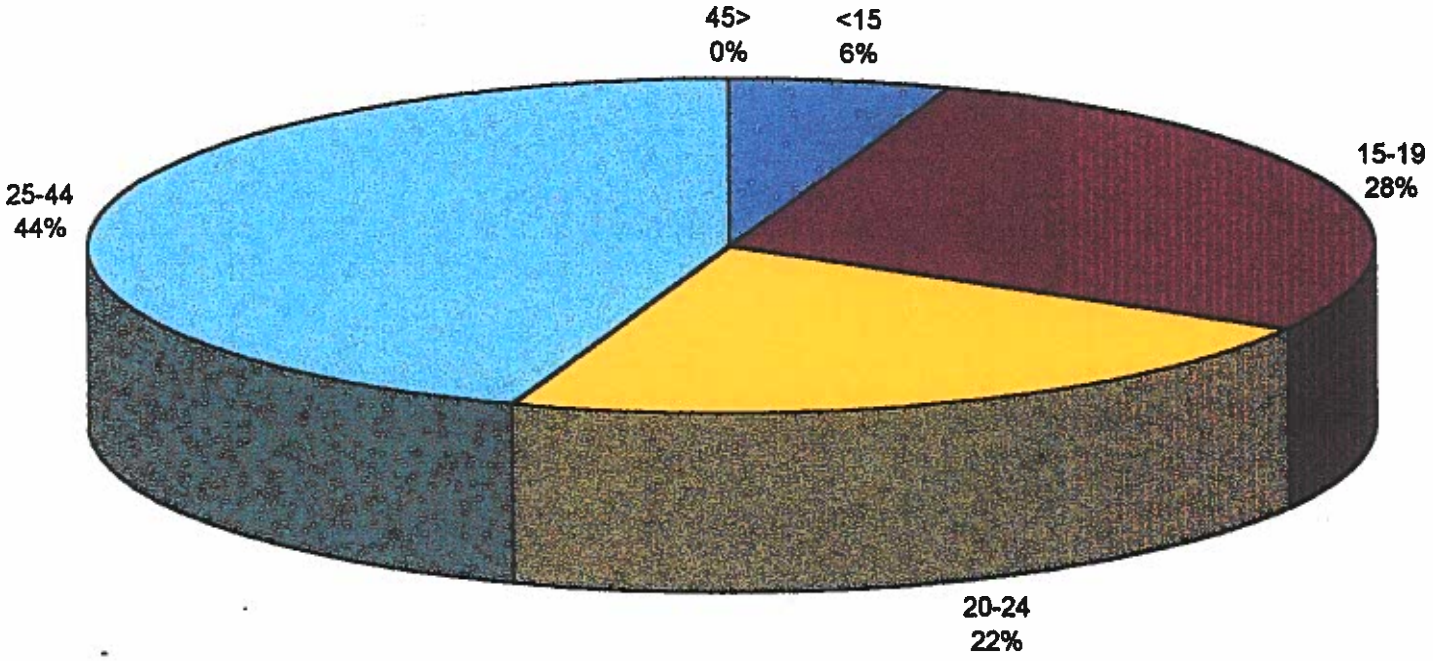
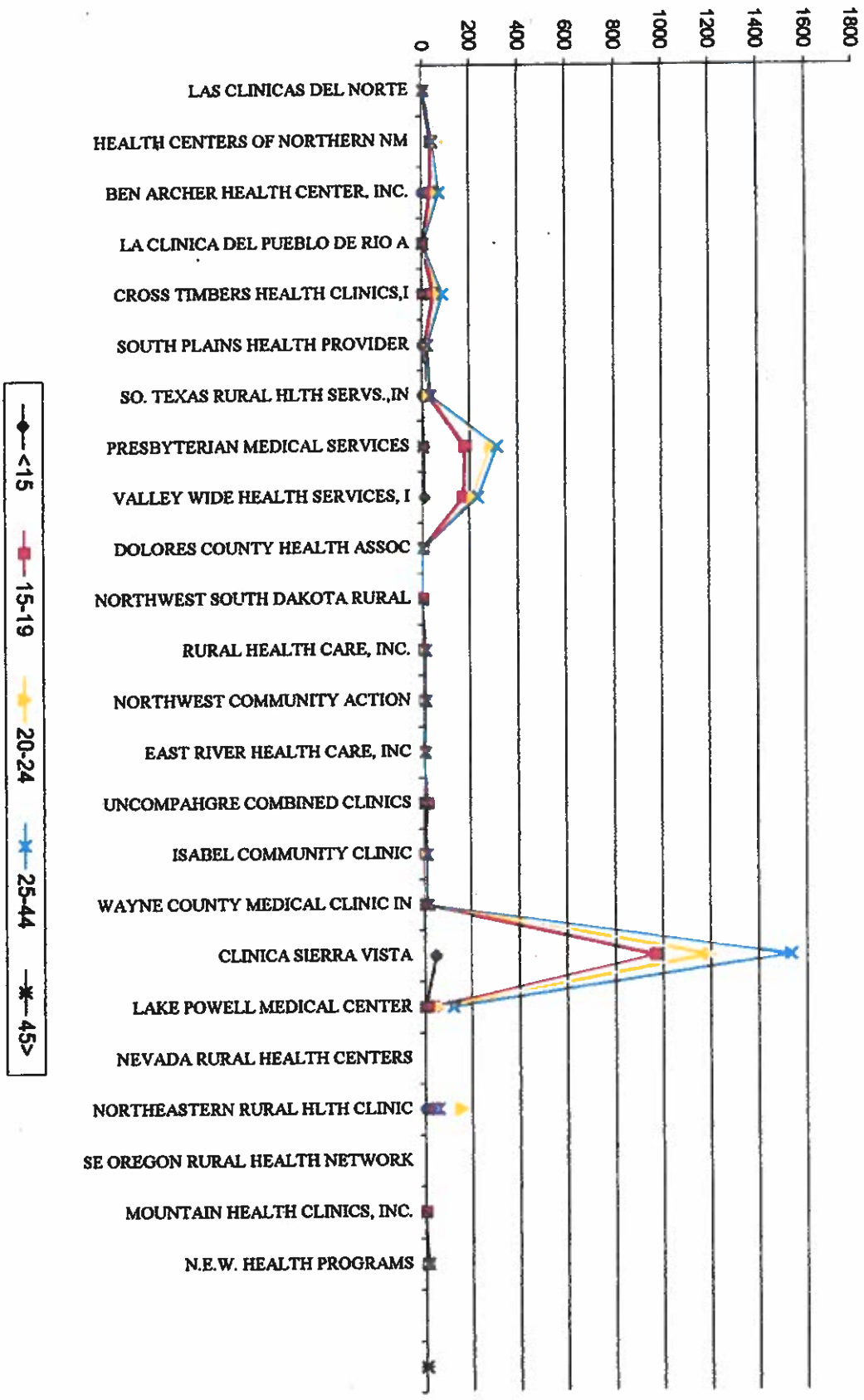


Chart 21 - Table 7 (Lines 3-7)

Chart 22 - Table 7 (Lines 3-7)



Perinatal Profile - Percentage of Pregnant Users by Age Range

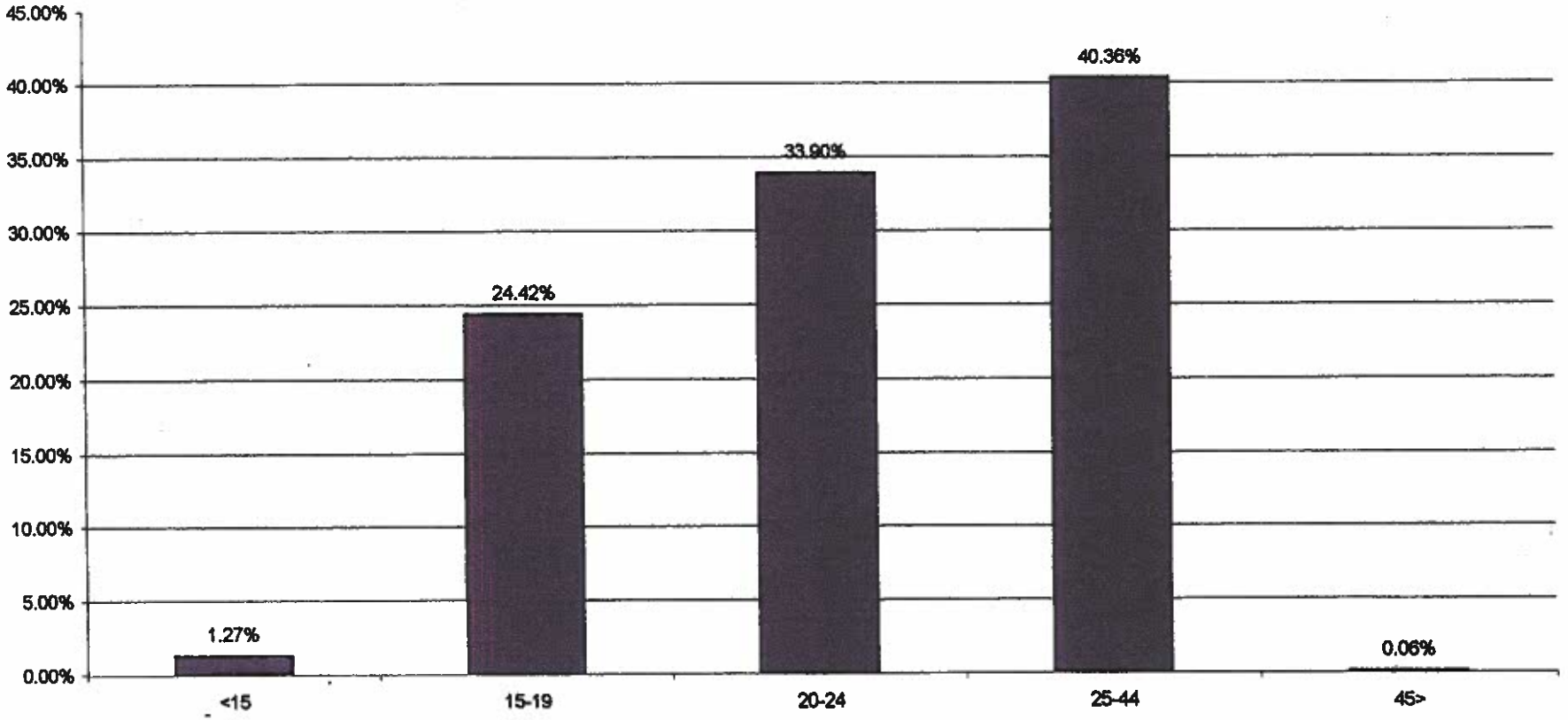


Chart 23 - Table 7 (Lines 3-7)

Perinatal Profile - Percentage Race/Ethnicity of Prenatal Care Users
By Frontier Site

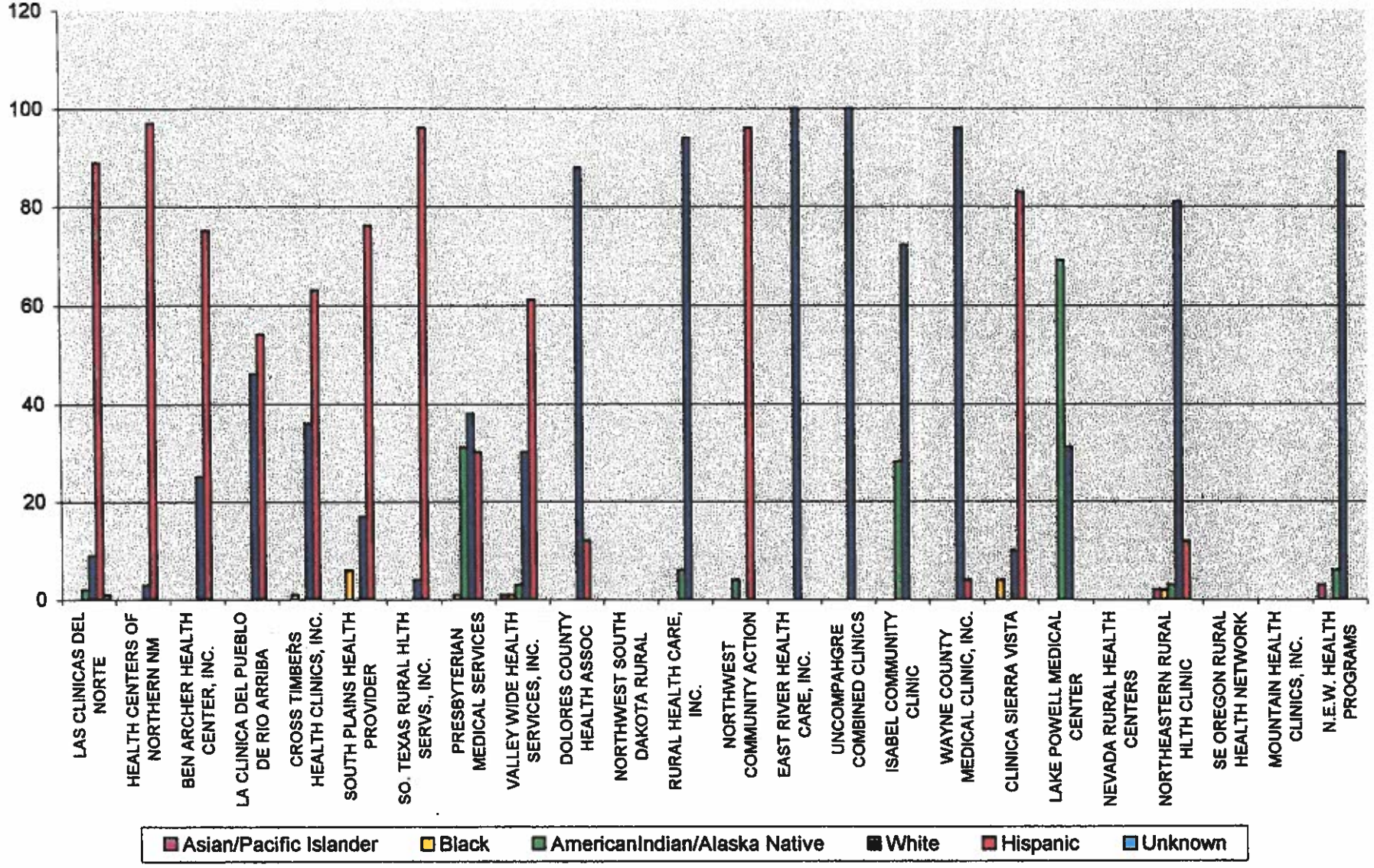


Chart 24 - Table 7 (9-14)

Perinatal Profile -Percentage of Users by Level of Entry Into Prenatal Care
Women Making First Visit At Grantee Site

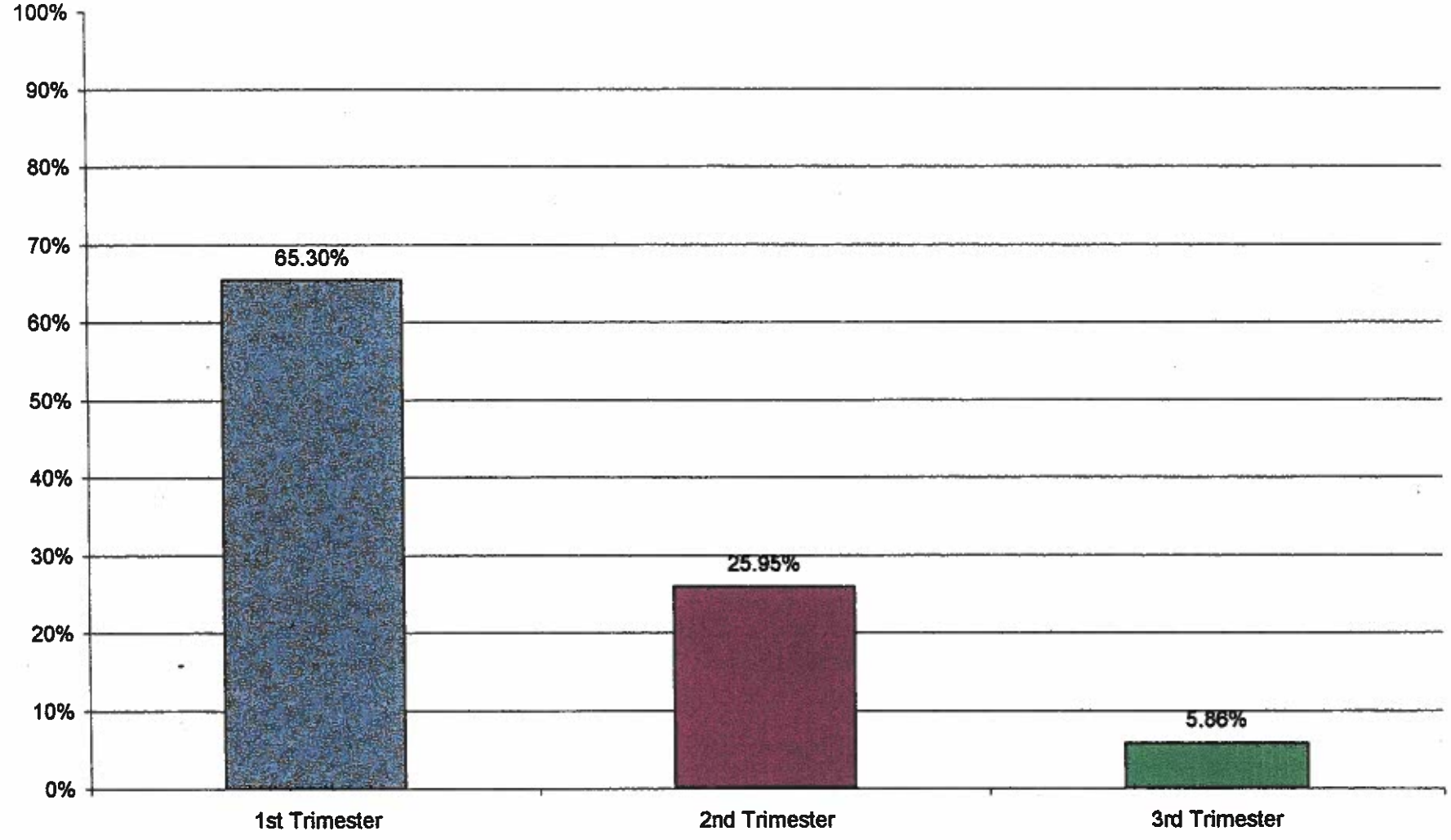


Chart 25- Table 7 (16-18)

Perinatal Profile - Delivery, Postpartum and Infant Utilization During the Calendar Year Percentage of Users

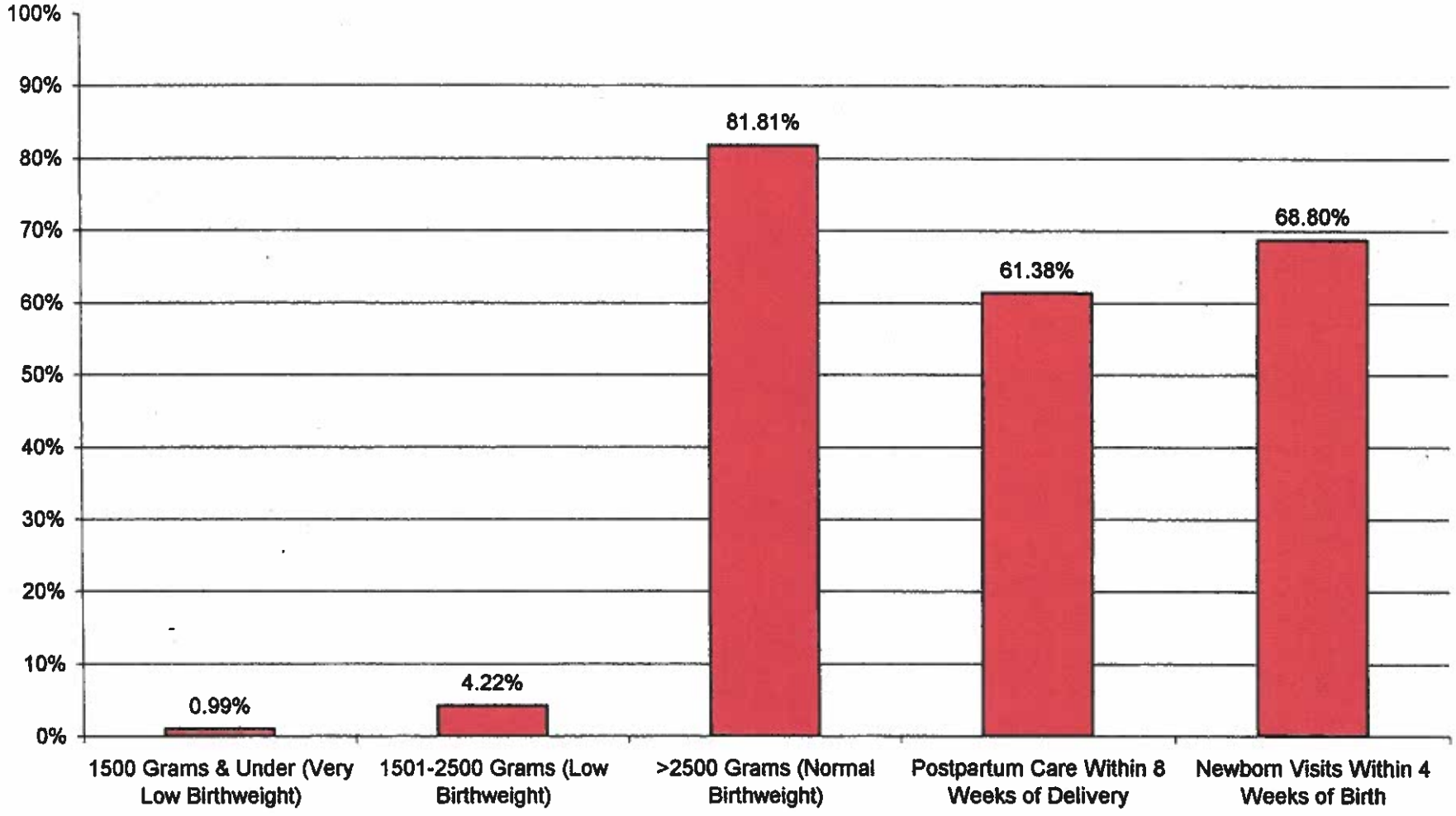


Chart 26 - Table 7 (Lines 20-24)

Perinatal Profile - Delivery, Postpartum and Infant Utilization
During the Calendar Year
Total Number of Users

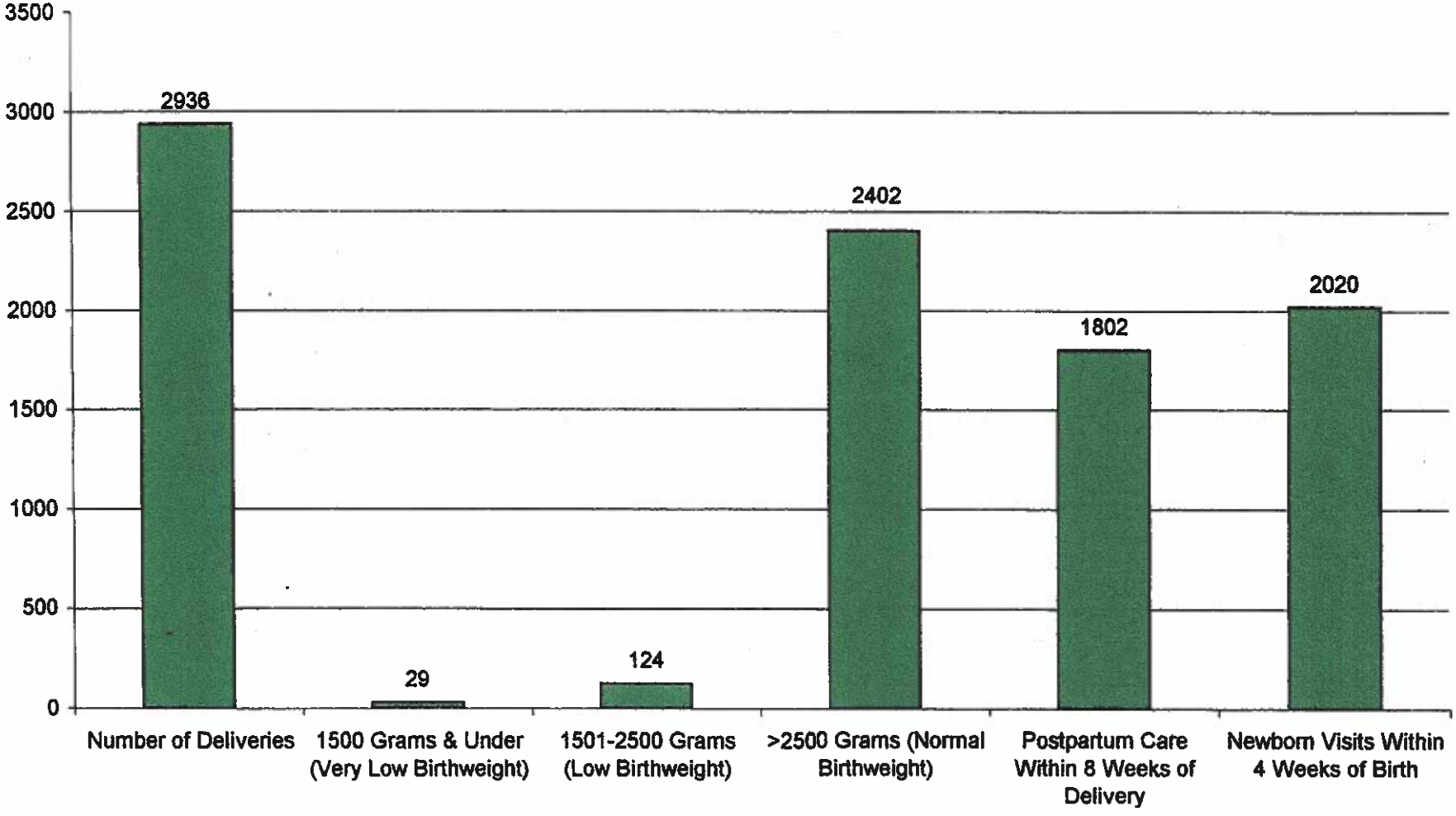


Chart 27 - Table 7 (Lines19-24)

Perinatal Profile - Percentage of Prenatal Care Users and Their Infants Enrolled in WIC
Total WIC Enrollees = 8383

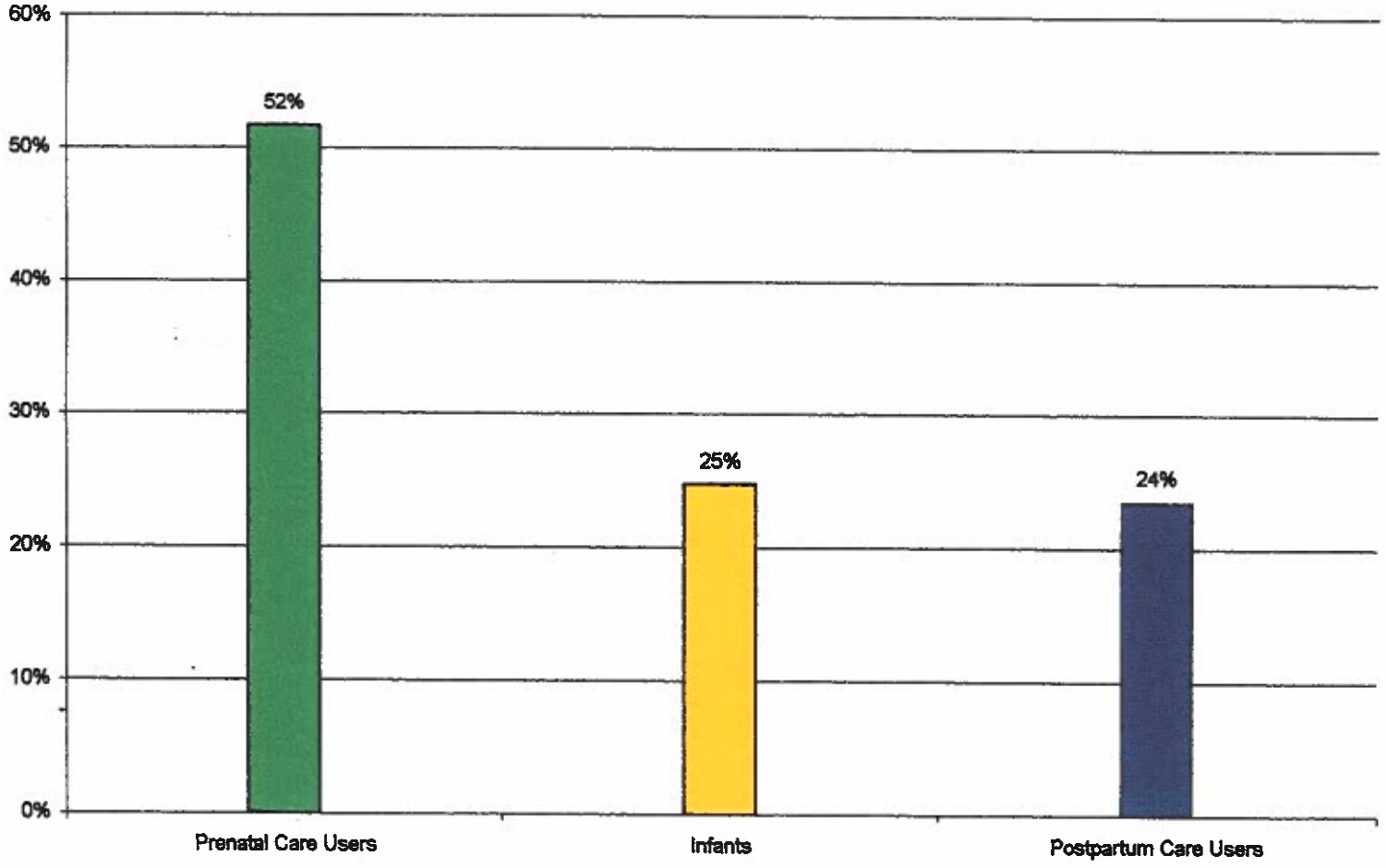


Chart 28 - Table 7 (Lines 25-27)

h.) TABLE 8

Table 8 presents financial data about the center operations. This table was one of the most difficult to aggregate because it appears that the data collected and reported differs considerably from site to site.

Part A - Costs

Several aggregate tables that combine the reported data in Table 8 for the 24 Frontier Centers were generated. The cost data appear to be less uniformly reported than the more descriptive data in the other tables.

For example, when looking at Total Costs one difference among the ways Centers report is demonstrated by the column labeled "Value of Donated Services and Supplies" (Chart 30). The responses range from a negative of $159,657 at South Plains Health Provider to positive $188,932 at Presbyterian Medical Services. A majority of centers 63% (n = 15) reported no donated services and supplies.

Similarly, it is difficult to compare cost per user data from site to site, as indicated on Chart 29. First, the multi-site Centers blend data from all of their sites which may offer very different levels of services. Additionally, the cost per user at Centers which provide a wide range of services (i.e. pharmacy, laboratory) will appear higher than at Centers which do not have comparable levels of service.

Part B - Mental Health/Substance Abuse and Enabling Services

This section also contains data which is incomplete and difficult to compare from center to center. Additionally, individual centers report data that appear on this Table, which seems inconsistent with data reported on other Tables. For example, some centers show costs for mental health and substance abuse services, but do not report equivalent FTEs on Table 5, Staffing and Utilization, and/or, do not report comparable levels of service provision on Table 2, Services and Delivery.

Total Cost Compared to Number of Users

UDS	CLINIC	Calendar Years Costs	Total Users	Cost Per User
60310	LAS CLINICAS DEL NORTE	$1,437,675	4082	$352.20
60330	HEALTH CENTERS OF NORTHERN NM	$6,384,522	18184	$351.11
60370	BEN ARCHER HEALTH CENTER, INC.	$4,518,959	8360	$540.55
60460	LA CLINICA DEL PUEBLO DE RIO ARRIB/	$1,365,802	1883	$725.33
60710	CROSS TIMBERS HEALTH CLINICS, INC.	$2,151,821	6678	$322.23
60950	SOUTH PLAINS HEALTH PROVIDER	$5,720,147	16392	$348.96
62120	SO. TEXAS RURAL HLTH SERVS., INC.	$1,995,181	8810	$226.47
63450	PRESBYTERIAN MEDICAL SERVICES	$15,155,310	33138	$457.34
80030	VALLEY WIDE HEALTH SERVICES, INC.	$8,723,207	19737	$441.97
80100	DOLORES COUNTY HEALTH ASSOC	$252,184	1159	$217.59
80500	NORTHWEST SOUTH DAKOTA RURAL	$332,710	1437	$231.53
80590	RURAL HEALTH CARE, INC.	$707,712	3399	$208.21
80710	NORTHWEST COMMUNITY ACTION	$112,638	768	$146.66
81030	EAST RIVER HEALTH CARE, INC.	$935,742	4196	$223.01
81740	UNCOMPAHGRE COMBINED CLINICS	$560,677	2607	$215.07
82100	ISABEL COMMUNITY CLINIC	Not Reported	1920	
82240	WAYNE COUNTY MEDICAL CLINIC, INC.	$522,097	2886	$180.91
90390	CLINICA SIERRA VISTA	$18,582,190	35869	$518.06
91300	LAKE POWELL MEDICAL CENTER	$1,693,604	8335	$203.19
91570	NEVADA RURAL HEALTH CENTERS	$2,320,890	6176	$375.79
91960	NORTHEASTERN RURAL HLTH CLINIC	$3,064,233	14344	$213.62
100010	SE OREGON RURAL HEALTH NETWORK	$1,169,747	4010	$291.71
100280	MOUNTAIN HEALTH CLINICS, INC.	$495,335	2023	$244.85
100360	N.E.W. HEALTH PROGRAMS	$3,633,184	8497	$427.58

Chart 29 - Table 8 (Line 2) Table 5 (Line 15-C)

Value of Donated Services

UDS	CLINIC	Value of Donated Services and Suppplies
60310	LAS CLINICAS DEL NORTE	
60330	HEALTH CENTERS OF NORTHERN NM	
60370	BEN ARCHER HEALTH CENTER, INC.	
60460	LA CLINICA DEL PUEBLO DE RIO ARRIBA	
60710	CROSS TIMBERS HEALTH CLINICS, INC.	
60950	SOUTH PLAINS HEALTH PROVIDER	-$159,657
62120	SO. TEXAS RURAL HLTH SERVS., INC.	
63450	PRESBYTERIAN MEDICAL SERVICES	$188,932
80030	VALLEY WIDE HEALTH SERVICES, INC.	
80100	DOLORES COUNTY HEALTH ASSOC	$374
80500	NORTHWEST SOUTH DAKOTA RURAL HEALTH	
80590	RURAL HEALTH CARE, INC.	
80710	NORTHWEST COMMUNITY ACTION	$175,199
81030	EAST RIVER HEALTH CARE, INC.	
81740	UNCOMPAHGRE COMBINED CLINICS	$12,664
82100	ISABEL COMMUNITY CLINIC	
82240	WAYNE COUNTY MEDICAL CLINIC, INC.	
90390	CLINICA SIERRA VISTA	$0
91300	LAKE POWELL MEDICAL CENTER	$74,718
91570	NEVADA RURAL HEALTH CENTERS	$43,928
91960	NORTHEASTERN RURAL HLTH CLINIC	
100010	SE OREGON RURAL HEALTH NETWORK	$111,725
100280	MOUNTAIN HEALTH CLINICS, INC.	$2,322
100360	N.E.W. HEALTH PROGRAMS	

i.) TABLE 9

Part A - Revenues (Cash Receipts)

GRANTS AND CONTRACTS (Charts 31, 32)

Federal Funding

The analysis of cash receipts of Frontier Health Centers demonstrates BPHC funding to be the core of the Centers' total grant funding (54.18%), with other federal funding making up an additional 1.63% (3 centers receive additional federal funding).

State and Local Government Funding

Other public funding through state and local government (32.08% and 9.56%, respectively) constitute the remaining significant portion of the Centers' funding. Grant funding available from state and local governments range dramatically: 21% of centers receive no funding at all; 29% of centers receive less than $50,000; 17% of centers receive more than $1 million.

Private Funding

Private funding (foundation, grant, and contract revenues) totals $907,711 and constitutes only 2.55% of total Cash Receipts. Nearly one-half of the centers (46%) receive private funding but in a very small amounts. The exceptions are two New Mexico centers, Ben Archer Health Center and Presbyterian Medical Services which together receive 75% of this category of receipts ($682,522).

PAYMENTS FOR SERVICES (Charts 33, 34)

Public and private insurance, along with patient collections, make up the remaining cash receipts for the Centers. Medicaid is the primary payer source for the Clinics and makes up almost half (48%) of the total payments for services. However, it is should be noted that Presbyterian Medical Services and Clinica Sierra Vista show disproportionately large Medicaid payments received (Table 9, Part A). These two outliers skew the aggregate view of total percentage of Medicaid payments for the Centers on the preceding chart (Table 9, Part A).

Patient collections account for one-fifth of additional payments (21%). Private insurance constitutes 14% of payments, and Medicare reimbursements come in at 10%. Other revenues and other public insurance make up the final 7% of payments.

Part B - Cost Reimbursement

All Community Health Centers are designated as Federally Qualified Health Centers (FQHC's). FQHC designation entitles a center to reasonable cost based reimbursement for Medicaid and Medicare. The procedure for cost based reimbursement is the following:

first year of designation -
- an initial, estimated per visit reimbursement rate is established
- all visits are paid at this rate

end of year settlement -
- a Cost Report is submitted to the FQHC intermediary
- one of three determinations is made upon evaluation of the Cost Report
  - the current rate is correct
  - the current rate is too low and a settlement payment is required to be made by Medicaid and Medicare to the center
  - the current rate is too high and the center is required to repay the excess reimbursement

Some very interesting information emerged from the comparative analysis of Table 9 Part B. Cost Reimbursement with Table 9 Part A. Revenues (Cash Receipts). In the aggregate of all Frontier Health Centers, Medicaid constitutes 48% of the Cash Receipts, Payments for Services category and Medicare is 10% (Chart 35). Because the Centers have participated in reasonable cost based for a number of years, the rates currently established, for the most part, represent the reasonable costs.

Chart 35 shows the tremendous variability in reasonable costs among the health centers. Further study is needed to determine what causes this variability. In some cases it may be the provision of a broader scope of services, in others it may be a higher visit cost related to the small size of the population served. It has been stated anecdotally that frontier centers have higher unit costs due to the inability to take advantage of any economies of scale. This does not appear to be the cause of the variability among the Frontier Health Centers as a group, although it is, no doubt, true of some of the centers.

The range of Cost per Visit for Medicaid is from $39 to $130.94 and for Medicare from $39 to $129.38.

After the Fiscal Intermediaries had reviewed the 1996 Cost Reports, the total amount owed to the Centers was only $1.021,593 ($529,882 for Medicaid and $482,711 for Medicare). The end of the year settlement found that only six centers had been paid at too high a rate and owed a payback of $463,808 to the government ($526,916 Medicaid and $21,869 for Medicare) (Chart 36).

Part C - Managed Care

At the time of the 1996 UDS report, only 8798 users (.034%) were enrolled in any type of managed care. Additionally, 50% of all the Frontier Health Centers had no managed care enrollees and documented no managed care involvement. However, because of the rapid transformation to managed care since 1996, a comparative study with recent data is warranted. Health centers have been encouraged to form or participate in Integrated Service Networks (ISN's) or other types Managed Care Organizations (MCO's). In addition, more states have implemented Medicaid Managed Care with serious consequences for health centers.

The specific impacts of managed care on Frontier Health Centers should be studied. The results should then be used to facilitate the development of policies to protect and improve the frontier health care infrastructure.

Comparison of Total Funding by Grants & Contracts

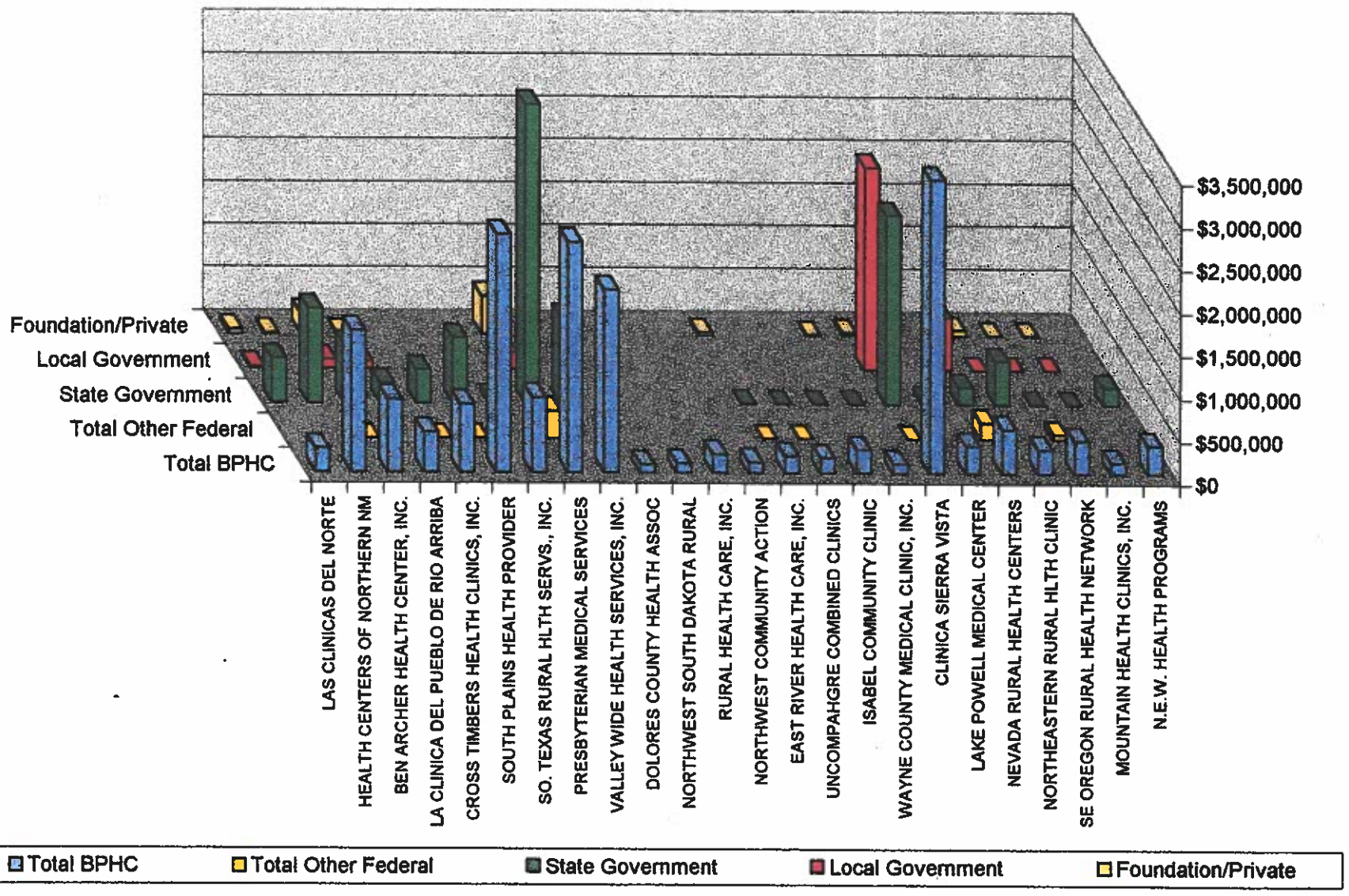


Chart 31 - Table 9 Part A (Lines 1-9)

Percentage of Total Funding by Grants & Contracts

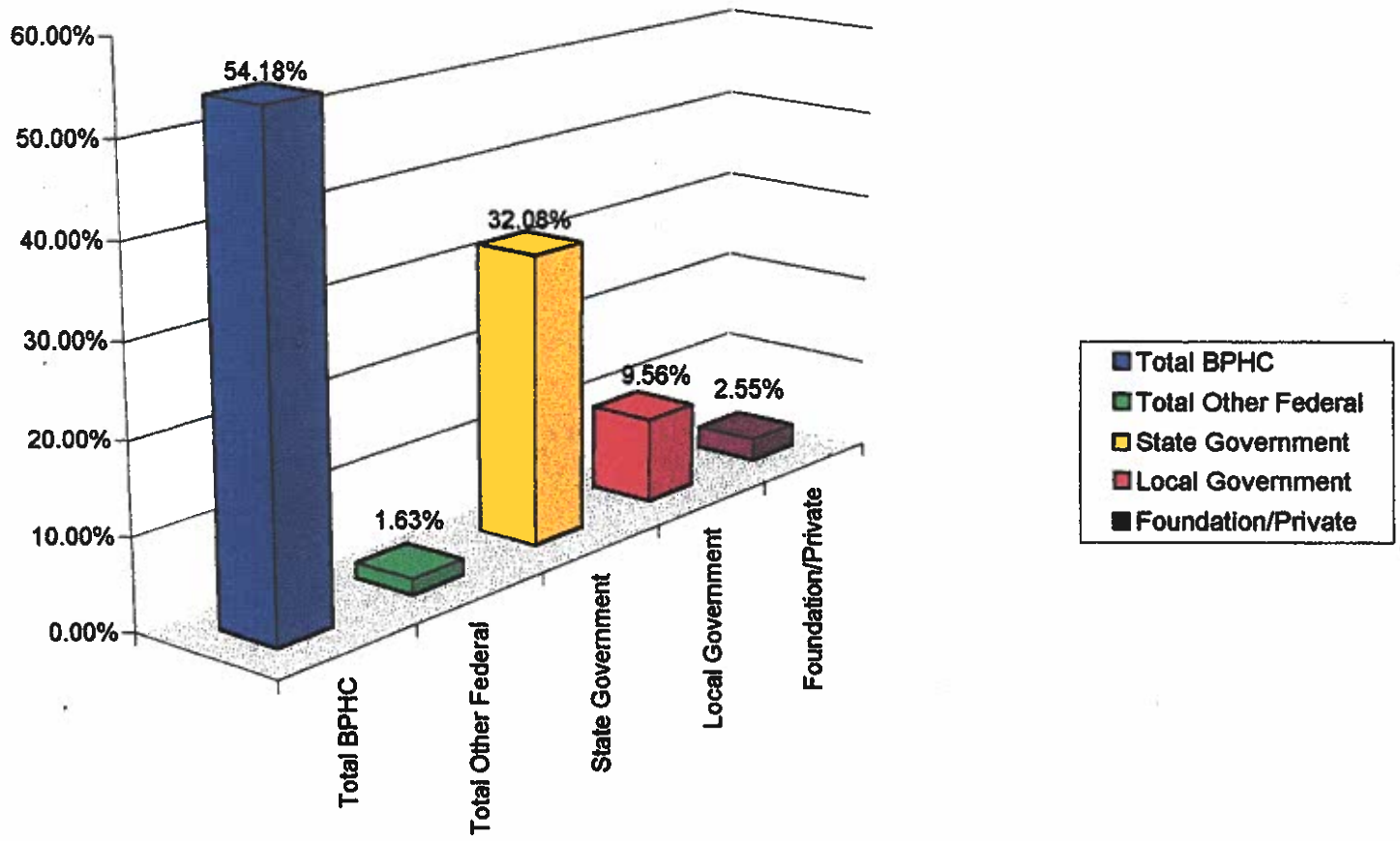


Chart 32 - Table 9 Part A (Lines 1-9)

Payment for Services

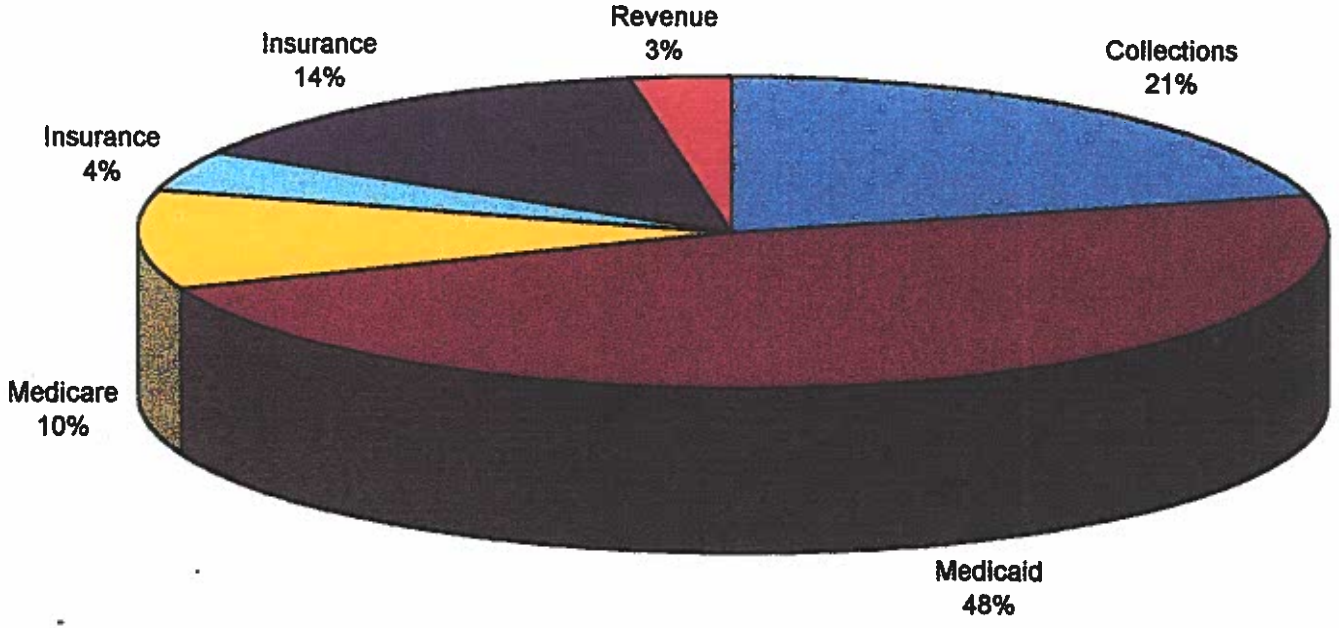


Chart 33 - Table 9 Part A (Lines 10-17)

Chart 34 - Table 9 Part A (Lines 10-17)

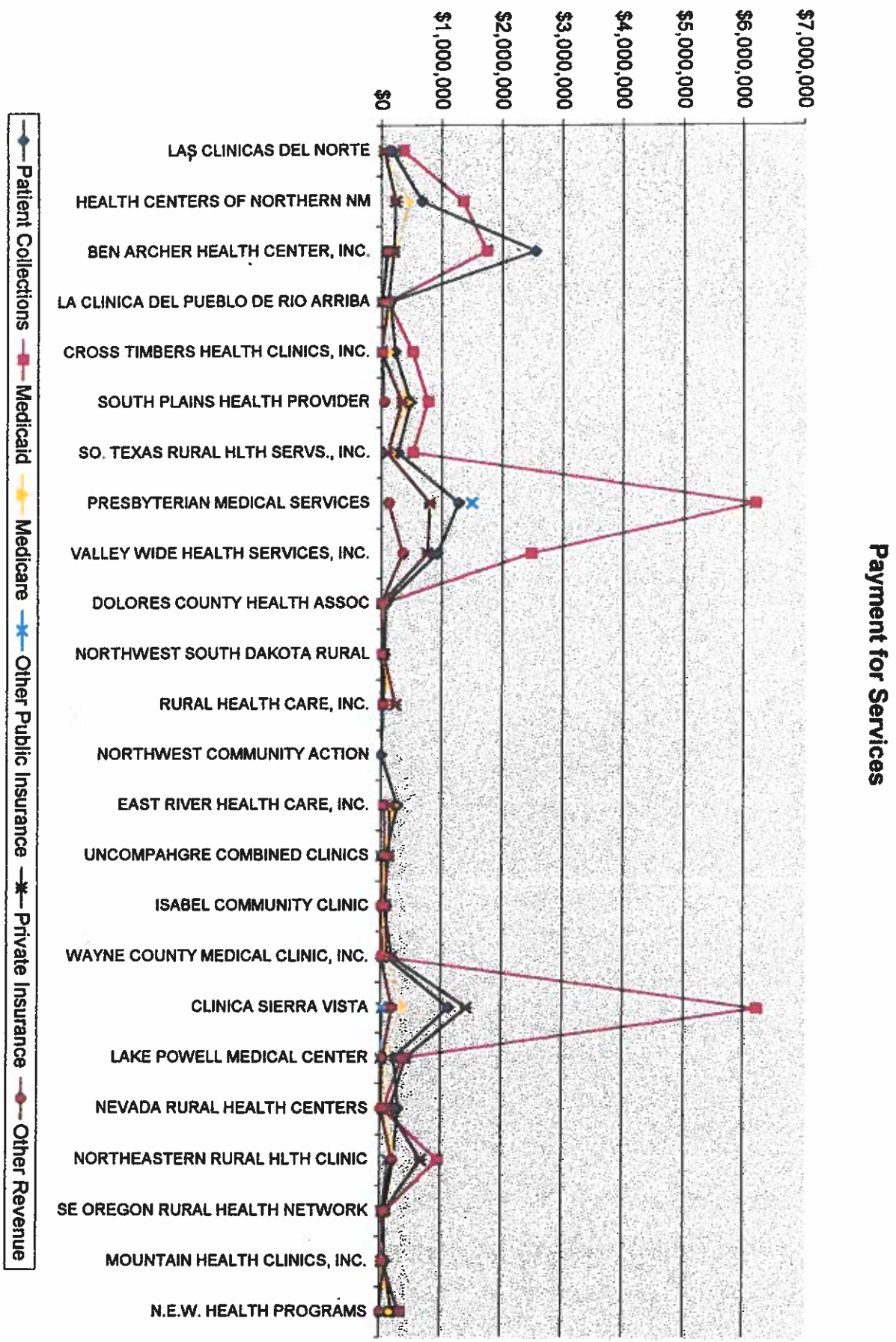
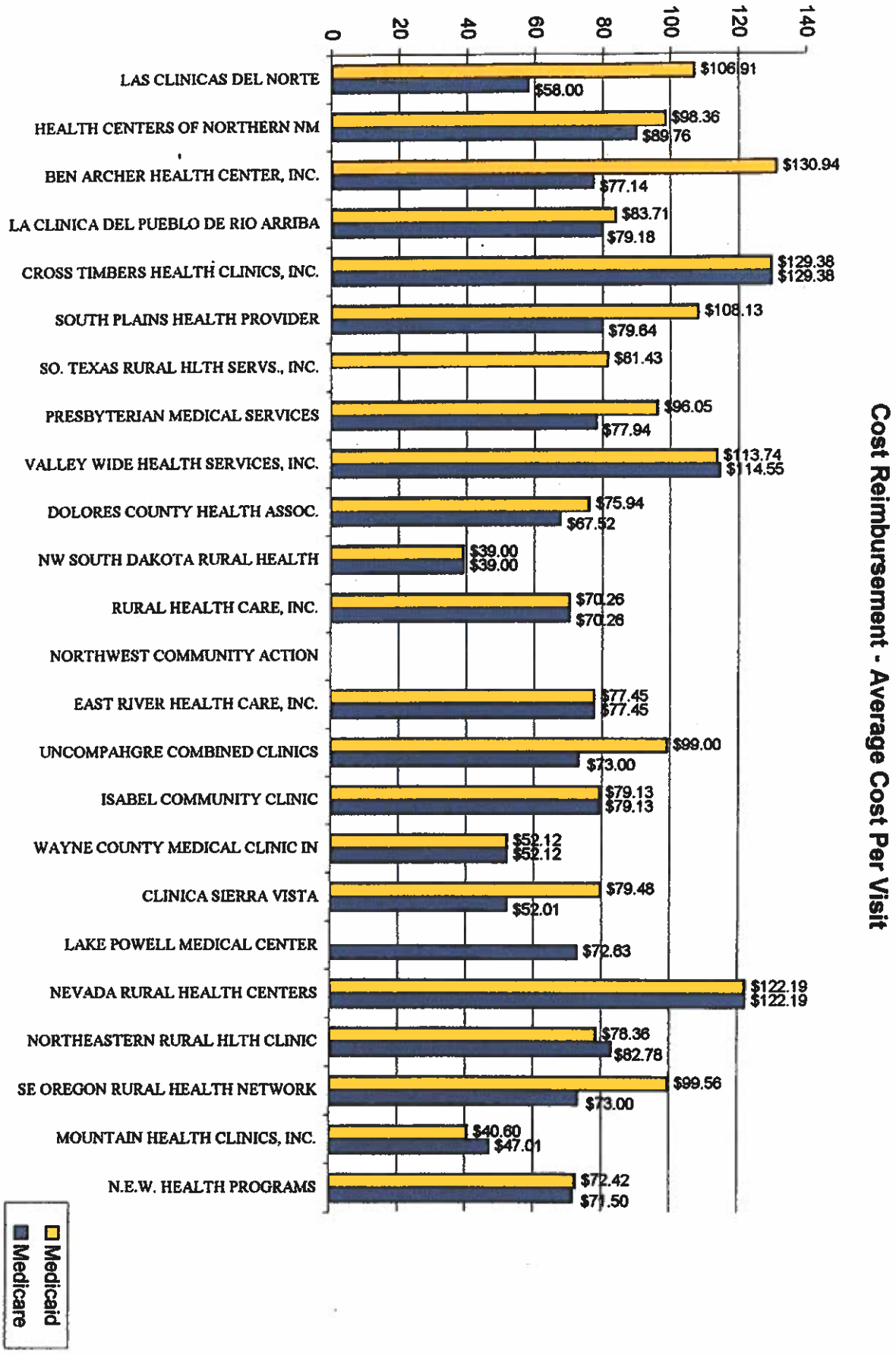


Chart 35 - Table 9 Part B (Line 2A-B)



Cost Reimbursement - Retroactive Settlements

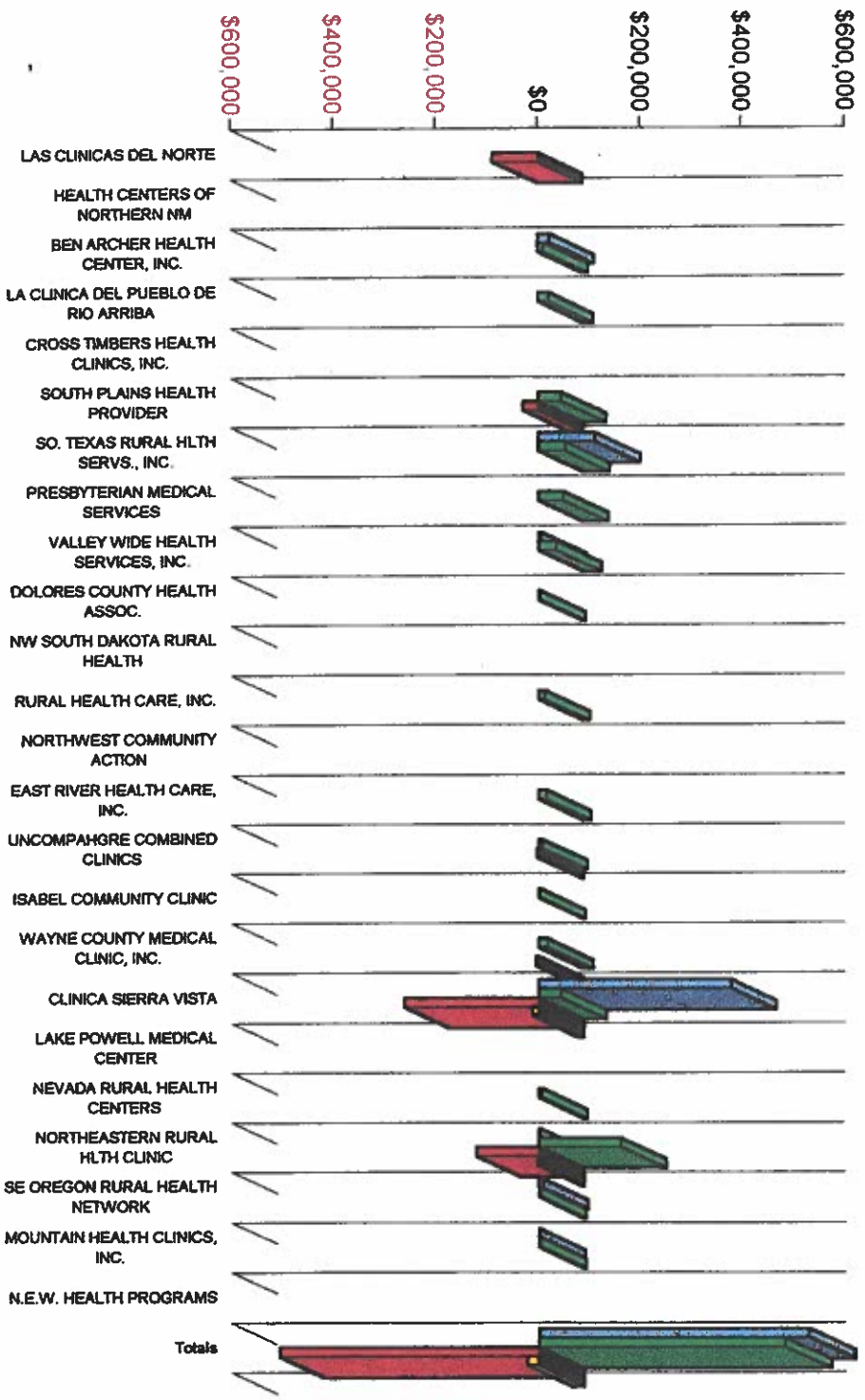


Chart 36 - Table 9 Part B (Lines 13-14)

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