The nature of maternity services has changed in the past 20 years, with a movement away from traditional (physician delivery in a hospital) towards other alternative services. This study examined alternative maternity services in Washington State, which ranks eighth in the country in the use of such services. Data were collected from birth and infant and fetal death certificates. A delivery was considered alternative if it occurred outside of a hospital and/or was delivered by a non-physician attendant, typically a midwife. The findings revealed that alternative maternity services in Washington were used by a select group of low-risk women with generally favorable pregnancy outcomes. The data showed that more low-risk women were choosing these services every year. This increase, coupled with the fact that 45% of Washington women having babies are in this low-risk category and could thus choose alternative services, suggests that any consideration of new delivery technologies must take into account the desire for "low-tech" alternatives. (NB)
INTRODUCTION

The nature of maternity services has changed in the past two decades, with a movement away from the traditional (physician delivery in a hospital) towards other, alternative, services (1). As a result, there is increased interest in these services, both by groups wanting to make them more widely available and by groups wanting tighter regulation of obstetric practice. This increased interest has created a need to put alternative maternity services into perspective and define what their role should be, as a guide to public health policy decisions.

Accordingly, this paper presents data on alternative maternity services in Washington State, which ranks eighth in the country in the use of these services (1). Three areas are covered: trends in service use, characteristics of service users, and pregnancy outcomes for service users.
The results presented here are based on data reported on birth and infant and fetal death certificates. A delivery was considered alternative if it occurred outside of a hospital and/or was delivered by a non-physician attendant, typically a midwife. As used in this paper, 'midwife' refers to both certified nurse midwives and licensed midwives. Certified nurse midwives account for about 80 percent of the midwife deliveries. They practice mainly in hospitals, whereas licensed midwife deliveries occur primarily at home. Lay midwives, who deliver about 100 babies annually, are not included in this midwife classification.

RESULTS

1. Trends in service use: Between 1975 and 1985, the use of traditional maternity services declined from 99 percent of births to 95 percent, representing a decrease of about 2,700 deliveries per year. Two separate changes have been responsible for this decline (Figure 1). At first, the decline was due to an increase in out-of-hospital deliveries (home, freestanding birthing center). However, out-of-hospital delivery reached its peak in 1981 and has since declined in popularity, largely due to a decrease in deliveries in freestanding birthing centers. Thus, women are returning to hospital delivery, but not to traditional services. All of the recent increase in hospital delivery is due to hospital deliveries by midwives, which had a twelve-fold increase between 1979 and 1985 (Figure 2).
How do these trends fit together? Initially, women seeking 'different' maternity services found them outside of the hospital, in birthing centers or their own homes. More recently, changes in hospital-based obstetrics (setting up birthing rooms, allowing more midwifery practice) have allowed these women to return to the hospitals, deserting birthing centers, but not home births, which remain relatively constant at 1.5 percent of births. However, even the nature of home delivery has changed with the increase in midwifery practice. Decreasing physician home deliveries left a gap which at first was filled by unlicensed attendants (fathers, lay midwives). In fact, unlicensed attendants were the most common home delivery attendant for the years 1977-82 (Figure 3). However, recent increases in midwife home deliveries have changed this pattern so that midwife deliveries now outnumber unlicensed attendant deliveries by 2:1.

2. Characteristics of service users: Trend data have shown that midwives are the key to many of the recent changes in alternative service use. What type of woman uses these midwife services? Birth certificate data show that Washington State women who have midwife deliveries tend to be older (non-teen), white, married women (Table 1). Compared to women using traditional services, they have timely prenatal care more often and are less likely to smoke during pregnancy, and they are also less likely to have had a previous delivery with adverse outcome (late fetal loss, premature infant, or previous live birth now dead).
The salient point emerging from this analysis is that these midwife users are women who could have chosen a traditional delivery if they had wished. Thus, they probably used alternative services not because other services were not available, but because a personal choice. This distinction has consequences in terms of pregnancy outcomes to be expected.

3. Pregnancy outcomes: The most important consideration in any analysis is still the outcome — how did the baby do? Since women having midwife deliveries are in general the low-risk mothers, their outcomes should be better than average. In this case, the issue becomes: how do these women compare to similarly low-risk women who use traditional services? Even among these low-risk mothers, infants delivered by midwives have low birth weight considerably less often (Table 2). Perinatal mortality rates are also significantly lower \([p(X^2)<.001]\) for babies delivered by midwives (even adjusting for birth weight differences). In contrast, postneonatal mortality rates, which depend more on environmental factors than on health care, have little variation by type of attendant.
DISCUSSION

These results indicate that, at least in Washington State, alternative maternity services are used by a select group of low-risk women with generally favorable pregnancy outcomes. Furthermore, trend data show that more low risk women are choosing these services every year. This increase, coupled with the fact that 45 percent of the Washington State women having babies are in this low-risk category and could thus choose alternative services, suggests that any consideration of new delivery technologies must take into account the desire for 'low-tech' alternatives.

These changes also have consequences for traditional maternity services. As more low-risk women choose alternative services, physicians are left to deal with relatively more high-risk deliveries. In this respect, Washington State is moving closer to the European experience, where trained professional midwives deliver the majority of babies and physicians primarily handle problem deliveries, in keeping with their training and talents (2). Unfortunately, these changes come at a time when more obstetricians are curtailing delivery services because of malpractice insurance increases (3). Whereas low-risk pregnancies can be accommodated by alternative services, creative solutions will still need to be found for dealing with these high-risk pregnancies.
REFERENCES

1. **Vital Statistics of the United States, Volume I-Natality.**

2. **Midwifery Outside the Nursing Profession: The Current Debate in Washington.** Health Policy Analysis Program, University of Washington School of Public Health and Community Medicine, Seattle, Wa, October, 1980.

FIGURE 1.

TRENDS IN OUT-OF-HOSPITAL DELIVERY
WASHINGTON STATE RESIDENTS, 1975-86

[Graph showing trends in out-of-hospital delivery for Washington State residents from 1975 to 1986.]
FIGURE 2.

TRENDS IN HOSPITAL DELIVERY BY MIDWIVES
WASHINGTON STATE RESIDENTS, 1975-88

PERCENT
OF HOSP
DELIVS

1975  1980  1985
FIGURE 3.

TRENDS IN HOME DELIVERY ATTENDANT
WASHINGTON STATE RESIDENTS, 1976-86
### TABLE 1.

**PROFILES OF WOMEN WITH HIGH AND LOW MIDWIFE USE**

**WASHINGTON STATE RESIDENTS, 1985**

#### HIGHEST USE

- **WHITE** and **MARRIED**
- **and AGE 20-39**
- **and CARE FIRST TRIMESTER**
- **plus NON-SMOKER**
- **and NO PREVIOUS ADVERSE OUTCOME**

<table>
<thead>
<tr>
<th></th>
<th>PERCENT USING MIDWIVES</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td></td>
<td>4.1</td>
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<td>4.6</td>
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#### LOWEST USE

- **TEEN (<17)**
- **INDIAN or MEXICAN**
- **PREVIOUS ADVERSE OUTCOME**

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<td>1.7</td>
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- **SMOKER**
- **RURAL NON-WHITE**
- **NO PRENATAL CARE**

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<td>1.8</td>
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<td></td>
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*AGE-ADJUSTED PERCENTS*
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<th></th>
<th>MD</th>
<th>MIDWIFE</th>
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<tr>
<td><strong>PERCENT LOW BIRTH WEIGHT</strong></td>
<td>3.2</td>
<td>0.8</td>
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<tr>
<td><strong>DEATH RATES</strong> (per 1,000 live births)**</td>
<td>9.2</td>
<td>3.5</td>
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<tr>
<td><strong>PERINATAL</strong></td>
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<tr>
<td><strong>POSTNEONATAL</strong></td>
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<td>3.8</td>
</tr>
</tbody>
</table>

*LOW-RISK = WHITE SINGLETON INFANT BORN TO MARRIED MOTHER AGED 20-39 WHO BEGAN PREGNANT CARE IN FIRST TRIMESTER*

**ADJUSTED FOR BIRTH WEIGHT DIFFERENCES**