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### *Midwifery Licensure and Discipline Program in Washington State: Economic Costs and Benefits*

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Midwifery Licensure  
and Discipline Program  
in Washington State:  
Economic Costs and Benefits

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## Statement of Purpose and Summary of Findings

On August 6, 2007, Health Management Associates (HMA) was contracted by the State of Washington Department of Health (DOH) to conduct a review of existing research literature related to the economic costs and benefits of the practice of licensed midwifery. The review was to form the basis of a report, required by the legislature, to present the economic benefits of midwifery out-of-hospital births to the health care system and the economic benefits to the consumers who elect to have out-of-hospital births, including any reduced use of procedures that increase the costs of childbirth. The purpose of the report is to determine whether the economic benefits of the Midwifery Licensure and Discipline Program (subsequently referred to as “the Program”) exceed the state expenditures to subsidize the cost of the Program under RCW 43.70.250.

HMA assembled a team comprised of a health economist, a physician, an obstetric nurse, a public health professional and an economics student intern. To better understand the Program and requirements of its operation, the team reviewed relevant legislation: RCW 43.70.250, Chapter 18.50 RCW, Chapter 18.130 RCW and Chapter 246-834 WAC. The team also reviewed disciplinary actions over the last five years. In addition, the team reviewed budget documents for the Program and calculated expenditures to operate the Program, for the most recent biennium, in the amount of \$277,400.82

We conducted a thorough review of the literature and identified credible and recent studies that provided sufficient evidence to enable us to draw the conclusion that planned out-of-hospital births attended by licensed professional midwives in the U.S., and in the State of Washington, had similar rates of intrapartum and neonatal mortality to those of low-risk hospital births, and that medical intervention rates for planned out-of-hospital births were lower than for planned low-risk hospital births.

The studies cited did not and could not account for all morbidity experienced by mothers and/or newborns in populations of women cared for by licensed midwives and compare them with populations of women cared for by other health professionals. Any differences are unknown, and may involve potential long term costs unaccounted for in the projections.

Medicaid claims data from the Washington Department of Social and Health Services First Steps Database were the basis of the economic analysis. Using conservative cost estimates, described in the report, we estimate the recoveries from Medicaid Fee for Service (FFS) alone to be more than \$473,000 which is about 1.8 times the cost of operating the Program. Cost savings to the health care system (public and private insurance) is estimated at \$2.7 million which is close to ten times the cost of the Program.

We do not believe it is possible to precisely quantify cost savings resulting from avoided medical intervention in out-of-hospital births and therefore did not include potential cost savings in the cost-benefit ratios. Instead, we cited literature that provides Level 1 evidence (systematic reviews) that one-on-one labor support,

inherent in the midwifery approach, has an effect on cesarean (c-section) rates, and provided a range of cost savings estimates for potentially avoided c-sections. These estimates demonstrate that even the most modest favorable effect on lowering the c-section rates associated with licensed midwives leads to substantial savings to the health care system, as well as lower medical risk and cost to the family.

## Introduction

The Revised Code of Washington 43.70.250 sets forth the policy of the state that the cost of each professional, occupational, or business licensing program is to be fully borne by the members of that profession, occupation, or business. There are currently fewer than 100 midwives licensed in the State; the size of this group makes the cost of the Midwifery Licensure and Discipline Program per professional costly and prohibitive for some midwives. In the most recent biennium, 2005-07, the cost to operate the program was \$277,400.82

The legislature requested a report be prepared to present the economic benefits of midwifery out-of-hospital births to the health care system and the economic benefits to the consumers who elect to have out-of-hospital births, including any reduced use of procedures that increase the costs of childbirth.

The purpose of the report is to determine whether the economic benefits of the Program exceed the state expenditures to subsidize the cost of the Program.

## Literature Review

The State of Washington's proposed boundaries for the literature review included:

- periodicals published within the past five years and books published within the past ten years;
- evidence-based;
- limited to the United States, and published in the English language; and
- exclusion of nurse midwives.

HMA conducted a thorough literature review of peer reviewed journal articles in medicine, nursing, public health, economics, finance, business and other fields. While there were several relevant articles on birth setting and cost, there were very few on provider and cost. With so few states licensing midwives, most provider and cost studies in the United States are aimed at certified nurse midwives. The team reviewed dozens of articles with only one falling into the bounds of the review provided, entitled: *Outcomes of planned home births with certified professional midwives: large prospective study in North America*. Published in the British Medical Journal in 2005, this article is one of the few, and the largest prospective study of home birth, allowing for relatively stable estimates of risk. We will refer to this article as the "Outcomes Study."<sup>1</sup>

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<sup>1</sup> Johnson, K., and Davis, B. "Outcomes of planned home births with certified professional midwives: large prospective study in North America." *BMJ* 2005; 300:1415

In addition, the HMA team conducted interviews with Washington physicians, midwives, state employees and health researchers to discuss the findings of the literature review, identify local data to inform the report, and discuss local issues that might influence risk of out-of-hospital births. Through these interviews, we were informed of two articles produced by the Department of Social and Health Services, which are scientifically valid but unpublished in the literature. The studies are entitled, *Planned Home Births: Outcomes Among Medicaid Women in Washington State, July 1996*, and a *Report by the Data Subcommittee of the Home Birth Task Force to summarize and present pertinent data concerning the safety and effectiveness of home birth in Washington State, June 1997*. While these studies were outside the bounds of the review due to the date of publication, updates to pertinent data from the most recent article were completed in March, 2007. We will refer to this data as the “Washington Medicaid Data.”<sup>2</sup> The data from the Outcomes Study, described above, were used to corroborate the findings from the Washington Medicaid Data.

## Study Findings

The Outcomes Study presents data on the safety and effectiveness of planned home births involving direct entry midwives in the United States (98% of cohort) and Canada where the practice is not well integrated into the healthcare system. The North American Registry of Midwives provided the opportunity to study the practice of a defined population of certified professional midwives. The target population included all women who engaged the services of a certified professional midwife (direct-entry midwife) in the United States or Canada as their primary care giver for a birth with an expected date of delivery in 2000. The Registry made participation in the study mandatory for recertification and provided an electronic database of 534 credentialed midwives. Of the 534 midwives, 409 were able to be reached, were currently practicing, and agreed to participate. A total of 5,418 women planning home births at the start of labor were compared with women who gave birth in hospital to singleton, vertex babies of at least 37 weeks or more gestation in the United States in 2000.

This large prospective study found that planned home births for low risk women in North America using certified professional midwives were associated with lower rates of medical intervention but similar intra-partum and neonatal mortality to that of low risk hospital births in the U.S. This study does not present or compare morbidity data of these births with those of low-risk hospital births. Overall, however, the study reports a high degree of safety and maternal satisfaction; over 87% of mothers and neonates did not require transfer to hospital.

Consistent with the findings from this study, is a series of analyses conducted by the Washington Department of Social and Health Services (DSHS) which presents

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<sup>2</sup> Cawthon, L. Update to Tables 1, 2, 3 from “Summary of pertinent data concerning the safety and effectiveness of home birth in Washington State.” Washington Department of Social and Health Services, Office of Research and Data Analysis. March 13, 2007.

pertinent data concerning the safety and effectiveness of planned home births in Washington State between January 2001 – December 2004. The researchers conducted three separate analyses: the Intent to Treat analysis, the Achieved Home Birth analysis, and the Sentinel Events analysis. Findings are presented in three data tables and summarized below. (Refer to Appendix A, Washington Medicaid Study - Data Tables.)

***Intent to Treat Analysis.*** This analysis compares rates for selected birth outcomes (neonatal deaths, postneonatal deaths, infant deaths, fetal deaths, perinatal deaths, and birthweight <1800 grams) and c-sections for women enrolled in Medicaid who had at least some prenatal care from a licensed midwife as compared with women on Medicaid who did not receive prenatal care from a licensed midwife. There were no statistically significant differences in selected birth outcomes for those women receiving prenatal care by a licensed midwife as compared with those who did not receive prenatal care from a licensed midwife. The risk of cesarean section (c-section) is lower for women receiving care from a licensed midwife as compared with women who did not receive prenatal care from midwives (adjusted relative risk 0.49; 95% confidence interval = .45 - .53; p=0.00)

***Achieved Home Birth Analysis.*** This analysis compares rates for selected birth outcomes for women on Medicaid who received prenatal care from a licensed midwife whose home deliveries were attended by a midwife as compared with women on Medicaid who did not receive prenatal care from a midwife. There were no statistically significant differences in selected birth outcomes for those women receiving prenatal care, with the exception of birth weight. The risk of low birth weight (<1,800 grams) was lower for infants delivered at home to women attended by a licensed midwife as compared with infants of women on Medicaid who did not seek prenatal care from a midwife (adjusted relative risk = 0.23; 95% confidence interval = 0.12-0.43; p=0.00).

***Sentinel Events Analysis.*** Finally, the DSHS compiled data on specific sentinel events which were thought to be of importance. As anticipated, rates of sentinel events were low in women giving birth out-of-hospital. Sentinel events included in the analysis were either “mother-based,” (multiple birth, uterine rupture, vaginal birth after c-section, and post-partum hemorrhage) or “child-based” (low 5 minute Apgar, breech birth, newborn seizures, neonatal intensive care unit admission, very low birth weight and medium low birth weight.) There were no statistically significant differences in sentinel events that would attribute increased risk to the woman or infant having received prenatal care from a licensed midwife and planned an out-of-hospital birth. While the sentinel events measured are key indicators of morbidity, the study could not and did not include all measures of potential morbidity.

For each analysis, relative risk was adjusted for the following variables: mother’s race, mother’s age, mother’s marital status, maternal smoking status, mother’s number of prior births, mother’s Medicaid eligibility status, maternal substance abuse, pre-existing maternal medical conditions, complications of pregnancy, and previous preterm or small-for-gestational-age birth. This data is consistent with

previous reports from the Department of Social and Health Services for Washington Medicaid births from 1989 – 2004.

## **Review of Disciplinary Actions**

The State of Washington’s Midwifery Licensure and Discipline Program seeks to address “incompetence, negligence or malpractice which results in injury to a patient or which creates and unreasonable risk that a patient may be harmed.” It includes “violation of any state or federal status or administrative rule regulating the profession in question, including any statute or rule defining or establishing standards of patient care or professional conduct or practice.”

The Midwifery program had eight disciplinary actions in the last five years (October 1, 2002 through October 1, 2007). During this time, clinical mismanagement was determined to have increased risk of eight women and/or newborns resulting in unknown morbidity, and ultimately resulted in two newborn deaths and one stillbirth. One midwife was found responsible for two newborn deaths and her license was revoked. The midwife associated with the third newborn death retains a current license to practice midwifery in the State.

While each of these deaths is nothing less than a tragedy, unless we compare disciplinary actions of licensed midwives to disciplinary actions of professionals attending hospital births, we are unable to draw conclusions about their relative gravity. Well designed research studies, such as the Outcomes Study and the Washington Medicaid data analyses described above, must be relied upon to draw conclusions about relative risk.

## **Data Used by Other States to Assess the Safety of Licensed Midwifery Programs**

To identify the information sources other state midwifery licensure and discipline programs use to base conclusions of program safety, HMA interviewed state officials in Arizona, California, Florida, New Hampshire, Oregon, and South Carolina. States have a variety of safeguards in place to help ensure the competency of midwives and establish practice regulations. States monitor consumer complaints, conduct investigations and oversee the disciplinary process. In addition, all six states have, or will soon have, a method for collecting and reporting safety statistics and birth outcomes for licensed midwives. In California, the legislature mandated an annual reporting system to begin March 2008 to capture safety measures and outcomes of out-of-hospital births to be aggregated and reported to the legislature. In Florida, a voluntary annual statistics report is completed by most midwives on safety measures and birth outcomes, and an annual report is prepared that addresses these statistics, among other items.

Arizona and South Carolina regulations require their licensed midwives to report on safety measures and birth outcomes every quarter, and the Boards initiate contact with individual midwives regarding any questionable practices. Oregon conducts an

annual vital statistics analysis that compares outcomes of out-of-hospital births with hospital births. New Hampshire regulations require birth certificate worksheets to be completed by each midwife that include safety measures and birth outcomes. Most of these states report, but do not conduct a rigorous analysis of these data. States like New Hampshire, for example, which have a small number of licensed midwives, lack a statistically significant sample of births and therefore rely heavily on peer reviewed literature to draw conclusions on safety. The New Hampshire official specifically referenced their use of the Outcomes Study cited throughout this report.

## Economic Cost Analysis

The findings described in the literature review provide evidence of the safety of planned, low-risk, out-of-hospital births involving licensed midwives. Therefore, the economic cost analysis is built simply on differences in cost per delivery based on birth setting.

Medicaid claims data were obtained from the DSHS First Steps Database and used to estimate cost-savings to Medicaid Fee for Service (FFS) and project gross estimates of cost-savings to the health care system. Medicaid FFS delivery expenditure data by birth setting for women having received prenatal care (PNC) by a licensed midwife and having delivered between January 2001 – December 2004 are summarized below. (Refer to Appendix B, Claims Data.)

The average Medicaid payments are all-inclusive and account for every claim paid for any provider during the time immediately surrounding the delivery. For a hospital delivery, the claims included are those from admission to discharge of the child-bearing woman. The costs per delivery exclude costs for prenatal and newborn care which will be addressed later in the report.

Birth Setting	Cost per Delivery for Midwife Providing PNC
Home	\$1,000
Birth Center	\$1,635
Hospital (Vaginal)	\$3,971
Hospital (C-Section)	\$6,550

Source: Department of Social and Health Services, First Steps Database.

Birth Setting	Cost per Delivery for Non-Midwife Providing PNC
Hospital (Vaginal)	\$3,171
Hospital (C-Section)	\$5,798

Source: Department of Social and Health Services, First Steps Database.

Between January 2001 – December 2004, vital statistics indicate 6,065 births “attended” by licensed midwives. “Attended” is in quotes as transfers in care

ultimately led to a physician attending a portion of these births in hospital. Over this same four-year time period, according to DSHS, licensed midwives provided prenatal care to women intending to have an out-of-hospital delivery that resulted in 2,022 births covered by Medicaid FFS with many women transitioning to Medicaid Managed Care during their pregnancies.

Of these 2,022 deliveries, 1,036 were covered solely by Medicaid FFS. It is the Medicaid FFS rate upon which we based the cost analysis. Of the 1,036 Medicaid FFS deliveries, there were 415 home births, 235 birth center births, and 386 hospital births (263 vaginal, 123 c-section) over the four year time period as indicated below.

Birth Setting	Number (%) Deliveries for Midwife Providing PNC
Home	415 (40.0%)
Birth Center	235 (22.7%)
Hospital (Vaginal)	263 (25.4%)
Hospital (C-Section)	123 (11.9%)
Total	1036 (100%)

Source: Department of Social and Health Services, First Steps Database.

***What was the cost to Medicaid FFS for deliveries of intended out-of-hospital births with prenatal care provided by licensed midwives?***

Using the claims data during the four year period (January 2001- December 2004), and birth setting data during this time, the approximate cost for the 1,036 Medicaid FFS births is calculated below.

Number of Births	Cost per Birth	Total Cost
415 home births	\$1,000	\$415,000
235 birthing center births	\$1,635	\$384,225
263 hospital vaginal births	\$3,971	\$1,044,373
123 hospital c-section births	\$6,550	\$805,650
<b>Cost estimate</b>		<b>\$2,649,248</b>

***What would be the cost to Medicaid FFS for deliveries if these were intended hospital births with prenatal care provided by a non-midwife?***

While the hospital c-section rate for low-risk women is significantly higher as described later in this section, we will use the Washington licensed midwife c-section rate of 11.9% to calculate the most conservative cost estimates. Using the same claims data, the approximate cost for these 1,036 births, if they were all delivered in hospital, is calculated below.

Number of Births	Cost per Birth	Total Cost
917.9 hospital vaginal births (88.6% of births)	\$3,171	\$2,910,648
123.3 hospital c-section births (11.9% of births)	\$5,798	\$714,893

<b>Cost Estimate</b>	<b>\$3,625,541</b>
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***What is the cost savings of the practice of licensed midwifery on the cost of deliveries to Medicaid FFS?***

The estimated cost saving for the four year period (January 2001 – December 2004) for Washington Medicaid FFS is calculated below.

Cost savings estimate: \$3,625,541 - \$2,649,248 = **\$976,293**.

For a typical biennium, the cost savings to Washington Medicaid FFS would be approximately: **\$488,147**.

While the cost savings to Washington Medicaid FFS alone is significant, this represents only a portion of births attended by licensed midwives.

***What would be the cost to all payors for intended out-of-hospital births with prenatal care provided by licensed midwives?***

Assessing claims data from the other public and private insurers in the State of Washington is beyond the scope of this study; however, if we assumed all pregnant women in Washington are insured, and other payors have rates comparable to Medicaid FFS for delivery, we could grossly approximate a cost savings.

Using the same claims data as an estimate of costs with a total of 6,065 licensed midwife “attended” deliveries between January 2001 – December 2004, and using birth setting data from licensed midwife attended births from Medicaid FFS, the estimated cost to all payors is calculated below.

<b>Number of Births</b>	<b>Cost per Birth</b>	<b>Total Cost</b>
2,426 home births (40% of 6,065 births)	\$1,000	\$2,426,000
1,377 birth center births (22.7% of 6,065 births)	\$1,635	\$2,251,395
1,540 hospital vaginal births (25.4% of 6,065 births)	\$3,971	\$6,115,340
722 hospital c-section births (11.9% of 6,065 births)	\$6,550	\$4,729,100
<b>Cost Estimate</b>		<b>\$15,521,835</b>

***What would be the cost to all payors for deliveries if these were intended hospital births with prenatal care provided by a non-midwife?***

<b>Number of Births</b>	<b>Cost per Birth</b>	<b>Total Cost</b>
5,343 hospital vaginal births (88.1% of 6,065 births)	\$3,171	\$16,761,822
722 hospital c-section births (11.8% of 6,065 births)	\$5,798	\$4,729,100
<b>Cost Estimate</b>		<b>\$20,947,978</b>

***What is the cost savings of the practice of licensed midwifery on the cost of deliveries to all payors?***

**Cost savings estimate:** \$20,947,978 - \$15,521,835 = **\$5,426,143.**

For a typical biennium, the cost savings to all payors would be approximately: **\$2,713,072.**

***What about prenatal costs, newborn costs, unknown long-term costs, and costs associated with differential intervention rates in hospital and out-of-hospital births?***

The cost savings estimates above address the delivery only and do not include other associated costs. The following are notes on these associated costs.

***Prenatal care costs***

The Medicaid Fee-for Service claims data table in Appendix B provides reimbursement data for prenatal care (PNC) for women who received licensed midwife prenatal care and women receiving non-midwife prenatal care. The data indicates that on average, prenatal care provided by licensed midwives is less expensive.

***Newborn costs***

Data on newborn costs are not readily available from the DSHS First Steps Database; however, there are typically fewer costs for the newborn for an out-of-hospital birth as compared with an in-hospital birth due to newborn nursery costs.

***Potential long term costs related to morbidity***

The studies cited in this report did not and could not account for all morbidity experienced by mothers and/or newborns in populations of women cared for by licensed midwives and compare them with populations of women cared for by other health professionals. These are unknown, potentially long term costs that are unaccounted for in the projections.

The only sentinel event outcome measure presented in the Washington Medicaid data that had a statistically significant difference between a licensed midwife attended home birth, and a birth with no prenatal care provided by a licensed midwife, is the higher rate of low birth weight (less than 1800 grams) in infants born to women with no prenatal care provided by a licensed midwife. Low birth weight increases risk of health problems, involving unknown, potentially long term costs that are unaccounted for in the projections. (Refer to Appendix A, Table 2.)

***Costs associated with differential intervention rates***

The degree to which practice patterns of licensed midwives may contribute to differences in intervention rates is not entirely known. We do know, however, that the Outcomes Study reported rates of medical intervention for home births consistently less than half those in hospitals, whether compared with a relatively low risk group (singleton, vertex, 37 weeks or more gestation) that will have a small percentage of higher risk births or the general population having hospital births.

Compared with the relatively low risk hospital group, intended home births were associated with lower rates of electronic fetal monitoring (9.6% versus 84.3%), episiotomy (2.1% versus 33.0%), vacuum extraction (0.6% versus 5.5%), and c-section (3.7% versus 19.0%). The c-section rate for intended home births was 8.3% among primiparous women and 1.6% among multiparous women. These rates compare with 24% of singleton births in all risk categories in U.S. in 2000.

Of the interventions compared in the Outcomes Study, the c-section rate is most costly to both the health care system and the consumer. Women covered by Medicaid FFS in Washington State who received prenatal care by a licensed midwife had a c-section rate of 11.9%. During the four year period of analysis (January 2001 – December 2004), the c-section rate of births to women on Medicaid who did not receive prenatal care from a licensed midwife was 23.9% -- consistent with the typical U.S. hospital rate of 24%.

Due to the difficulty of precisely estimating the degree to which practice patterns contribute to c-section rates, and to provide the most conservative reasonable estimate of cost savings, we based the cost estimates on the licensed midwives c-section rates. There is, however, a long-standing body of literature that demonstrates a reduction in c-section rates with one-on-one trained labor support, such as the presence of a midwife throughout labor.<sup>3</sup> These findings suggest there is very likely some effect and that even a small effect bears a large cost on both the health system and the consumer.

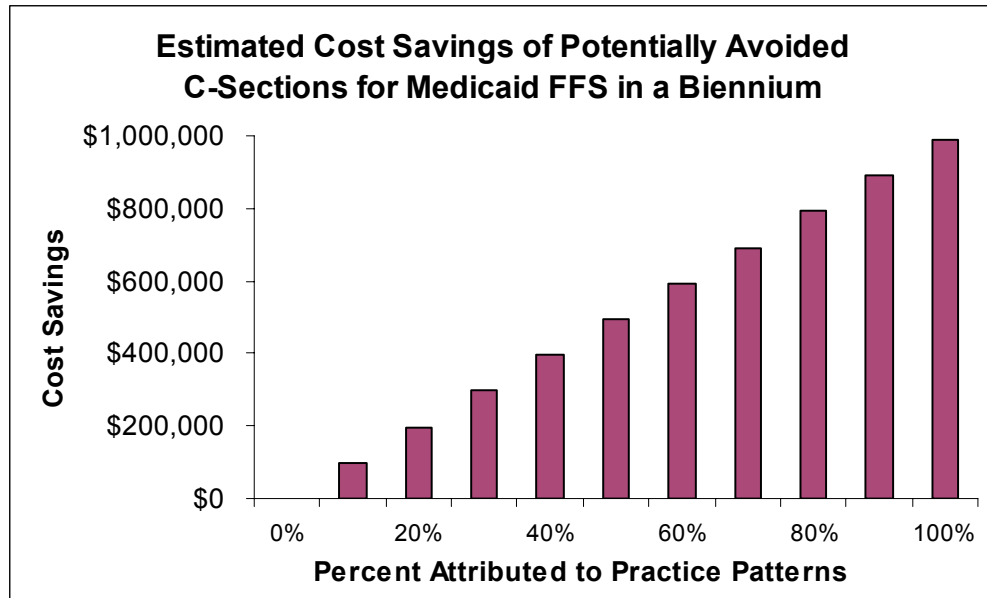
According to Beverly Atteridge, Clinical Nurse Program Manager, Department of Social and Health Services, current Washington Medicaid FFS expenditures for c-section with post partum care and newborn nursery costs (without complications) is estimated at \$7,981.56.

### ***Potential Cost Savings of Avoided C-Sections***

The Washington Medicaid Claims data indicated 1036 births to women covered by Medicaid FFS who received care from a licensed midwife between January 2001 – December 2004. Of these 1,036 births, 11.9% (or 123) were c-sections. If all 1,036 births were hospital births, we might expect an increase in the c-section rate of an unknown amount that might reflect up to the typical hospital c-section rate of 23.9% (or 248 c-sections.) In a biennium, this could account for up to about 124 potentially avoided c-sections.

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<sup>3</sup> Walker, R., Turnbull D., and C. Wilkinson. "Strategies to address global cesarean section rates: a review of the evidence." *Birth*. 2002 Mar: 29(1): 28-39.



Percent (Number) Attributed to Practice Patterns	Cost
0% (0)	\$0
10% (12.4)	\$98,971
20% (24.8)	\$197,943
30% (37.2)	\$296,914
40% (49.6)	\$395,885
50% (62.0)	\$494,857
60% (74.4)	\$593,828
70% (86.8)	\$692,799
80% (99.2)	\$791,770
90% (111.6)	\$890,742
100% (124)	\$989,713

Again, this represents potential cost savings to Medicaid FFS which is a portion of the births attended by licensed midwives. If all 6,065 births attended by licensed midwives during this four year period were hospital births, we might expect an increase in c-section rate of an unknown amount that might reflect up to the typical hospital rate of 23.9% (or 1,449 c-sections.) The licensed midwife rate of 11.9% would result in 721.7 c-sections. The difference would be  $1449 - 721.7 = 727$  c-sections. In a biennium, this could account for up to 364 potentially avoided c-sections.

Percent (Number) Attributed to Practice Patterns	Cost
0% (0)	\$0
10% (36.4)	\$290,529

20%	(72.8)	\$581,058
30%	(109.2)	\$871,586
40%	(145.6)	\$1,162,115
50%	(182.0)	\$1,452,643
60%	(218.4)	\$1,743,173
70%	(254.8)	\$2,033,701
80%	(291.2)	\$2,324,230
90%	(327.6)	\$2,614,759
100%	(364)	\$2,905,288

## Departmental Costs

The Department of Health provided HMA with all available copies of the monthly budget reports for the 2005 - 2007 biennium. There are two midwifery funds. Adding actual charges from the biennium for Midwifery Fund 62606 (\$169,620.62), and Midwifery GF-S Fund 62611 (\$107,780.20) yields a total cost of \$277,400.82 to operate the Midwifery Licensure and Discipline Program in this biennium. These dollars support functions related to licensing, investigation and disciplinary actions. (Refer to Appendix C, Budget Reports.)

## Economic Cost-Benefit Analysis

The practice of licensed midwifery in Washington State during the time period January 2001 – December 2004, and using the most recent Program cost (2005-2007 biennium) yields a significant estimated cost savings for deliveries. Benefit to cost ratio estimates are presented below; however, they may well underestimate benefit to cost primarily because the estimates exclude associated costs, including differential intervention rates between planned home and hospital births.

### Benefit to Cost Ratio:

#### *Medicaid FFS Only, Excluding Cost Savings for Avoided Intervention*

<u>Benefits</u>	<u>Costs</u>	<u>Benefit-Cost Ratio</u>
<b>\$488,147.00</b>	\$277,400.82	1.8: 1

### Benefit to Cost Ratio:

#### *All Payors, Excluding Cost Savings for Avoided Intervention*

<u>Benefits</u>	<u>Costs</u>	<u>Benefit-Cost Ratio</u>
<b>\$2,713,072.00</b>	\$277,400.82	9.8:1

## **Conclusions**

The economic benefits of the midwifery program to the State of Washington far exceed the costs of operating the Program in estimating cost of deliveries, using the most conservative assumptions regarding c-section rates. These figures exclude prenatal care costs, newborn costs, and potential long term costs related to morbidity.

The estimated cost savings for deliveries to Medicaid FFS in the most recent biennium is \$488,147; about 1.8 times the cost of operating the state program which is \$277,400.82. Cost savings to the health care system (Medicaid and private insurance) are much greater, about \$2.7 million and this savings is close to 10 times the cost of operating the state program.

## **Challenges to Ensuring Safety of Out-of-Hospital Births**

### ***Physician Consultation, Collaboration and Referral***

The midwifery model of care views childbirth as a normal process that does not require medical intervention unless there are signs of pathology or deviations from normal. It is at the point when medical intervention is indicated that the midwife makes the appropriate consultation, referral or transfer. According to RCW 18.50.108, every licensed midwife shall develop a written plan for consultation with other health care providers to be submitted annually to the state, and according to 18.50.010, it shall be the duty of a midwife to consult with a physician whenever there are significant deviations from normal in either the mother or the infant. Systems of consultation, collaboration and referral can provide integrated and uninterrupted care to women, and is critical to ensuring optimal outcomes for women and their infants.

Interviewees described the difficulty licensed midwives in Washington have in securing back-up for out-of-hospital births. It was inferred that some midwives do not, in reality, have any coordinated physician back up. Physicians are concerned about medico-legal liability for the actions of licensed midwives with whom they have no clinical or administrative supervisory relationship. The lack of consistent formalized physician communication with licensed midwives may increase the risk of out-of-hospital births.

### ***Selected Sentinel Events***

The DSHS Washington Medicaid data establishes that in the four year time period between January 2001 and December 2004, the rates of multiple births (0%), breech births (1.1%) and vaginal birth after previous cesarean (1.8%) are lower than hospital rates suggesting licensed midwives make efforts to avoid out-of-hospital births when these conditions are expected. These sentinel events are traditionally considered high risk in women giving birth out of hospital, and the fact that even a limited number are done out-of-hospital may indicate a need for further development of guidelines for the management of out-of-hospital births.

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## **Information Contacts/Interviewees**

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Victoria Malloy. Alternative Medical Billing. Seattle, Washington.

Michael McCormack, Medical Board of California.

Serinthia Murphey, Oregon Health Licensing Agency.

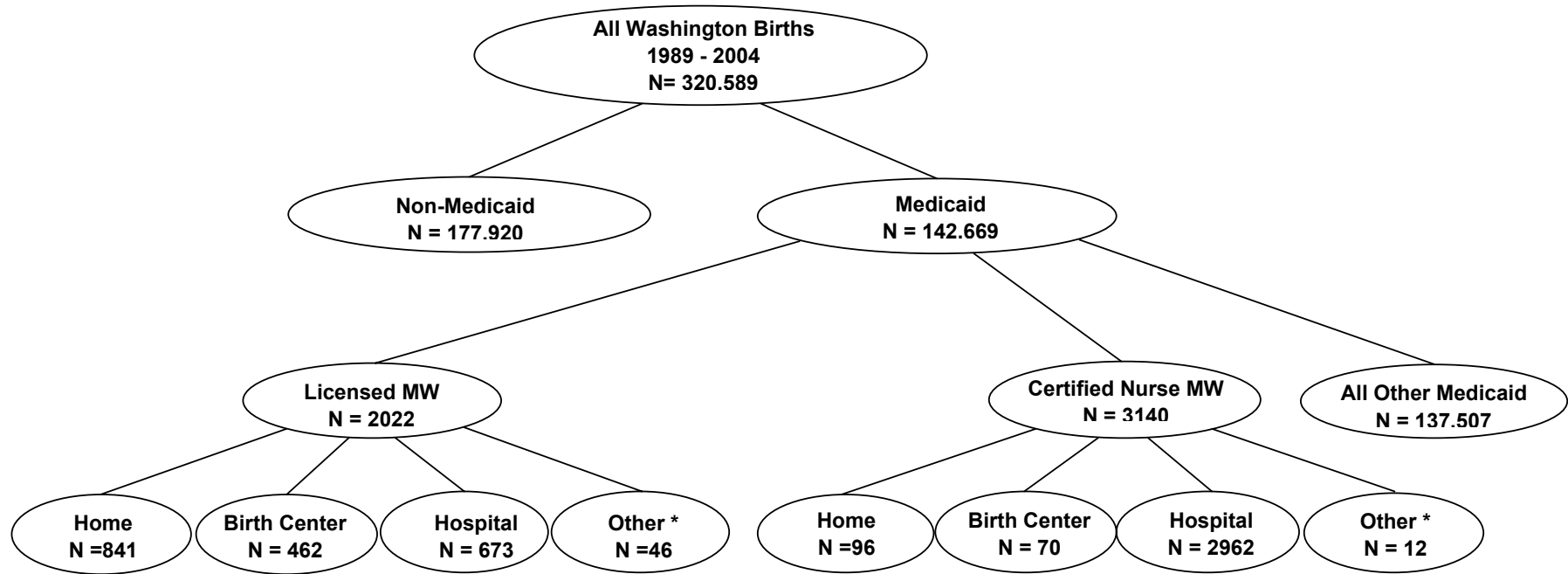
Kendra Pitzler, Health Professions Quality Assurance, Department of Health. Olympia, Washington.

Patricia Starzyk. Research Investigator III. Department of Health, Center for Health Statistics. Olympia, Washington.

Monica Stevens, Midwifery Council Regulatory Board, New Hampshire.

## **Appendix A: Washington Medicaid Study – Data Tables**

## Washington State Births 2001 - 2004 Planned Home Births Analysis



\* **Other** includes the following birth place types:

- Home Delivery, not attended by the midwife type
- En Route
- Other Medical Facility
- Other / Not Stated

**TABLE 1. INTENT TO TREAT ANALYSIS**  
**SUMMARY OUTCOME MEASURES: RELATIVE RISK FOR MEDICAID FUNDED BIRTHS WITH PRENATAL CARE (PNC) FROM A**  
**LICENSED MIDWIFE (LMW) COMPARED TO MEDICAID BIRTHS WITH NO PNC BY A MIDWIFE (MW)**  
**JANUARY 2001 - DECEMBER 2004**

<b>OUTCOME</b>	<b>PNC by an LMW</b>		<b>No PNC by an MW</b>		<b>Crude Relative Risk</b>			<b>Adjusted Relative Risk<sup>+</sup></b>		
	(N= 2,013)	# / 1,000	(N= 70,847)	# / 1,000	RR	p-value	95% C.I.	RR	p-value	95% C.I.
<b>Neonatal Deaths*</b>	3	1.5	303	4.3	0.35	0.06	( 0.11 , 1.08 )	0.12	0.01	( 0.02 , 0.87 )
<b>Postneonatal Deaths*</b>	2	1.0	63	0.9	1.11	0.88	( 0.27 , 4.56 )	0.60	0.60	( 0.08 , 4.25 )
<b>Infant Deaths*</b>	3	1.5	354	5.0	0.30	0.03	( 0.10 , 0.93 )	0.21	0.01	( 0.05 , 0.82 )
<b>Fetal Deaths</b>	9	4.5	449	6.3	0.71	0.30	( 0.37 , 1.37 )	0.65	0.26	( 0.31 , 1.37 )
<b>Perinatal Deaths (1)</b>	4	2.0	426	6.0	0.33	0.02	( 0.12 , 0.88 )	0.32	0.02	( 0.12 , 0.89 )
<b>Perinatal Deaths (2)</b>	7	3.5	544	7.7	0.45	0.03	( 0.22 , 0.95 )	0.30	0.01	( 0.12 , 0.77 )
<b>Birthweight &lt;1,800 Grams</b>	36	17.8	2,034	28.5	0.62	0.00	( 0.45 , 0.87 )	0.59	0.00	( 0.41 , 0.85 )
<b>Cesarean Sections</b>	230	113.7	17,036	238.9	0.48	<.0001	( 0.42 , 0.54 )	0.44	<.0001	( 0.38 , 0.50 )

\* Indicates deaths from non-preventable causes are excluded from calculations.

+Relative risk was adjusted for the following variables: mother's race, mother's age, mother's marital status, maternal smoking status, mother's number of prior children, mother's Medicaid eligibility status, maternal substance abuse, pre-existing maternal medical conditions, complications of pregnancy, and previous preterm or small-for-gestational-age birth.

**Definitions of Summary Outcome Measures:**

**Neonatal Deaths** - include all infants that died of preventable causes in the first 28 days of life.

**Postneonatal Deaths**- include all infants that survived the first 28 days of life and died of preventable causes in the first year of life.

**Infant Deaths** - include all liveborn infants that died of preventable causes in the first year of life

**Fetal Deaths** - include all stillborn fetuses with fetal death certificates received by DOH.

**Perinatal Deaths** - (1) NCHS definition of perinatal death: fetal deaths where delivery occurred after the 28th week of gestation and deaths to liveborn children in the first 7 days of life. (2) ACOG definition of perinatal death: Fetal deaths where delivery occurred after the 20th week of gestation or stillborn fetuses with birthweight greater than 500 grams, and deaths to liveborn children in the first 28 days of life.

**Birthweight <1,800 grams** - include all births with birthweights from 227 to 1,799 grams based on birth certificate records using NCHS standards.

**Cesarean Sections** - include live births with either Medicaid claims indicating a c-section or birth certificate records with primary or repeat c-section indicated as method of delivery.

**TABLE 2. ACHIEVED HOME BIRTH ANALYSIS**  
**SUMMARY OUTCOME MEASURES: RELATIVE RISK FOR MEDICAID FUNDED BIRTHS WITH PRENATAL CARE (PNC) AND HOME BIRTH (HB) FROM A LICENSED MIDWIFE (LMW) COMPARED TO MEDICAID BIRTHS WITH NO PNC BY A MIDWIFE (MW) JANUARY 2001 - DECEMBER 2004**

OUTCOME	LMW Attended HB		No PNC by an MW		Crude Relative Risk			Adjusted Relative Risk <sup>+</sup>		
	(N= 753)	# / 1,000	(N= 71,296)	# / 1,000	RR	p-value	95% C.I.	RR	p-value	95% C.I.
Neonatal Deaths*	1	1.3	303	4.2	0.31	0.22	( 0.04 , 2.21 )	0.00	0.14	. , .
Postneonatal Deaths*	0	0.0	178	2.5	0.00	0.17	. , .	0.00	0.43	. , .
Infant Deaths*	1	1.3	481	6.8	0.20	0.07	( 0.03 , 1.39 )	0.00	0.09	. , .
Birthweight <1,800 Grams	3	4.0	2,034	28.5	0.14	<.0001	( 0.05 , 0.43 )	0.17	0.00	( 0.06 , 0.54 )

\* Indicates deaths from non-preventable causes are excluded from calculations.

+Relative risk was adjusted for the following variables: mother's race, mother's age, mother's marital status, maternal smoking status, mother's number of prior children, mother's Medicaid eligibility status, maternal substance abuse, pre-existing maternal medical conditions, complications of pregnancy, and previous preterm or small-for-gestational-age birth. Relative risks were not available ("na") for some groups due to small numbers of events.

**Definitions of Summary Outcome Measures:**

**Neonatal Deaths** - include all infants that died of preventable causes in the first 28 days of life.

**Postneonatal Deaths**- include all infants that survived the first 28 days of life and died of preventable causes in the first year of life.

**Infant Deaths** - include all liveborn infants that died of preventable causes in the first year of life.

**Birthweight <1,800 grams** - include all births with birthweights from 227 to 1,799 grams based on birth certificate records using NCHS standards.

**TABLE 3. SENTINEL EVENTS  
MEDICAID FUNDED BIRTHS WITH PRENATAL CARE PROVIDED BY LICENSED MIDWIVES  
JANUARY 2001 - DECEMBER 2004**

MOTHER BASED SENTINEL EVENTS	Home (Midwife Attended) ( N = 753 )	Birth Center ( N = 462 )	Hospital ( N = 667 )	Other ( N = 134 )	Total ( N = 2,016 )	ALL MEDICAID No PNC by a MW ( N = 135,785 )
Multiple Birth	0 (0.0%)	0 (0.0%)	6 (0.9%)	0 (0.0%)	6 (0.3%)	1,697 (1.2%)
Uterine Rupture	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	46 (0.0%)
VBAC	14 (1.9%)	0 (0.0%)	22 (3.3%)	6 (4.5%)	42 (2.1%)	2,412 (1.8%)
Post-Partum Hemorrhage	21 (2.8%)	7 (1.5%)	27 (4.0%)	3 (2.2%)	58 (2.9%)	3,370 (2.5%)
CHILD BASED SENTINEL EVENTS	( N = 753 )	( N = 462 )	( N = 673 )	( N = 134 )	( N = 2,022 )	( N = 137,507 )
Low 5 Minute Apgar	31 (4.1%)	26 (5.6%)	56 (8.3%)	2 (1.5%)	115 (5.7%)	6,782 (4.9%)
Breech Birth	9 (1.2%)	4 (0.9%)	46 (6.8%)	1 (0.7%)	60 (3.0%)	5,505 (4.0%)
Newborn seizures	4 (0.5%)	0 (0.0%)	1 (0.1%)	0 (0.0%)	5 (0.2%)	237 (0.2%)
NICU admission	1 (0.1%)	1 (0.2%)	9 (1.3%)	0 (0.0%)	11 (0.5%)	1,357 (1.0%)
Very Low Birthweight	1 (0.1%)	0 (0.0%)	15 (2.2%)	0 (0.0%)	16 (0.8%)	1,892 (1.4%)
Medium Low Birthweight	3 (0.4%)	2 (0.4%)	44 (6.5%)	1 (0.7%)	50 (2.5%)	7,630 (5.5%)

The following definitions were used to flag sentinel events:

**Multiple Birth** - Birth certificates indicating a multiple birth or multiple births identified by the FSDB.

**Uterine Rupture** - Medicaid claims with a diagnosis of 665.0 or 665.1.

**VBAC** - Birth certificates indicating vaginal birth after previous c-section as the method of delivery.

**Post-Partum Hemorrhage** - Medicaid claims with a diagnosis of 666.

**Low 5 Minute Apgar** - Birth certificates with a five minute Apgar score of 0 to 7.

**Breech Birth** - Medicaid claims with a hospital procedure beginning with 72.5 or with a diagnosis of 652.2, 669.6, or 763.0. Birth certificates indicating breech/malpresentation as a complication of delivery.

**Newborn Seizures** - Medicaid claims with a diagnosis of 779.0. Birth certificates indicating seizures as an abnormal condition of the newborn.

**NICU Admission** - Medicaid claims with a neonatal intensive care unit revenue code.

**Very Low Birthweight** - Births with a birthweight of 227 to 1,499 grams based on birth certificate records and NCHS standards.

**Medium Low Birthweight** - Births with a birthweight of 1,500 to 2,499 grams based on birth certificate records and NCHS standards.

## **Appendix B: Claims Data**

**Medicaid Paid Maternal and Infant Services for Births to Washington Fee-for-Service Medicaid Mothers  
With and Without Prenatal Care Provided by a Midwife**

**Licensed Midwife Prenatal Care**

	2001		2002		2003		2004		2001-2004	
	N	Ave \$	N	Ave \$	N	Ave \$	N	Ave \$	N	Ave \$
<b>Home Delivery</b>										
PNC	98	\$1,100	103	\$1,212	149	\$1,366	91	\$1,207	441	\$1,238
Delivery	90	\$1,019	96	\$997	141	\$981	88	\$1,015	415	\$1,000
Infant 1st Year	95	\$2,203	101	\$3,000	145	\$3,081	89	\$2,686	430	\$2,786
<b>Birthing Center</b>										
PNC	40	\$1,305	79	\$1,250	75	\$1,248	52	\$1,336	246	\$1,276
Delivery	38	\$1,613	74	\$1,574	72	\$1,652	51	\$1,717	235	\$1,635
Infant 1st Year	38	\$1,201	76	\$1,904	72	\$2,471	52	\$6,171	238	\$2,895
<b>Hospital (Vaginal)</b>										
PNC	67	\$1,546	80	\$1,334	80	\$1,767	46	\$1,559	273	\$1,551
Delivery	65	\$4,133	76	\$3,764	79	\$4,047	43	\$3,951	263	\$3,971
Infant 1st Year	66	\$4,875	76	\$6,891	76	\$6,344	45	\$5,072	263	\$5,916
<b>Hospital (C-section)</b>										
PNC	33	\$1,472	38	\$1,265	32	\$1,661	24	\$1,505	127	\$1,464
Delivery	33	\$6,241	36	\$6,386	32	\$6,426	22	\$7,463	123	\$6,550
Infant 1st Year	33	\$5,185	38	\$5,230	32	\$11,297	22	\$23,226	125	\$9,939

**No Midwife Care**

	2001		2002		2003		2004		2001-2004	
	N	Ave \$	N	Ave \$	N	Ave \$	N	Ave \$	N	Ave \$
<b>Hospital (Vaginal)</b>										
PNC	12,717	\$1,495	11,992	\$1,586	12,250	\$1,640	11,496	\$1,635	48,455	\$1,587
Delivery	11,893	\$3,095	11,162	\$3,204	11,417	\$3,250	10,682	\$3,136	45,154	\$3,171
Infant 1st Year	12,760	\$4,617	12,054	\$5,027	12,228	\$5,495	11,476	\$5,557	48,518	\$5,162
<b>Hospital (C-section)</b>										
PNC	3,363	\$1,648	3,411	\$1,731	3,841	\$1,754	3,804	\$1,756	14,419	\$1,724
Delivery	3,127	\$5,706	3,118	\$5,908	3,500	\$5,782	3,515	\$5,798	13,260	\$5,798
Infant 1st Year	3,499	\$8,378	3,544	\$8,948	3,951	\$8,632	3,891	\$9,418	14,885	\$8,853

## **Appendix C: Budget Reports**



**Board Report**  
**62611-MIDWIFERY GF-S**

Biennium Budget	Current Month Jun 2007				2007 Biennium-To-Date Jul 01, 2005 Thru Jun 30, 2007				
	Allotment	Actual	Encumbrance	Variance	Allotment	Actual	Encumbrance	Variance	
FTE, Staff and Board	13.20	13.20	2.34	0.00	10.86	13.20	2.34	0.00	10.86

**Expenditures**

**Direct Charges**

Salaries Staff (A)	115,352.00	60,946.00	9,560.99	0.00	51,385.01	115,352.00	9,560.99	0.00	105,791.01
Board (AE)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benefits (B)	33,836.00	15,653.00	2,855.11	0.00	12,797.89	33,836.00	2,855.11	0.00	30,980.89
Personal Svcs (C)	12,000.00	12,000.00	2,773.66	0.00	9,226.34	12,000.00	2,773.66	0.00	9,226.34
Goods and Supplies (E)	113,871.00	110,071.00	6,808.58	0.00	103,262.42	113,871.00	14,525.07	0.00	99,345.93
Object (E) No Sub-Object	29,415.00	29,415.00	0.00	0.00	29,415.00	29,415.00	0.00	0.00	29,415.00
Supplies (EA)	0.00	0.00	72.06	0.00	(72.06)	0.00	72.06	0.00	(72.06)
Communications (EB)	0.00	0.00	452.83	0.00	(452.83)	0.00	452.83	0.00	(452.83)
Bldg/Rent/Utilities (EC/ED)	0.00	0.00	1,286.19	0.00	(1,286.19)	0.00	1,286.19	0.00	(1,286.19)
Meeting Rm Rental (ED 2111)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Printing (EF)	0.00	0.00	1,165.83	0.00	(1,165.83)	0.00	1,165.83	0.00	(1,165.83)
Training/Dues/Conference (EG)	0.00	0.00	44.84	0.00	(44.84)	0.00	44.84	0.00	(44.84)
Consolidated Mail (EK)	0.00	0.00	931.05	0.00	(931.05)	0.00	931.05	0.00	(931.05)
AG Support (EM)	84,456.00	80,656.00	2,465.79	0.00	78,190.21	84,456.00	10,182.28	0.00	74,273.72
Insurance (EP)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Contractual Services (ER)	0.00	0.00	321.52	0.00	(321.52)	0.00	321.52	0.00	(321.52)
Other (EE, EJ, EL, ES, EZ)	0.00	0.00	68.47	0.00	(68.47)	0.00	68.47	0.00	(68.47)
Travel (G)	4,892.00	3,158.00	5.76	0.00	3,152.24	4,892.00	5.76	0.00	4,886.24
Equipment (J)	0.00	0.00	26.62	0.00	(26.62)	0.00	26.62	0.00	(26.62)
Grants and Subsidies (N)	0.00	0.00	1.00	0.00	(1.00)	0.00	1.00	0.00	(1.00)
Lease Purchase (P)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Inter-Agency Reimb. (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Intra-Agency Reimb. (T)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Goods and Services (TE)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enterprise Clearing (3112)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Campus IS Support (6666)	4,000.00	2,167.00	976.90	0.00	1,190.10	4,000.00	976.90	0.00	3,023.10
Exchange (6667)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Co-Location (6768)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt Service (TP)	0.00	0.00	163.49	0.00	(163.49)	0.00	163.49	0.00	(163.49)
Other (TE)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>SUB TOTAL DIRECT CHARGES</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Sub Total Direct Charges</b>	<b>283,951.00</b>	<b>203,995.00</b>	<b>23,172.11</b>	<b>0.00</b>	<b>180,822.89</b>	<b>283,951.00</b>	<b>30,888.60</b>	<b>0.00</b>	<b>253,062.40</b>



**Board Report**  
**62611-MIDWIFERY GF-S**

	Biennium Budget	Current Month Jun 2007				2007 Biennium-To-Date Jul 01, 2005 Thru Jun 30, 2007			
		Allotment	Actual	Encumbrance	Variance	Allotment	Actual	Encumbrance	Variance
<b>Service Units (TA)</b>									
Information Services (6111)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Office of Professional (6112)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Adjudication Clerk (6113)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WHPS Base Charges (6115)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Investigative Services (6116)	0.00	0.00	45,766.92	0.00	(45,766.92)	0.00	45,766.92	0.00	(45,766.92)
Drug Investigations (6117)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FSL Invest & Enforcement (6118)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Regulatory Services (6120)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tort Claim Services (6121)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Legal Services Section (6122)	0.00	0.00	10,599.62	0.00	(10,599.62)	0.00	10,599.62	0.00	(10,599.62)
Division Level AG (6123)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer Ser-Center (6125)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Public disclosure (6126)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Integrated Licensing System (6128)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Volunteer Med Worker (6129)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Multicultural ED HLTH (6130)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Health Prof Discipline (6131)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other (TA)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Sub Total Service Units (TA)</b>	<b>0.00</b>	<b>0.00</b>	<b>56,366.54</b>	<b>0.00</b>	<b>(56,366.54)</b>	<b>0.00</b>	<b>56,366.54</b>	<b>0.00</b>	<b>(56,366.54)</b>
<b>Sub Total Expenditures</b>	<b>283,951.00</b>	<b>203,995.00</b>	<b>79,538.65</b>	<b>0.00</b>	<b>124,456.35</b>	<b>283,951.00</b>	<b>87,255.14</b>	<b>0.00</b>	<b>196,695.86</b>
<b>Indirect Charges</b>									
Agency Management	38,501.09	27,227.29	10,836.68	0.00	16,390.61	38,501.09	11,924.71	0.00	26,576.38
Assistant Secretary	11,693.89	8,255.78	3,297.20	0.00	4,958.58	11,693.89	3,629.35	0.00	8,064.54
Director	16,045.11	11,327.70	4,516.06	0.00	6,811.64	16,045.11	4,971.00	0.00	11,074.11
<b>Sub Total Indirect Charges</b>	<b>66,240.09</b>	<b>46,810.77</b>	<b>18,649.94</b>	<b>0.00</b>	<b>28,160.83</b>	<b>66,240.09</b>	<b>20,525.06</b>	<b>0.00</b>	<b>45,715.03</b>
<b>Total Charges</b>	<b>350,191.09</b>	<b>250,805.77</b>	<b>98,188.59</b>	<b>0.00</b>	<b>152,617.18</b>	<b>350,191.09</b>	<b>107,780.20</b>	<b>0.00</b>	<b>242,410.89</b>
					<b>Beginning Balance</b>	<b>0.00</b>			
					<b>Revenue</b>	<b>0.00</b>			
					<b>Fines</b>	<b>0.00</b>			
					<b>Total Revenue</b>	<b>0.00</b>			
					<b>Current Balance</b>		<b>(107,780.20)</b>		



**Board Report**  
**62606-MIDWIFERY**

Biennium Budget	Current Month Jun 2007				2007 Biennium-To-Date Jul 01, 2005 Thru Jun 30, 2007				
	Allotment	Actual	Encumbrance	Variance	Allotment	Actual	Encumbrance	Variance	
FTE, Staff and Board	4.80	0.20	(2.12)	0.00	2.32	4.80	2.54	0.00	2.26

**Expenditures**

**Direct Charges**

Salaries Staff (A)	17,837.00	748.00	(8,677.00)	0.00	9,425.00	17,837.00	9,607.80	0.00	8,229.20
Board (AE)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benefits (B)	4,946.00	208.00	(2,583.63)	0.00	2,791.63	4,946.00	2,517.78	0.00	2,428.22
Personal Svcs (C)	9,000.00	375.00	68.03	(13,000.00)	13,306.97	9,000.00	9,417.93	0.00	(417.93)
Goods and Supplies (E)	39,009.00	2,885.00	(3,538.50)	(15.75)	6,439.25	39,009.00	60,476.46	0.00	(21,467.46)
Object (E) No Sub-Object	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Supplies (EA)	102.00	4.00	(33.82)	0.00	37.82	102.00	120.78	0.00	(18.78)
Communications (EB)	421.00	17.00	(420.98)	0.00	437.98	421.00	441.13	0.00	(20.13)
Bldg/Rent/Utilities (EC/ED)	317.00	13.00	(1,177.21)	0.00	1,190.21	317.00	1,229.35	0.00	(912.35)
Meeting Rm Rental (ED 2111)	184.00	7.00	0.00	0.00	7.00	184.00	9.00	0.00	175.00
Printing (EF)	1,785.00	74.00	(669.69)	0.00	743.69	1,785.00	154.53	0.00	1,630.47
Training/Dues/Conference (EG)	270.00	11.00	(40.84)	0.00	51.84	270.00	25.27	0.00	244.73
Consolidated Mail (EK)	1,104.00	46.00	(814.10)	0.00	860.10	1,104.00	895.79	0.00	208.21
AG Support (EM)	35,858.00	2,756.00	0.00	0.00	2,756.00	35,858.00	57,309.41	0.00	(21,451.41)
Insurance (EP)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Contractual Services (ER)	216.00	9.00	(321.52)	(15.75)	346.27	216.00	241.07	0.00	(25.07)
Other (EE, EJ, EL, ES, EZ)	(1,248.00)	(52.00)	(60.34)	0.00	8.34	(1,248.00)	50.13	0.00	(1,298.13)
Travel (G)	557.00	23.00	(5.76)	0.00	28.76	557.00	215.09	0.00	341.91
Equipment (J)	223.00	0.00	39.35	0.00	(39.35)	223.00	198.81	0.00	24.19
Grants and Subsidies (N)	0.00	0.00	(1.00)	0.00	1.00	0.00	13.54	0.00	(13.54)
Lease Purchase (P)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Inter-Agency Reimb. (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Intra-Agency Reimb. (T)	0.00	0.00	4.61	0.00	(4.61)	0.00	4.61	0.00	(4.61)
Goods and Services (TE)	0.00	0.00	715.20	0.00	(715.20)	0.00	701.06	0.00	(701.06)
Enterprise Clearing (3112)	72.00	36.00	35.90	0.00	0.10	72.00	66.36	0.00	5.64
Campus IS Support (6666)	480.00	40.00	(951.88)	0.00	991.88	480.00	(525.60)	0.00	1,005.60
Exchange (6667)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Co-Location (6768)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt Service (TP)	304.00	13.00	(160.49)	0.00	173.49	304.00	146.14	0.00	157.86
Other (TE)	0.00	0.00	0.85	0.00	(0.85)	0.00	0.85	0.00	(0.85)
<b>SUB TOTAL DIRECT CHARGES</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Sub Total Direct Charges</b>	<b>72,428.00</b>	<b>4,328.00</b>	<b>(15,054.32)</b>	<b>(13,015.75)</b>	<b>32,398.07</b>	<b>72,428.00</b>	<b>82,840.83</b>	<b>0.00</b>	<b>(10,412.83)</b>



**Board Report**  
**62606-MIDWIFERY**

	Biennium Budget	Current Month Jun 2007				2007 Biennium-To-Date Jul 01, 2005 Thru Jun 30, 2007			
		Allotment	Actual	Encumbrance	Variance	Allotment	Actual	Encumbrance	Variance
<b>Service Units (TA)</b>									
Information Services (6111)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Office of Professional (6112)	10,690.00	615.00	(2,053.79)	0.00	2,668.79	10,690.00	31,660.51	0.00	(20,970.51)
Adjudication Clerk (6113)	2,553.00	106.00	219.05	0.00	(113.05)	2,553.00	3,037.20	0.00	(484.20)
WHPS Base Charges (6115)	89.00	3.00	4.90	0.00	(1.90)	89.00	106.32	0.00	(17.32)
Investigative Services (6116)	33,776.00	1,423.00	(44,530.62)	0.00	45,953.62	33,776.00	(76.01)	0.00	33,852.01
Drug Investigations (6117)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FSL Invest & Enforcement (6118)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Regulatory Services (6120)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tort Claim Services (6121)	606.00	26.00	0.00	0.00	26.00	606.00	367.67	0.00	238.33
Legal Services Section (6122)	47,626.00	1,997.00	(9,924.43)	0.00	11,921.43	47,626.00	8,744.89	0.00	38,881.11
Division Level AG (6123)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer Ser-Center (6125)	803.00	34.00	50.34	0.00	(16.34)	803.00	923.46	0.00	(120.46)
Public disclosure (6126)	9,335.00	406.00	518.10	0.00	(112.10)	9,335.00	9,641.65	0.00	(306.65)
Integrated Licensing System (6128)	1,428.00	60.00	(223.15)	0.00	283.15	1,428.00	1,062.33	0.00	365.67
Volunteer Med Worker (6129)	25.00	0.00	0.45	0.00	(0.45)	25.00	0.98	0.00	24.02
Multicultural ED HLTH (6130)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Health Prof Discipline (6131)	103.00	6.00	171.98	0.00	(165.98)	103.00	171.98	0.00	(68.98)
Other (TA)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Sub Total Service Units (TA)</b>	<b>107,034.00</b>	<b>4,676.00</b>	<b>(55,767.17)</b>	<b>0.00</b>	<b>60,443.17</b>	<b>107,034.00</b>	<b>55,640.98</b>	<b>0.00</b>	<b>51,393.02</b>
<b>Sub Total Expenditures</b>	<b>179,462.00</b>	<b>9,004.00</b>	<b>(70,821.49)</b>	<b>(13,015.75)</b>	<b>92,841.24</b>	<b>179,462.00</b>	<b>138,481.81</b>	<b>0.00</b>	<b>40,980.19</b>
<b>Indirect Charges</b>									
Agency Management	24,152.14	1,221.56	(9,922.04)	0.00	11,143.60	24,152.14	17,954.67	0.00	6,197.47
Assistant Secretary	7,329.87	371.05	(3,029.25)	0.00	3,400.30	7,329.87	5,563.70	0.00	1,766.17
Director	10,057.26	509.11	(4,149.01)	0.00	4,658.12	10,057.26	7,620.44	0.00	2,436.82
<b>Sub Total Indirect Charges</b>	<b>41,539.27</b>	<b>2,101.72</b>	<b>(17,100.30)</b>	<b>0.00</b>	<b>19,202.02</b>	<b>41,539.27</b>	<b>31,138.81</b>	<b>0.00</b>	<b>10,400.46</b>
<b>Total Charges</b>	<b>221,001.27</b>	<b>11,105.72</b>	<b>(87,921.79)</b>	<b>(13,015.75)</b>	<b>112,043.26</b>	<b>221,001.27</b>	<b>169,620.62</b>	<b>0.00</b>	<b>51,380.65</b>
					<b>Beginning Balance</b>	<b>26,023.00</b>			
					<b>Revenue</b>	<b>127,671.75</b>			
					<b>Fines</b>	<b>1,000.00</b>			
					<b>Total Revenue</b>	<b>128,671.75</b>			
					<b>Current Balance</b>		<b>(14,925.87)</b>		