they are of considerable interest, since they allow for comparisons between the two major ethnic groups with regard to access and its effect on contraceptive use. Mayans between the ages of 15 and 49 constituted 63% of the total population in these four departments (91% in Sololá, 96% in Totonicapan, 32% in Quetzaltenango and 38% in San Marcos).

The analysis of the role of access used a variant of the model described for the analysis over time. Dummy variables for year and for the three largest cities were dropped, although “urban” was added as a place of residence. As in the first analysis, interaction terms—between ethnicity and the remaining explanatory variables—were entered to test the hypothesis that socioeconomic factors and access to services have different effects on contraceptive use among Mayans and ladinos. Access to family planning services was measured in terms of travel time and entered into the model as a dummy variable. The mean number of health facilities per community (defined to be within a two-hour limit) was 4.3; the median, three facilities. After reducing the sample to women in union aged 15–49, we had information on 1,979 women for analysis in the full model. As in the first analysis, interaction terms—between ethnicity and the remaining explanatory variables—were entered to test the hypothesis that socioeconomic factors and access to services have different effects on contraceptive use among Mayans and ladinos. Access to family planning services was measured in terms of travel time and entered into the model as a dummy variable. The mean number of health facilities per community (defined to be within a two-hour limit) was 4.3; the median, three facilities. After reducing the sample to women in union aged 15–49, we had information on 1,979 women for analysis in the full model. In this analysis, we defined access as living within 10 minutes of a facility.

Results

Socioeconomic Characteristics

Mayan and ladino respondents were about the same age (30–32 years, on average) over the four surveys. They differed markedly, however, on selected socioeconomic variables (Table 1): Ladino women were more likely than Mayans to work outside the home and to own a radio or television (proxies for economic status), and they had higher levels of education. However, both groups showed dramatic improvements on key variables over the 20-year period. Among Mayans, the proportion of women with some primary education more than tripled, rising from 12% to 39%. Similarly, the proportion working outside the home increased from 9% to 25%. The proportion of Mayans reporting television ownership shot up from only 2% in 1978 to 30% in 1998. Ladino women showed similar gains in education and television ownership.

Contraceptive Prevalence

Contraceptive use contrasts starkly between ladinos and Mayans in Guatemala (Figure 1). The prevalence of use of any method among ladinos has increased steadily from 28% in 1978 to 34% in 1987 and to 50% in 1998; the change among the Mayan population has been very small, from 4% in 1978 to 6% in 1987 and 13% in 1998. For both groups in each survey, modern methods represented at least 65% of all use. Despite the presence of family planning services in Guatemala for more than 30 years, the current levels of contraceptive prevalence among Mayans more closely resemble those of Africa than those seen elsewhere in Latin America.

Method Mix

Over the past 20 years, three methods have dominated contraceptive use in Guatemala: female sterilization, the pill and rhythm (Table 2). Female sterilization has been the leading method for both Mayan and ladino users in every survey period.

Rhythm is by far the most widely used of the so-called traditional methods, constituting 78% of all traditional method use among Mayans in 1998. In contrast to the pill and female sterilization, which are clearly defined methods, “rhythm” may have a variety of meanings, especially in populations with low levels of education. Although we cannot discern these differences from the available data, respondents may say they rely on rhythm in any of the following circumstances: They carefully monitor menstrual cycles with a calendar or thermometer (or both), following formal training from a family planning worker; they avoid sexual relations during the period when they believe they are the most fertile; they occasionally or regularly avoid relations in hopes of preventing pregnancy; or they are reluctant to admit that they are not practicing contraception, especially if they do not want to become

![Figure 1. Percentage of women using a contraceptive method, by year, according to ethnicity](image)