

# Household Expenditure and the Utilization of Family Planning and Maternal Health Services in Indonesia<sup>1</sup>

Tohir Diman  
Andrew Kantner

**Abstract:** *Using information on household expenditure from the 1994 Indonesia Demographic and Health Survey (1994 IDHS), it is found that there is substantial variation in the level and distribution of household expenditure in Indonesia. Most households in Indonesia spend more money each month for food than non-food items. In addition, poorer provinces (as measured by total monthly household expenditure levels) tend to have greater inequality in the distribution of wealth. However, in general, Indonesia is not typified by major regional variations in the equality of household expenditure. Households with high expenditure levels are more likely to use contraception than households with low expenditure levels. In terms of individual methods, women residing in wealthier households are more likely to be using injectables and female sterilization, which suggest that poor accessibility and the cost of these methods may be discouraging use among poorer women. However, implant prevalence is greater in households with lower spending levels; while pills, IUDs, condoms, and male sterilization do not have clear patterns of association with household expenditure levels. As has been noted in previous studies, poorer households rely more on public sector reproductive health services (family planning, prenatal and delivery services). Households with high expenditure levels rely more upon private hospitals, pharmacy/drug stores, private doctors, and private family planning clinics for their family planning care. Households with the lowest expenditure levels rely primarily upon fieldworkers/PKLB, mobile units, traditional healers/dukuns, government health centers (puskesmas), and government health posts (posyandu). It is important to note that private sector social marketing programs designed to offer methods through commercial outlets have been less readily utilized by Indonesia's poorer households. Continuing efforts are needed to ensure that poorer households are able to gain access to family planning services, primarily through lower cost public sector providers and segmented commercial distribution systems.*

**Keywords:** Family planning center; household expenditure; contraceptive methods; social marketing; private sector; traditional healers; 1994 IDHS; Indonesia.

## 1. Introduction

### 1.1 Background

The Indonesian family planning program has achieved considerable success in recent decades. Between 1970 and 1994, the total fertility rate declined from 5.2 to 2.9, which constitutes one of the more dramatic demographic transitions in modern history. In 1994, contraceptive prevalence among married women of reproductive age had increased to 55 percent.

In recent years, the Indonesian family planning program has given increasing emphasis to the importance of private sector involvement in the provision of family planning services. By 1994, the private sector served 28 percent of all family planning users. In addition, efforts have been made to promote "family planning self-reliance" which encourages couples to contribute to the cost of their family planning and health care. This program recognizes that variations in income levels may have a profound influence on the ability of families to utilize services. Current policy stipulates that wealthy families pay for the cost of their family planning services while poorer families should obtain free or low-cost services through public subsidization.

As the Government attempts to extend family planning self-reliance, greater attention will need to be given to the ability of families to pay for family planning and health services. Pricing strategies should be identified that enable all families to have access to services, regardless of their ability to pay. In particular, what pricing policies can be identified that will ensure the full participation of poorer families in Indonesia's health care delivery system?

In order to address these questions, information on family and household income and expenditure levels is necessary in order to evaluate the affordability of family planning and health services. This analysis will examine national and provincial patterns of household expenditure in relation to the cost and utilization of family planning and maternal/child health services. Particular attention will be given to the socioeconomic and welfare status of households in terms of their reported levels of expenditure on food and non-food consumption. In addition, an assessment of the equality of household expenditures (when comparing the most wealthy 20 percent and poorest 20 percent of all households) will be undertaken. This information may provide greater insight into the current pattern of market segmentation for family planning and maternal health services in relation to the ability of households to pay for services.

The household expenditure data presented in this analysis were collected as part of the 1994 Indonesia Demographic and Health Survey (IDHS) (CBS 1995). The 1994 IDHS sampled 35,510 households and 28,800 eligible women (ever-married women aged 15-24) across all 27 of Indonesia's provinces. Household expenditure data were collected from a 1994 IDHS sub-sample of 13,651 households. The 1994 IDHS collected information on demographic levels and trends, family planning program performance, and maternal and child health conditions.

Household expenditure data were collected through a separate IDHS module. The analysis in this paper contains (1) bivariate analysis consisting of descriptive tables on household expenditure characteristics, (2) national and regional estimates of household expenditure contrasting wealthier and poorer households, and (3) multivariate analysis which accounts for factors affecting the utilization of public and private sector family planning services.

## **2. The Level and Distribution of National and Provincial Household Expenditure**

### **2.1 Level of Household Expenditure**

As reported by the 1994 IDHS, the median level of household expenditure varies considerably in Indonesia<sup>2</sup>. At the national level, the median level of household expenditure is Rp181,733. As can be seen in Table 1, median monthly expenditures range from a high of Rp488,773 per month in DKI Jakarta to a low of Rp149,024 in Irian Jaya

Most households in Indonesia spend more money each month for food than non-food items. As can be seen in Table 1, the median monthly level of household expenditure for food consumption is Rp126,000 and for non-food consumption is Rp50,917. DKI Jakarta, with a median figure of Rp262,714, has the highest monthly household outlay for food, while an average household in Irian Jaya spends just Rp98,571 per month on food. Jakarta and Southeast Sulawesi are at the high and low end of the household expenditure distribution for non-food consumption; namely, a monthly median figure of Rp214,167 in Jakarta and Rp27,108 in Southeast Sulawesi.

**Table 1**  
**MEDIANS AND MEANS OF MONTHLY EXPENDITURES BY PROVINCE**

	Food expenditure		Non-food expenditure		Total expenditure	
	Median	Mean	Median	Mean	Median	Mean
National	126,000	151,368	50,917	92,010	181,733	243,378
DKI Jakarta	262,714	307,968	214,167	319,764	488,773	627,732
West Java	151,500	176,299	71,083	114,414	237,343	290,713
Central Java	106,929	123,358	43,667	63,431	154,891	186,790
DI Yogyakarta	105,857	116,608	61,300	95,780	173,786	212,389
East Java	96,540	111,664	43,367	73,292	142,824	184,956
Bali	134,357	149,405	58,796	96,666	198,533	246,072
DI Aceh	157,929	175,666	46,583	77,670	206,083	253,336
North Sumatra	137,785	156,849	49,825	79,944	192,964	236,793
West Sumatra	168,750	193,383	53,640	86,970	231,118	280,354
South Sumatra	129,643	149,925	40,375	82,968	173,917	232,893
Lampung	100,286	116,131	37,750	46,517	137,703	162,649
West Nusa Tenggara	118,179	127,218	33,296	53,169	154,319	180,387
West Kalimantan	167,786	187,483	41,833	73,477	219,404	260,960
South Kalimantan	139,654	163,158	49,712	81,342	191,061	244,500
North Sulawesi	111,429	123,362	34,417	47,021	151,422	170,382
South Sulawesi	123,750	150,027	43,500	74,605	169,647	224,632
Riau	172,071	197,340	50,583	88,650	231,381	285,990
Jambi	128,893	140,488	42,250	56,435	170,706	196,923
Bengkulu	142,286	154,030	46,967	64,820	192,615	218,850
East Nusa Tenggara	115,179	126,421	35,717	46,192	153,198	172,613
East Timor	135,429	153,596	42,562	64,863	185,069	218,459
Central Kalimantan	139,929	156,860	35,583	49,315	181,786	206,175
East Kalimantan	180,514	214,966	121,450	211,384	316,128	426,350
Central Sulawesi	112,071	133,912	41,000	64,213	151,471	198,125
Southeast Sulawesi	111,857	140,647	27,108	51,139	147,071	191,785
Maluku	119,143	141,743	42,500	65,219	164,832	206,961
Irian Jaya	98,571	132,097	46,167	83,670	149,024	215,767

Source: 1994 IDHS (raw data).

## 2.2 Distribution of Household Expenditure

When assessing the welfare of households in Indonesia, an important factor to consider is the relative distribution of expenditures between rich and poor households. In Table 2, median monthly estimates for food, non-food and total outlays are shown for the wealthiest households (the upper 20 percent of all households in terms of level of expenditure) and the poorest households (the lowest 20 percent of all households in terms of level of expenditure). A simple concentration ratio (CR) is also reported which summarizes the magnitude of difference between expenditure levels for the highest 20 percent and lowest 20 percent of households. The CR is computed as follows:

$$CR = (\text{Median Expenditure for Lowest 20\%} / \text{Median Expenditure for Highest 20\%}) * 100$$

Higher CR values indicate more equal expenditure distribution patterns while lower CRs constitute worsening equality.



Table 2  
 MEDIANS AND CONCENTRATION RATIOS OF MONTHLY TOTAL EXPENDITURE BY PROVINCE

	Food expenditure			Non-food expenditure			Total expenditure		
	Lowest 20%	Highest 20%	CR*	Lowest 20%	Highest 20%	CR	Lowest 20%	Highest 20%	CR
National	81,081	200,571	0,40	27,546	115,632	0,24	115,598	318,125	0,36
DKI Jakarta	174,733	405,922	0,43	121,167	432,075	0,28	335,810	828,500	0,41
West Java	105,640	220,286	0,48	37,933	144,900	0,26	152,754	363,217	0,42
Central Java	75,643	165,429	0,46	27,196	79,958	0,34	108,967	237,209	0,46
DI Yogyakarta	71,854	152,338	0,48	39,353	138,491	0,28	120,153	274,346	0,44
East Java	64,714	151,628	0,43	25,871	84,033	0,31	94,863	232,251	0,41
Bali	93,997	188,514	0,50	35,859	114,466	0,31	139,368	308,984	0,45
DI Aceh	108,537	229,074	0,47	24,958	88,740	0,28	141,442	321,214	0,44
North Sumatra	90,987	203,571	0,45	23,350	99,477	0,23	120,792	296,654	0,41
West Sumatra	114,414	266,786	0,43	26,084	118,034	0,22	151,666	379,308	0,40
South Sumatra	84,424	196,234	0,43	19,235	102,183	0,19	106,131	302,582	0,35
Lampung	69,245	146,870	0,47	19,724	59,999	0,33	96,996	223,669	0,43
West Nusa Tenggara	75,641	170,602	0,44	19,785	59,375	0,33	96,996	223,669	0,43
West Kalimantan	103,296	250,988	0,41	24,042	95,968	0,25	135,752	342,675	0,40
South Kalimantan	98,380	209,165	0,47	28,041	100,772	0,28	130,514	301,174	0,43
North Sulawesi	78,333	154,552	0,51	19,272	67,442	0,29	105,621	219,799	0,48
South Sulawesi	82,776	192,417	0,43	21,742	101,345	0,21	110,937	290,088	0,38
Riau	118,688	269,646	0,44	27,105	117,647	0,23	151,520	374,435	0,40
Jambi	87,750	190,246	0,46	23,950	80,017	0,30	118,028	273,498	0,43
Bengkulu	100,779	196,399	0,51	30,560	83,045	0,37	140,214	266,881	0,53
East Nusa Tenggara	75,124	170,388	0,44	22,900	59,658	0,38	102,851	235,105	0,44
East Timor	85,107	222,966	0,38	25,856	85,943	0,30	120,954	305,604	0,40
Central Kalimantan	96,493	212,883	0,45	21,963	69,775	0,31	123,583	276,646	0,45
East Kalimantan	114,630	269,002	0,43	54,448	251,737	0,22	195,478	504,675	0,39
Central Sulawesi	74,553	170,124	0,44	21,485	75,194	0,29	105,528	245,516	0,43
Southeast Sulawesi	68,571	193,783	0,35	14,535	65,821	0,22	86,443	251,360	0,34
Maluku	75,683	202,251	0,37	27,066	97,277	0,28	106,989	296,820	0,36
Irian Jaya	57,817	203,849	0,28	26,843	124,774	0,22	88,702	332,583	0,27

Note: \* CR = [(lowest 20%)/(highest 20%)] \* 100

Source: 1994 IDHS (raw data).

In Indonesia, poorer provinces (as measured by total monthly household expenditure levels), tend to have greater inequality in the distribution of household expenditures. Irian Jaya (CR=.27) has the greatest inequality in expenditure levels when contrasting the lowest and highest 20 percent of all households while Bengkulu (CR=.53) has the most equal distribution. However, when one considers CR values across all provinces, there is remarkably little variation, which suggests that Indonesia is not typified by major regional variations in the equality of household expenditures.

In terms of absolute levels of household expenditure, both poorer and wealthier households in Jakarta have far higher monthly expenditure levels than other provinces. In Jakarta, the monthly median household expenditure for the lowest 20 percent of households is Rp 335,810 compared to a national average of Rp 115,598. The upper 20 percent of households in Jakarta have a monthly median expenditure level of Rp 828,500, which is far above the national average of Rp 318,125.

As can also be noted in Table 2, median monthly expenditure for food are more equitably distributed than non-food expenditure. The national CR for median food expenditure is .40 and for non-food expenditure is only .24. Bengkulu (CR=.51), North Sulawesi (CR=.51) and Bali (CR=.50) have the most equitable distributions for food and Irian Jaya (CR=.28) the most unequal distribution. East Nusa Tenggara (CR=.38) and Bengkulu (CR=.37) have the most equitable non-food expenditure levels and South Sumatra (CR=.19) the most inequitable pattern.

### 3. Household Expenditure by Socioeconomic Status

Table 3a and Table 3b provide breakdowns of household expenditure levels by selected socioeconomic characteristics. Urban-based households have far higher median expenditure levels than rural-based households (Rp 294,861 for urban and Rp 157,774 for rural households). Most of this variation is due to differences in non-food expenditure, with urban-based households spending nearly three times more for non-food items than rural households.

Monthly household expenditure levels tend to increase with larger household size. Households with only 1-3 members spend only Rp 85,928 per month for food and Rp 37,948 for non-food items, which is less than half of levels reported among households with 8 or more members. However, expenditure levels by number of children and levels of child dependency (the

number of children under 5 years of age divided by the total number of household members) do not suggest clear patterns of association. Households with 4 or more children spend somewhat more every month (especially on food) than households with only 1 or 2 children. However, households with high child dependency levels do not appear to spend significantly more than households with fewer children per adult household member. This result suggests that household composition, not just the number of children per household, is an important factor determining expenditure levels.

**Table 3a**  
**MEDIANS AND MEANS OF MONTHLY EXPENDITURES**  
**BY SOCIOECONOMIC BACKGROUND**

SES Variables	Food expenditure		Non-food expenditure		Total expenditure	
	Median	Mean	Median	Mean	Median	Mean
<b>Rural/urban residence</b>						
Rural	112,671	129,064	40,875	59,050	157,774	188,114
Urban	172,821	204,799	110,317	170,966	294,861	375,765
<b>Number of household members</b>						
1-3	85,928	101,718	37,948	57,007	127,131	158,725
4	110,786	130,043	46,750	76,964	165,324	207,007
5	126,857	149,382	53,162	96,555	181,526	245,936
6-7	150,000	176,554	59,750	109,751	218,135	286,304
8 and above	195,214	229,755	74,808	137,743	281,686	367,498
<b>Number of children aged 5 or less</b>						
1	118,714	144,071	52,296	101,974	175,899	246,045
2	125,571	149,039	48,887	81,846	178,519	230,884
3	144,857	168,298	51,667	84,307	200,369	252,605
4 and above	195,214	227,301	69,583	115,420	257,322	342,721
<b>Level of children dependency</b>						
Low	118,714	144,071	52,296	101,974	175,899	246,045
Medium	452,571	178,081	55,117	99,068	211,754	277,087
High	117,000	139,430	45,471	70,928	169,219	210,358
<b>Education attainment</b>						
No formal education	103,714	121,799	35,754	52,842	143,225	174,641
Incomplete primary	118,821	137,126	43,158	65,390	167,735	202,516
Complete primary	118,714	141,322	49,421	80,476	171,935	221,798
Incomplete secondary	151,628	178,208	80,829	127,949	239,325	306,157
Complete secondary	182,786	216,612	116,600	185,136	318,196	401,747
Higher education	221,143	266,501	195,350	299,114	437,684	565,615
<b>Education attainment (recorded)</b>						
No formal education	103,714	121,799	35,754	52,842	143,225	174,641
Primary	118,714	139,057	45,975	72,333	169,440	211,390
Secondary	163,929	194,398	93,158	152,058	269,492	346,457
Post secondary	221,143	266,501	195,350	299,114	437,684	565,615

Source: 1994 IDHS (raw data).



Table 3b  
 MEDIANS AND MEANS OF MONTHLY EXPENDITURES  
 BY SOCIOECONOMIC BACKGROUND

SES Variables:	Food expenditure		Non-food expenditure		Total expenditure	
	Median	Mean	Median	Mean	Median	Mean
<b>Main floor material</b>						
Dirt/earth	97,821	106,165	35,825	44,087	134,833	150,252
Bamboo	126,214	142,156	36,983	50,430	159,662	192,586
Wood	129,364	146,981	37,517	57,393	170,392	204,374
Concrete, brick	129,000	149,974	56,667	83,254	193,071	233,228
Tile	170,786	203,520	111,333	173,027	297,101	376,547
Ceramic or marble	267,429	338,555	285,750	463,542	576,861	802,096
Other	86,271	92,715	42,133	45,378	124,996	138,093
<b>Main floor material (recoded)</b>						
Dirt/earth	97,821	106,165	35,825	44,087	134,833	150,252
Bamboo	128,726	146,285	37,500	56,390	169,533	202,675
Hard material	133,714	160,590	59,750	104,661	200,071	265,251
<b>Electricity</b>						
No	102,814	116,745	33,292	45,497	139,450	162,242
Yes	142,371	171,607	67,500	119,188	220,646	290,795
<b>Occupation</b>						
Did not work	138,321	164,692	57,500	100,840	203,119	265,532
Professional/technical	196,071	226,615	118,075	210,733	322,354	437,347
Managers and administrative	291,429	321,561	230,716	544,707	472,887	866,268
Clerical	208,971	242,743	167,833	237,490	359,076	480,234
Sales	132,429	157,391	64,172	109,814	205,385	267,205
Service	145,821	199,887	79,245	187,129	239,003	387,016
Agricultural worker	102,643	115,773	35,775	46,194	141,341	161,967
Industrial worker	117,857	137,619	49,583	77,265	173,217	214,884
other	118,071	133,428	83,079	138,280	201,150	271,708
<b>Occupation (recoded)</b>						
Didn't work	138,321	164,692	57,500	100,840	203,119	265,532
Professional or administrative	196,714	230,745	118,492	225,260	330,635	456,005
Service	139,714	170,989	68,483	132,515	220,829	303,504
Agricultural workers	102,643	115,773	35,775	46,194	141,341	161,967
Industrial workers	117,857	137,619	49,583	77,265	173,217	214,884

Source: 1994 IDHS (raw data).

Other measures presented in those tables clearly show that household expenditure levels are associated with socioeconomic status. For example, households in which ever-married women aged 15-49 have no formal education spend only Rp143,225 per month compared to Rp437,684 among households containing ever-married women with post-secondary schooling. Household floor

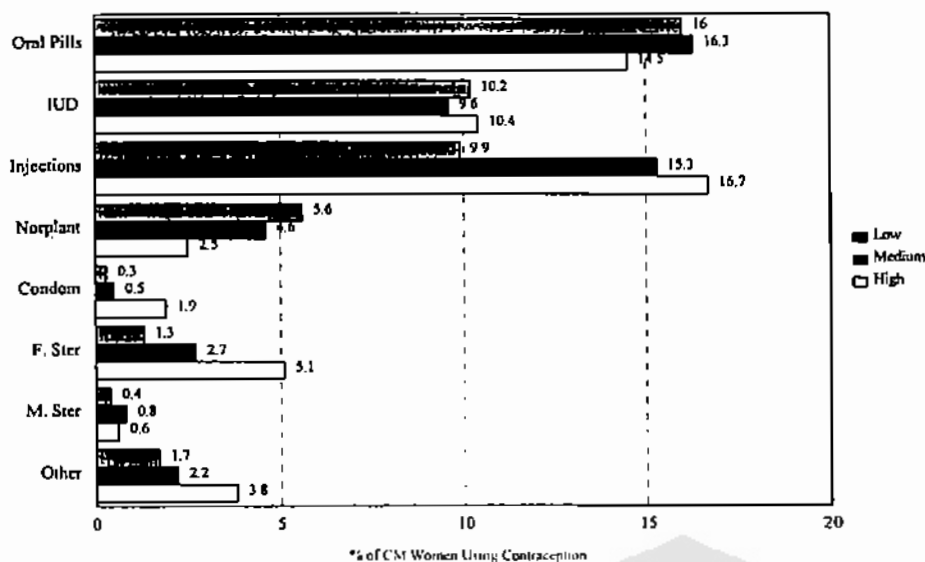
material is also an important indicator of household expenditure levels, with households having dirt/earth floors spending Rp134,833 per month compared to Rp576,861 among households with ceramic or marble floors. In addition, the occupation reported by ever-married women accounts for considerable variation in levels of household expenditure. Households in which women work in professional or administrative occupations have a median expenditure level of Rp330,635 while households with women working as agricultural workers spend only Rp141,341 per month.

#### **4. Household Expenditure by Level of Family Planning Use**

Figures 1 and 2 show household expenditure levels in relation to the level of contraceptive use. Spending is classified into low, medium, and high by dividing the 1994 IDHS household expenditure sample into three equal segments; namely, a low expenditure level equal to Rp0-142,981; medium level equal to Rp142,982-237,936, and a high expenditure level equal to Rp237,937 and above.



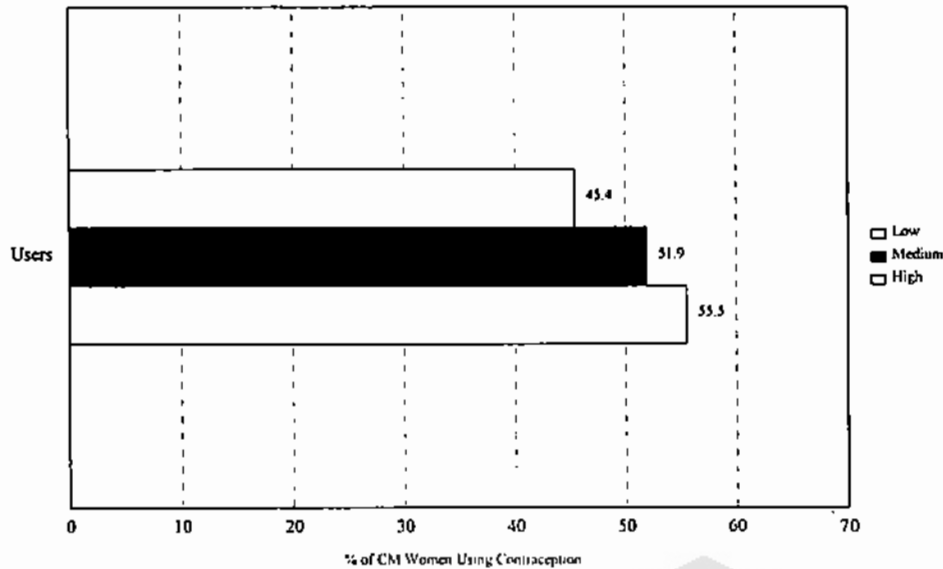
Figure 1  
PERCENTAGE OF CURRENTLY MARRIED WOMEN USING CONTRACEPTIVE  
FOR INDIVIDUAL METHODS



Note: Low Household Expenditure = Rp 0-142981 Per Month  
Medium Household Expenditure = Rp 142982-237936 Per Month  
High Household Expenditure = Rp 237937 and Over Per month  
Source: 1994 DHS (raw data)

Findings show that high expenditure households are more likely to be using contraception (55.5 percent) than low expenditure households (45.4 percent). In terms of individual methods, women residing in households with higher monthly spending levels are more likely to use injectables and female sterilization. This finding suggests that the accessibility and cost of these methods may be discouraging use among women from poorer households. Among high expenditure households, 16.7 percent of currently married women use injectables while only 9.9 percent use within low expenditure households. Female sterilization is also far more likely to be used by women residing in high expenditure households. However, implant prevalence is greater in households with lower spending (5.6 percent in low and 2.5 percent in high expenditure households). Pills, IUDs, condoms, and male sterilization do not have clear patterns of association with household expenditure levels.

Figure 2  
PERCENTAGE OF CURRENTLY MARRIED WOMEN USING CONTRACEPTION  
BY LEVEL OF HOUSEHOLD EXPENDITURE



Note: Low Household Expenditure = Rp 0-142981 Per Month  
Medium Household Expenditure = Rp 142982-237936 Per Month  
High Household Expenditure = Rp 237937 and Over Per month  
Source: 1994 IDHS (raw data)

It is not obvious to what extent client preferences and supply characteristics may be responsible for the correlation between household welfare status and the use of injectables, implants, and female sterilization. However, it is the case that injectables tend to be more readily provided through the private sector, which is also more likely to be a source of supply among wealthier households. Female sterilization is a more expensive method than modern reversible contraception, and is therefore more affordable (financially accessible) in wealthier households. Implants are more often provided through government outlets, which tend to be the main source of supply among poorer households.

## 5. Patterns of Household Expenditure and Source of Supply for Family Planning Services

Household expenditure levels also vary considerably by source of supply for family planning and maternal and child with health services. These

differences are important to consider when accounting for patterns of health seeking behavior in the general population.

Table 4a and Table 4b show the median and mean expenditure levels of households in relation to the last households rely more on public sector services. The median level of household expenditure is Rp249,353 among as private sector family planning users and Rp175,817 among public sector users. Differences in public and private source of supply for current users of family planning. These results confirm earlier studies which show that poorer sector spending levels are somewhat more pronounced for non-food than food expenditures.

**Table 4a**  
**MEDIANS AND MEANS OF MONTHLY EXPENDITURES**  
**BY SOURCE OF SUPPLY**

Source of Supply	Food expenditure		Non-food expenditure		Total expenditure	
	Median	Mean	Median	Mean	Median	Mean
<b>Last source for current users</b>						
Government hospital	163,161	182,769	83,079	141,400	244,339	188,114
Health center-Pusk	119,571	139,277	45,092	69,086	170,060	375,765
Fieldworker-PLKB	94,500	115,061	34,721	50,750	131,336	158,725
FP mobile-TKBK/TMK	111,857	123,689	44,175	55,557	161,348	207,007
Other government agencies	144,429	143,193	43,192	73,183	195,475	245,936
Private hospital	217,071	252,716	158,667	260,507	366,893	286,304
Private FP clinic	159,814	187,709	108,817	150,952	282,738	367,498
Private Doctor	169,071	215,728	102,500	190,061	293,384	246,045
Private midwife	141,214	164,341	66,354	97,612	218,422	230,045
Pharmacy/drugstore	185,357	239,381	140,792	222,068	328,727	230,884
Other private	50,679	75,517	25,571	40,179	76,250	252,605
Deliv post/Polindes	114,000	110,674	33,283	38,163	159,025	342,721
Health post-Posyandu	119,464	140,634	47,292	74,390	177,830	246,045
FP post/PKKBD	121,607	142,132	45,662	58,838	171,311	277,087
Traditional healer-Dukun	129,364	116,874	37,933	35,407	169,719	210,358
Friends/relatives	128,571	141,738	63,612	77,314	241,833	273,987
Other	106,607	118,552	40,450	57,066	154,878	229,046
<b>Last source for current users (recoded)</b>						
Public	122,679	144,081	47,625	77,251	175,817	239,716
Private	156,857	189,919	82,417	144,569	249,353	231,149
Other	111,428	121,557	40,833	58,539	160,683	174,641

Source: 1994 IDHS (raw data).

Households with the highest expenditure levels rely more upon private hospitals (median monthly expenditure = Rp366,893), pharmacy/drug stores (Rp328,727), private doctors (Rp293,384) and private family planning clinics

(Rp282,738). Households with the lowest expenditure levels rely primarily upon family planning fieldworkers/PKLB (Rp131,336), family planning mobile units (Rp161,348), traditional healers/dukuns (Rp169,719), government health centers/puskesmas (Rp171,060) and government health posts/posyandu (Rp171,311). It is interesting to note that users who obtained their last family planning method from private midwives tend to come from wealthier households than users dependent upon public sector sources.

**Table 4b**  
**MEDIANS AND MEANS OF MONTHLY EXPENDITURES**  
**BY SOURCE OF SUPPLY**

Source of Supply	Food expenditure		Non-food expenditure		Total expenditure	
	Median	Mean	Median	Mean	Median	Mean
<b>Last source by major type</b>						
Government						
Clinical/pharmacy	123,857	145,938	48,854	81,152	177,206	202,516
Government home/community delivery	128,893	137,490	43,321	68,030	178,388	221,798
Private clinic/delivery	153,750	185,703	78,450	137,964	240,487	306,157
Private pharmacy	185,357	239,381	140,792	222,068	328,727	401,747
Shop, church or friend	121,286	139,958	46,466	68,355	174,373	565,615
Other	106,607	118,552	40,450	57,066	154,878	174,641

Source: 1994 IDHS (raw data).

Table 4 shows the last source of supply for family planning services recorded in terms of major types of service outlets. An important finding in Table 4 is that there is little difference in household expenditure levels by type of government outlet (clinical and home/community delivery) while substantial differences emerge for private sector outlets. Wealthy households are more likely to obtain their last family planning method from private sector pharmacies than private hospital/clinic settings. This result suggests that private sector social marketing programs designed to offer methods through commercial outlets have not been readily utilized by Indonesia's poorer households. This result may partly stem from the fact that commercial distribution of family planning services through pharmacies was still largely urban-based as of 1993/94.

## 6. Patterns of Household Expenditure and Source of Supply for Maternal/Child Health Services

Table 5 provides information on the source of prenatal care and place of delivery by level of household expenditure. As in the case of family

planning, households with higher expenditure levels are more likely to rely upon private sector prenatal and delivery services. The median monthly household expenditure level among households with private sector prenatal care is Rp234,257 and Rp172,426 for public sector services. Delivery care has a similar pattern; namely, household expenditure levels of Rp311,431 for private sector care and Rp248,890 for public sector outlets.

**Table 5**  
**MEDIANS AND MEANS OF MONTHLY EXPENDITURES**  
**BY PLACE OF PRENATAL CARE AND DELIVERY**

Prenatal care/delivery place	Food expenditure		Non-food expenditure		Total expenditure	
	Median	Mean	Median	Mean	Median	Mean
<b>Place of prenatal care</b>						
Government hospital	151,071	182,704	67,167	103,223	233,278	285,927
Health center-Pusk	120,857	140,663	44,792	67,232	171,935	207,894
Delivery post/Polindes	108,857	97,564	39,460	38,252	132,774	135,816
Health post-Posyandu	114,857	124,624	38,221	49,037	155,925	173,661
Private hospital	214,714	254,799	131,758	209,329	359,889	464,128
Private FP clinic	156,536	177,584	75,583	111,428	234,793	289,012
Private doctor	180,214	231,206	116,600	200,751	299,703	431,957
Private midwife	147,643	172,430	63,996	101,955	223,714	274,385
TBA visit	115,500	142,328	32,506	44,046	149,759	186,373
Other	160,714	196,130	55,708	96,747	206,430	292,877
<b>Place of prenatal care (recoded)</b>						
Public	121,929	141,376	45,283	67,314	172,426	208,690
Private	153,857	183,807	70,708	117,921	234,257	301,728
Other	160,714	196,130	55,708	96,747	206,430	292,877
<b>Place of delivery</b>						
Respondents home	120,000	138,826	41,458	59,232	167,154	198,095
Other home	126,643	151,394	51,167	90,445	187,995	241,840
Midwife's home	178,714	204,830	110,433	142,423	316,429	347,253
Government hospital	161,786	186,218	84,067	126,614	263,921	312,832
Government health center	146,786	161,759	64,172	81,681	219,528	243,440
Government delivery post	114,214	164,098	47,544	72,299	174,172	236,398
Other public	164,679	318,222	43,033	93,668	200,533	411,889
Private hospital	205,071	258,491	143,983	219,328	365,898	477,819
Private clinic	162,214	198,287	91,917	133,756	257,821	332,043
Other private	250,286	256,154	168,550	166,831	396,119	422,985
<b>Place delivery (recoded)</b>						
Home	124,500	144,260	44,292	67,278	172,461	211,538
Public	154,286	180,911	78,858	115,002	248,890	295,913
Private	180,000	228,686	118,099	176,340	311,431	405,027

Source: 1994 IDHS (raw data).

For prenatal services, the wealthiest households tend to turn to private hospitals (the median monthly expenditure level is Rp359,859) and private doctors (Rp299,713). The poorest households are more likely to rely upon delivery posts (Rp132,774), TBA visits (Rp149,759), government health posts/posyandu (Rp155,925) and government health centers (Rp171,935). Private midwives tend not to be utilized by poorer households. The monthly expenditure level for households using private midwives for prenatal care is Rp223,714, well above the household average for most government prenatal care outlets.

Poorer households rely upon home delivery, either in the respondents' own home (the monthly expenditure level is Rp167,154) or in a relatives' or neighbors' house. Government delivery posts also tend to be utilized primarily by poorer household (Rp174,172). It is worth noting that expenditure levels for deliveries taking place at the home of private midwives is Rp316,429, a figure well above the median for all other home deliveries (Rp172,461). Private hospital attract the wealthiest household for delivery care. The monthly household expenditure level is Rp365,898 for private hospital compared to only Rp263,921 for government hospital.

## **7. Family Planning Costs in Relation to Levels of Household Expenditure**

When assessing patterns of household expenditure, it is important to consider relationships between spending and the cost of reproductive health services. Unfortunately, the 1994 IDHS only provides cost information for family planning care rather than the full range of reproductive health services normally considered to be important components of a comprehensive health system (e.g., prenatal, delivery, and postnatal care; STD management; and post-abortion care). Therefore, this analysis is limited to family planning services.

In Tables 6, Table 7a and Table 7b, total family planning, pill, and service-fee costs are shown by province and for various socioeconomic measures. Table 8 provides information on household expenditure levels in relation to the cost of family planning services. Family planning costs are computed both including and excluding the free provision of services. Unfortunately, costs for other individual family planning methods are not presented in this analysis since the 1994 IDHS data file made available to the East-West Center did not contain this information. A report by Winfrey and Heaton (1996) does present 1994 IDHS cost data for other methods, but their mode of presentation is different from the approach followed in this discussion.



Table 6  
MEDIAN AND MEANS OF FAMILY PLANNING COST BY PROVINCE

	Including free provision receivers						Excluding free provision receivers					
	Family planning cost			Service cost			Family planning cost			Service cost		
	Median	Mean	(n=2061)	Median	Mean	(n=6088)	Median	Mean	(n=1313)	Median	Mean	(n=57)
National	500	8,097	300	497	438	0	2,500	14,343	500	708	500	3,395
DKI Jakarta	2,500	21,551	750	1,414	238	0	4,000	28,429	1,000	1,433	500	1,683
West Java	1,000	9,271	500	751	512	0	2,000	11,364	500	831	1,500	9,530
Central Java	350	3,711	0	191	760	0	3,500	6,357	350	395	500	5,046
DI Yogyakarta	0	5,806	0	210	157	0	4,000	13,636	500	1,091	300	729
East Java	250	6,429	325	430	53	0	1,850	10,641	400	479	300	549
Bali	1,500	13,261	500	761	83	0	5,000	22,474	500	1,156	250	402
DI Aceh	300	11,743	0	143	16	0	1,500	20,412	300	457	1,000	835
North Sumatra	600	24,413	500	894	270	0	3,000	38,068	700	1,060	5,000	6,356
West Sumatra	0	14,504	0	317	6,904	0	3,250	43,475	500	759	500	49,242
South Sumatra	500	5,098	500	458	32	0	2,500	7,992	500	685	300	413
Lampung	500	2,568	500	485	33	0	1,000	3,064	500	506	150	563
West Nusa Tenggara	0	5,088	0	97	23	0	3,500	13,339	500	599	500	492
West Kalimantan	200	6,029	0	381	234	0	1,500	10,206	350	906	200	512
South Kalimantan	0	4,781	0	187	169	0	1,000	12,103	350	599	500	1,604
North Sulawesi	600	4,617	500	657	182	0	2,000	6,717	500	716	500	2,546
South Sulawesi	300	8,574	200	292	261	0	1,000	12,826	250	428	300	690
Riau	500	4,307	300	680	35	0	3,000	6,460	500	1,022	500	1,519
Jambi	300	1,530	300	384	124	0	1,000	2,406	450	529	500	2,158
Bengkulu	250	2,183	230	222	48	0	2,500	3,634	250	319	2,500	483
East Nusa Tenggara	0	6,518	0	9	64	0	30,000	74,262	100	100	500	3,122
East Timor	0	232	0	1,347	444	0	1,500	5,700	1,500	10,387	600	362
Central Kalimantan	250	1,056	250	398	5	0	500	1,445	250	531	500	3,360
East Kalimantan	500	26,036	500	453	404	0	1,500	36,407	500	611	500	1,240
Central Sulawesi	0	933	0	92	395	0	1,000	2,502	500	405	500	20,733
Southeast Sulawesi	500	6,447	250	370	1,419	0	500	10,348	500	572	10,000	9,161
Maluku	0	3,376	100	225	942	0	2,500	7,402	500	424	1,000	4,836
Irian Jaya	0	6,589	500	580	492	0	2,500	16,012	500	987	500	4,836

Source: 1994 IDHS (raw data).

Table 7a  
**MEDIANS AND MEANS OF FAMILY PLANNING COST BY SOCIOECONOMIC BACKGROUND**

SES Variables	Including free provision receivers						Excluding free provision receivers								
	Family planning cost			Service cost			Family planning cost			Pill cost			Service cost		
	(n=13592)		(n=2061)	(n=6088)		(n=1313)	(n=1641)		(n=1313)		(n=57)				
	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean			
<b>Rural/urban residence</b>															
Rural	500	4,526	413	0	267	7,334	2,000	7,334	500	571	500	2,553			
Urban	1,500	15,793	738	0	809	22,193	3,500	22,193	500	986	500	7,314			
<b>Number of household members</b>															
1-3	500	4,268	452	0	56	6,729	1,000	6,729	500	589	350	587			
4	500	6,831	330	0	155	10,443	3,000	10,443	500	723	500	1,413			
5	500	5,374	250	0	751	8,537	3,000	8,537	500	642	500	6,794			
6-7	500	12,829	350	0	676	19,473	3,000	19,473	500	687	500	7,309			
8 and above	1,000	11,673	250	0	482	17,689	3,000	17,689	500	852	500	3,476			
<b>Number of children aged 5 or less</b>															
1	250	10,483	300	0	792	19,056	1,500	19,056	500	624	500	7,819			
2	1,000	6,143	350	0	111	8,762	3,000	8,762	500	665	500	1,008			
3	1,500	5,655	350	0	404	7,780	3,000	7,780	500	903	300	4,051			
4 and above	1,500	28,549	300	0	1,993	41,941	3,500	41,941	350	905	1,000	12,863			
<b>Level of children dependency</b>															
Low	250	10,483	300	0	792	19,056	1,500	19,056	500	624	500	7,819			
Medium	1,000	7,746	350	0	142	11,115	3,000	11,115	500	620	500	1,236			
High	1,000	5,723	325	0	297	8,017	3,000	8,017	500	794	500	2,841			
<b>Educational attainment</b>															
No formal education	250	1,930	250	0	515	3,597	1,000	3,597	500	508	300	5,389			
Incomplete primary	350	5,014	300	0	201	8,294	1,500	8,294	500	647	500	1,943			
Complete primary	500	6,079	300	0	332	9,012	2,500	9,012	500	575	500	3,395			
Incomplete second	1,500	15,349	325	0	1,175	21,473	3,500	21,473	500	706	500	9,550			
Complete secondary	2,500	16,101	500	0	328	23,066	4,000	23,066	600	1,300	750	2,553			
Higher education	3,500	22,822	1,750	0	548	32,364	5,500	32,364	2,200	3,090	1,500	4,954			

Source: 1994 IDHS (raw data).

Table 7b  
**MEDIANS AND MEANS OF FAMILY PLANNING COST BY SOCIOECONOMIC BACKGROUND**

SES Variables	Including free provision receivers						Excluding free provision receivers																					
	Family planning cost		Pill cost		Service cost		Family planning cost		Pill cost		Service cost																	
	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean																
	(n=13392)						(n=1641)						(n=1313)						(n=57)									
<b>Occupation</b>																												
Did not work	1,000	10,426	500	609	0	564	3,000	14,848	500	826	500	5,436	500	826	500	5,436	1,000	12,183	300	374	500	2,729	500	4,695	300	17,236	300	923
Prof/technical	1,500	13,468	350	524	0	1,466	4,500	20,882	500	378	500	5,436	500	378	500	5,436	1,000	11,874	300	374	500	2,729	500	4,695	300	17,236	300	923
Manager and admin	0	399	0	0	0	41	1,750	1,877	300	500	500	5,436	500	500	500	5,436	1,000	11,874	300	374	500	2,729	500	4,695	300	17,236	300	923
Clerical	2,000	12,837	500	1,283	0	257	4,000	19,805	1,500	1,836	500	5,436	500	1,836	500	5,436	1,000	11,874	300	374	500	2,729	500	4,695	300	17,236	300	923
Sales	1,000	11,095	300	473	0	520	3,000	15,451	500	570	500	5,436	500	570	500	5,436	1,000	11,874	300	374	500	2,729	500	4,695	300	17,236	300	923
Service	1,000	10,626	500	499	0	1,348	3,000	17,337	600	761	500	5,436	500	761	500	5,436	1,000	11,874	300	374	500	2,729	500	4,695	300	17,236	300	923
Agricultural worker	200	2,775	250	335	0	97	1,000	5,246	350	480	300	923	300	480	300	923	1,000	11,874	300	374	500	2,729	500	4,695	300	17,236	300	923
Industrial worker	500	4,376	250	432	0	89	3,000	6,860	500	608	500	5,436	500	608	500	5,436	1,000	11,874	300	374	500	2,729	500	4,695	300	17,236	300	923
Other	500	7,831	250	590	0	3	2,000	8,352	250	641	300	923	300	641	300	923	1,000	11,874	300	374	500	2,729	500	4,695	300	17,236	300	923
<b>Occupation (recoded)</b>																												
Didn't work	1,000	10,426	500	609	0	564	3,000	14,848	500	826	500	5,436	500	826	500	5,436	1,000	12,183	300	374	500	2,729	500	4,695	300	17,236	300	923
Prof and admin	1,500	13,092	350	510	0	1,425	4,500	20,699	500	378	500	5,436	500	378	500	5,436	1,000	11,874	300	374	500	2,729	500	4,695	300	17,236	300	923
Service	1,000	11,181	350	521	0	615	3,000	16,072	500	652	500	5,436	500	652	500	5,436	1,000	11,874	300	374	500	2,729	500	4,695	300	17,236	300	923
Agricultural workers	200	2,775	250	335	0	97	1,000	5,246	350	480	300	923	300	480	300	923	1,000	11,874	300	374	500	2,729	500	4,695	300	17,236	300	923
Industrial workers	500	4,376	250	432	0	89	3,000	6,860	500	608	500	5,436	500	608	500	5,436	1,000	11,874	300	374	500	2,729	500	4,695	300	17,236	300	923

Source: 1994 IDHS (raw data).

## 7.1 Family Planning Costs by Region

Provincial variations in family planning costs appear pronounced when comparing mean prices paid for family planning services (see Table 6). For example, when including free provision recipients, East Kalimantan, North Sumatra, and DKI Jakarta report the highest total family planning costs, while the mean prices paid for pills are higher in East Timor, DKI Jakarta, and North Sumatra. Mean service costs appear to be quite high in West Sumatra and Southeast Sulawesi, but relatively uniform in other provinces. When only considering clients who actually paid for services (excluding free provision recipients), the highest total family planning costs are found in East Nusa Tenggara, West Sumatra, and North Sumatra. The highest mean prices for pills are now in East Timor, DKI Jakarta, and Bali, while service costs appear higher in West Sumatra, Southeast Sulawesi, and West Java.

Mean total family planning, pill, and service cost estimates can give a deceptive picture of the prices paid by most clients (e.g., when only a few clients pay very high or low prices). As noted previously, a median price actually gives a more accurate representation of the price paid by clients since this value represents the average cost at the mid-point of the entire sample population. For example, when considering family planning costs that include free provision recipients, it is clear that most clients pay far less for family planning services than is suggested by mean cost estimates. Median family planning costs are highest in DKI Jakarta (Rp2,500), followed by Bali (Rp1,500) and West Java (Rp1,000). In fact, in some provinces (e.g., DI Yogyakarta, West Sumatra, and East Timor), many place at clients do not incur any out-of-pocket expense for their family planning care. In addition, most clients do not report having paid a service-fee when obtaining care.

It is also important to note that provincial differences in median family planning costs are far less pronounced than mean costs. When including free provision recipients, provinces report a median total family planning cost ranging from only Rp0- Rp2,500 (compared to a mean price range of Rp232- Rp26,036). More discernible variation can be noted when excluding free provision recipients from the calculations. Median total family planning costs range from Rp500- Rp30,000, pill costs between Rp100- Rp1,500 and service costs between Rp150- Rp10,000.

Among clients who pay for family planning services (excluding free provision recipients), the highest median family planning costs are in East Nusa Tenggara, Bali, DKI Jakarta, and DI Yogyakarta. The East Nusa Tenggara median cost of Rp30,000 is considerably above median prices reported in other

provinces. Median pill costs are considerably higher in East Timor (Rp10,587), followed by DKI Jakarta, and Bali. Service costs appear to be quite high in Southeast Sulawesi (Rp10,000), with only North Sumatra and Bengkulu having median service costs above Rp2,000. While median costs do not show the same variability as mean cost estimates, there is still evidence that Indonesians in different regions of the country pay different amounts for family planning care. Unfortunately, the family planning cost data presented in Table 6 is derived from a relatively small sample (when excluding free provision recipients,  $n=3,641$  for total family planning costs,  $n=1,313$  for pill users, and  $n=757$  for clients reporting the payment of a service fee). These modest case loads may generate unstable provincial comparisons.

## 7.2 Family Planning Costs by Socioeconomic Status

Family planning costs in relation to various socioeconomic indicators are presented in Table 7a and Table 7b. Mean cost figures (both including and excluding free provision recipients) indicate that women pay more for family planning services if they are resident in urban areas, are more highly educated, live in higher-quality housing (electrified and ceramic/marble flooring), and are employed in professional/technical, clerical, and service occupations. These results are not exceptional in that these women are also more likely to use higher-priced private sector services. Median costs, while typically far lower than mean costs, tend to produce the same general patterns.

Family planning costs do not vary consistently in relation to measures of household composition. For example, when examining mean costs, households with low child dependency (only 0-1 children under the age of 5) appear on average to spend more on family planning than households with high dependency (approximately 3 or more children). However, median family planning costs by level of child dependency do not show the same relationship; namely, most households with greater child dependency appear to pay higher rather than lower prices for family planning services.

Mean pill costs also tend to be higher among women (1) resident in urban areas, (2) with higher levels of education, (3) living in higher quality housing, and (4) working in more professional/technical and clerical occupations. However, mean pill costs tend to show little variation in relation to other socioeconomic indicators.

Mean service costs are higher in urban settings, within electrified households, and among women employed in professional/technical and service

occupations. However, educational attainment has little systematic association with mean service costs. This implies that differences in service costs by place of residence could be more important than other SES (socioeconomic status) indicators in accounting for variation in the cost of service fees.

### 7.3 Family Planning Costs by Source of Supply for Family Planning and Prenatal Care

Table 8a and Table 8b present family planning costs by the source of last method. As in Tables 6 and 7, figures are shown that are inclusive and exclusive of clients who obtained services free of charge. As of 1994, women who got their last method from a private-sector outlet paid considerably more than clients obtaining services from the public sector. When excluding free provision recipients, the mean cost of private sector family planning care was Rp19,861 while the mean cost of public sector services was only Rp8,663. Median costs are also considerably higher for private-sector outlets when compared to government-run facilities.

Family planning costs are highest among clients who obtained their last method from a private or government hospital. This result may partly reflect the fact that more expensive long-term methods (e.g., male and female sterilization) are most often provided in hospital or clinical settings. The cheapest family planning services are provided by traditional healers/*dukuns*, village family planning posts/PPBD, and family planning fieldworkers/PLB.

Pill costs also tend to be higher when supplied by private sector outlets. Private sector clients pay an average of Rp1,431 for oral pills while government-supplied users pay an average of Rp541. Median pill costs, which more accurately reflect the average cost paid by clients, are also higher in the private sector. Pills are most expensive when supplied through pharmacies, an outcome which might tend to inhibit commercial pill distribution in the future.

Service fees are higher in hospital settings, especially government-run hospitals. The mean service cost paid at government hospitals is Rp26,067 compared to Rp4,196 at private sector hospitals (although median costs between public and private hospitals are identical at Rp1,500). Private doctors also charge comparatively high service fees (Rp5,493) when compared to other sources of supply. When comparing average public and private sector fee charges, the mean service fee is higher in the public sector (Rp4,486) than in the private sector (Rp3,770). However, the median service cost is actually higher in the private sector (Rp1,500 versus Rp500).

Table 8a  
**MEDIANS AND MEANS OF FAMILY PLANNING COST BY SOURCE OF SUPPLY**

Source of Supply	Including free provision receivers						Excluding free provision receivers											
	Family planning cost			Pill cost			Service cost			Family planning cost			Pill cost			Service cost		
	Median	Mean	(n=23192)	Median	Mean	(n=3061)	Median	Mean	(n=6058)	Median	Mean	(n=3641)	Median	Mean	(n=1311)	Median	Mean	(n=57)
<b>Last source for current users</b>																		
Government hospital	0	31,188		150	396		0	3,921		15,000	66,693		250	685		1,500	26,067	
Health center-Pusk	250	1,518		325	426		0	84		2,000	2,794		500	590		400	579	
Fieldworker-PLKB	175	447		175	314		0	3		500	777		500	551		100	100	
FP mobile-TKBK/TAK	0	799		500	575		0	60		2,500	2,441		500	625		1,000	1,000	
Other government agencies	0	696		250	299		0	154		500	2,193		500	512		500	983	
Private hospital	6,000	105,884		350	469		0	586		37,000	167,625		350	727		1,500	4,196	
Private FP clinic	1,500	9,646		200	1,138		0	54		4,000	15,998		600	1,868		500	1,123	
Private doctor	5,000	15,659		250	1,659		0	830		5,000	16,045		500	1,758		2,500	5,493	
Private midwife	3,500	4,301		500	1,039		0	46		3,500	4,695		1,000	1,186		1,000	1,441	
Pharmacy/drugstore	1,500	1,838		1,500	1,813		0	33		1,500	2,138		1,600	1,943		5,000	2,824	
Other private	250	779		250	339		0	1,100		250	1,534		250	360		3,000	3,000	
Delivery post/Polindes	2,000	1,905		100	141		0	9		3,000	2,622		100	250		500	500	
Health post-Pusyandu	300	696		300	427		0	21		500	1,038		500	562		300	331	
FP post/PKBID	250	423		250	313		0	23		350	608		350	428		200	277	
Traditional healer-Dukun	250	304		250	304		0	0		250	309		250	309		0	0	
Friends/relatives	0	136		0	103		0	0		325	557		325	430		0	0	
Other	200	359		250	332		0	37		500	636		500	474		100	252	
<b>Last source for current users (recorded)</b>																		
Public	250	4,882		300	389		0	546		1,000	8,663		500	541		500	4,486	
Private	3,500	17,244		500	1,231		0	248		4,000	19,861		1,000	1,431		1,500	3,770	
Other	150	326		250	292		0	30		500	597		500	453		100	251	

Source: 1994 IDHS (raw data).

Table 8b  
**MEDIANS AND MEANS OF FAMILY PLANNING COST BY SOURCE OF SUPPLY**

Source of Supply	Including free provision receivers						Excluding free provision receivers					
	Family planning cost		Pill cost		Service cost		Family planning cost		Pill cost		Service cost	
	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean
<b>Last source by major type</b>												
Government	250	6,761	300	405	0	767	2,500	12,725	500	587	500	5,420
Clinical/pharmacy												
Government	0	726	300	321	0	127	1,000	2,267	500	526	1,000	985
home/community delivery	3,500	18,557	500	1,026	0	266	4,000	21,354	750	1,230	1,500	3,784
Private clinic/delivery	1,500	1,838	1,500	1,813	0	33	1,500	2,138	1,600	1,943	5,000	2,824
Private pharmacy	250	624	250	366	0	20	500	931	500	502	200	313
Shop, church of friend	200	359	250	332	0	37	500	636	500	474	100	252
Other												

Source: 1994 IDHS (raw data).



Table 8a and Table 8b also present family planning cost data in relation to major supply source categories. This breakdown confirms that hospital and clinical sources of supply (both public and private) are more expensive than government-run community and home-based delivery systems. Pill costs are higher at private sector outlets, with private sector pharmacies having the highest mean and median prices. Government service costs at clinical outlets (hospitals and clinics) appear to be well above private sector fee schedules while government community and home delivery service fees are lower than private sector costs. Since poorer clients tend to rely more on community and home-based delivery, they could be expected to pay lower service fees than more prosperous clients.

#### **7.4 Family Planning Costs and Levels of Household Expenditure**

An important factor to consider when evaluating health seeking behavior is whether the market for family planning services is allocated efficiently in relation to households' ability to pay. In other words, are poorer households able to obtain services at a lower price than wealthier households, thereby ensuring that all segments of the population have equal access to services?

This issue is partly addressed by results shown in Table 9. When including free provision recipients, it can be seen that the mean costs for family planning services, mean pill costs, and services costs are far lower for households with low monthly expenditure levels. Median costs show the same general pattern, but differentials are not as pronounced. Winfrey and Heaton (1996) also found that women from poorer households tend to pay less for IUDs, implants, and sterilization. These results suggest that the Indonesian family planning program is doing a reasonably effective job in allocating the market for family planning services in relation to the welfare status of households.

Since poorer households are probably more likely to obtain free services, a more precise indication of family planning market segmentation can be obtained by excluding clients who receive free services. As can also be seen in Table 9, mean and median prices paid by households increase when estimates are based only on clients who actually paid for services. There is still considerable variation, however, in the prices paid by poorer and wealthier households. For example, the mean cost for all family planning services is Rp6,207 among poorer households and Rp21,176 for wealthier households. Mean pill and service fee costs are also higher among wealthier households.

It is interesting to note that median price levels produce similar patterns in comparison to mean prices, with the exception of pill costs. The average median price paid for pills is Rp500 for all three expenditure categories, which suggests that most clients pay roughly similar prices for pills, regardless of their household welfare status. Therefore, there appears to be rather poor market segmentation for pills (i.e., when only considering clients who actually paid for their pills). Efficient market segmentation would tend to have wealthier households paying more and poorer households paying less for their contraceptive supplies.



**Table 9**  
**MEDIAN AND MEANS OF FAMILY COST BY LEVEL OF MONTHLY HOUSEHOLD EXPENDITURE**

Level of household Expenditure	Including free provision receivers						Excluding free provision receivers											
	Family planning cost (n=13592)			Pill cost (n=2061)			Service cost (n=6088)			Family planning cost (n=3641)			Pill cost (n=1313)			Service cost (n=57)		
	Median	Mean		Median	Mean		Median	Mean		Median	Mean		Median	Mean		Median	Mean	
Low	250	3,595		250	363		0	92		1,000	6,207		500	495		400	846	
Medium	500	4,914		250	441		0	195		3,000	7,568		500	611		300	1,967	
High	1,500	14,860		500	705		0	956		3,500	21,176		500	959		750	8,573	

Source: 1994 DHS (raw data).

Winfrey and Heaton (1986, page iii) note that market segmentation for family planning services actually appears to be highly inefficient when only considering clients who obtained services free-of-charge. Among clients who obtained free family planning services, there is little differentiation in relation to the ability to pay for some methods. They conclude as follows:

"...if the percent of women receiving free services is the defining criterion for market segmentation, then the market is not well segmented. Well-off users of implants and pills actually receive free services more often than poor women. Well-off and poor users of injectables are equally likely to receive free services. The only clear exception to this skewed segmentation is among poor IUD users who receive their method and service free more often than the relatively ell-off." (Winfrey and Heaton 1986, page iii).

## **8. Determinants of Public and Private Sector Reproductive Health Service Utilization**

Incorporating background measures discussed previously, several multivariate models have been developed that account for factors that are most important in determining (1) the use of contraception, (2) the choice of public and private sector service providers for family planning, prenatal care, and place of delivery, and (3) delivery at home as opposed to clinical facilities. Binomial logistic regression, which accounts for the influence of independent measures (variables) in determining variation in a categorical dependent variable, is utilized in this analysis. The dependent and independent measures investigated are as follows:

### **Dependent Variables**

- Current Use or Non-Use of Family Planning
- Choice of Public or Private Sector Source of Supply for Family Planning Services
- Choice of Public or Private Sector Source of Supply for Prenatal Services
- Choice of Public or Private Sector Source of Supply for Delivery Services
- Utilization of Home or Clinical Delivery Services

### **Independent Variables**

- Age of Respondent
- Age Squared (Tests for Non-Linear Effects of Age on Dependent Variable)
- Children Ever Born (CEB)
- Children Ever Born Squared (Tests for Non-linear Effects of CEB on Dependent Variable)

- Urban/Rural Status (URBAN = 1; Rural=0)
- Educational Attainment of Respondent
  - (EDU\_PRIM = Some or Completed Primary)
  - (EDU\_SECN = Some or Completed Secondary)
  - (EDU\_HI = Some or Completed Post-Secondary)
  - (Reference Category = No Schooling)
- Household Floor Material
  - (FLR\_DIRT = Dirt Floor Material)
  - (FLR\_WOOD = Wood Floor Material)
  - (Reference Category = Hard Floor Material - Concrete, Brick, Tile, Ceramic, Marble)
- Household Electrification (ELECTRIC = 1; Not Electric = 0)
- Household Child Dependency (DEP\_5= Ratio of Household Population Under Age 5 to Household Population Aged 15 and Above)
- Household Expenditure Levels
  - (EXPT\_MED = Medium Household Expenditure Level)
  - (EXPT\_HI = High Household Expenditure Level)
  - (Reference Category = Low Household Expenditure Level)
- Occupational Status of Households
  - (OCC\_PROF = Professional/Technical and Managerial/Administrative Occupations)
  - (OCC\_SERV = Clerical, Sales, and Service Sector Occupations)
  - (OCC\_AGRI= Agricultural Occupation)
  - (OCC\_IND = Industrial Occupation)
  - (Reference Category = Not Working)
- Place of Residence (Region)
  - (W\_JAVA = West Java)
  - (C\_JAVA = Central Java)
  - (YGKARDA = Yogyakarta)
  - (E\_JAVA = East Java)
  - (BALI = Bali)
  - (JB\_1 = Other Java-Bali Islands 1)
  - (JB\_2 = Outer Java-Bali Islands 2)
  - (Reference Category = Jakarta)

Variables that are considered statistically meaningful have significance values of  $\leq .0500$ . The results from these models are briefly described below.

### 8.1 Current Use of Family Planning

Multivariate results showing the determinants of family planning use are presented in Table 10. As has been noted in many previous studies, family planning use tends to be higher among older women and women with

more children. AGE2 and CEB2 values are also significant, which indicates that use tends to decline for much older women (aged 40 and over) and for women with large families. However, child dependency (the ratio of the number of children aged 0-4 divided by the household population aged 15 and above) is not an important predictor of family planning use. More educated households are more likely to be using contraception. For example, women with high levels of education (having attained post-secondary levels of schooling) are far more likely to be using contraception than women with no education (the odds increase by 72.2 percent (Exp. (B)=1.7219)).

Variables which directly measure the welfare status of households are also important in accounting for variation in levels of contraceptive use. Households with medium and high expenditure levels are more likely to be using contraception than poorer households. However, these differences, while statistically significant, are not very large. For example, the odds of using contraception in high expenditure households are only 8.2 percent greater than in low expenditure households. Households which are electrified have a 10.8 percent greater likelihood of using contraception. However, household flooring material (as a measure of household welfare status) does not appear to have a strong association with contraceptive use. The difference in levels of use between households with dirt floors and hard floors is not statistically significant. Only households with wood floors are less likely to use contraception than wealthier (hard floor) households.

Occupational status is not consistently important as a determinant of contraceptive use. Women in professional and managerial occupations are more likely to use contraception than women who do not work (the odds of use increase by 11.8 percent). Women working in agriculture also have greater odds of using contraception than non-working women (the odds of use increase by 9.8 percent). However, service and industrial occupations do not report levels of use that are significantly different from women who are not working.

When compared to Jakarta, women in Central and East Java, Yogyakarta, and Bali have greater odds of using contraception. This difference is especially pronounced for Bali (odds of use increase by 49.6 percent compared to Jakarta) and Yogyakarta (odds of use increase by 39.8 percent compared to Jakarta). However, in the Outer Islands II region, the likelihood of use declines by 13.5 percent, while in West Java and Outer Islands I there are no significant differences with Jakarta. These results indicate that after controlling for other socioeconomic background factors, there are still strong regional effects that are partly responsible for variation in the level of contraceptive use.

**Table 10**  
**DETERMINANTS OF CONTRACEPTIVE USE**

Dependent Variable.	CPUSE	CURRENTLY USING CP					
Number of selected cases:	13592						
Number rejected because of missing data:	129						
Number of cases included in the analysis:	13463						
Goodness of Fit	13725.979						
Model Chi-Square	1951.332	Chi-Square	df	Significance			
	1951.332		25	.0000			
			25	.0000			
----- Variables in the Equation -----							
Variable	B	S.E.	Wald	df	Sig	R	Exp (B)
AGE	.1246	.0196	40.4144	1	.0000	.0454	1.1327
AGE2	-.0026	.0003	82.2659	1	.0000	-.0656	.9974
CEB	.8429	.0334	636.0040	1	.0000	.1844	2.3230
CEB2	-.0795	.0035	525.0936	1	.0000	-.1675	.9236
URBAN (1)	.0100	.0269	.1397	1	.7086	.0000	1.0101
EDU_PRIM (1)	.3412	.0276	152.5928	1	.0000	.0898	1.4066
EDU_SECN (1)	.5272	.0347	230.2130	1	.0000	.1106	1.6942
EDU_HI (1)	.5434	.0675	64.7157	1	.0000	.0580	1.7219
FLR_DIRT (1)	-.0501	.0285	3.0871	1	.0789	-.0076	.9511
FLR_WOOD (1)	-.0971	.0249	15.1963	1	.0001	-.0266	.9075
ELECTRIC (1)	.1029	.0244	17.7974	1	.0000	.0291	1.1083
DEP_5	.0012	.0014	.7007	1	.4025	.0000	1.0012
EXPT_MED (1)	.0485	.0242	3.9967	1	.0456	.0103	1.0496
EXPT_HI (1)	.0785	.0283	7.7080	1	.0055	.0175	1.0817
OCC_PROF (1)	.1119	.0558	4.0247	1	.0448	.0104	1.1184
OCC_SERV (1)	-.0222	.0282	.6193	1	.4313	.0000	.9780
OCC_AGRI (1)	.0935	.0244	14.6543	1	.0001	.0260	1.0980
OCC_IND (1)	.0286	.0437	.4261	1	.5139	.0000	1.0290
W_JAVA (1)	.0147	.0556	.0703	1	.7910	.0000	1.0148
C_JAVA (1)	.1653	.0583	8.0327	1	.0046	.0180	1.1797
YGKARDA (1)	.3354	.0646	26.9668	1	.0000	.0366	1.3984
E_JAVA (1)	.1202	.0576	4.3542	1	.0369	.0112	1.1278
BALI (1)	.4031	.0632	41.8820	1	.0000	.0462	1.4964
JB_I (1)	-.0854	.0445	3.6798	1	.0551	-.0095	.9181
JB_II (1)	-.1452	.0449	10.4637	1	.0012	-.0213	.8649
Constant	-.9810	.4021	5.9528	1	.0147		

Source: 1994 IDHS (raw data).

## 8.2 Choice of Public and Private Sector Source of Supply for Family Planning Services

Table 11 presents information on the determinants of public and private sector family planning use (measured in relation to the source of supply for the current method of use). While age and parity of the respondent are not

important in determining public and private sector use, findings do suggest that there are sizable regional and socioeconomic influences determining the use of public and private sector services.

**Table 11**  
**DETERMINANTS OF PUBLIC AND PRIVATE SOURCE OF SUPPLY**  
**FOR LAST FAMILY PLANNING METHOD**

Number of selected cases: 13592							
Number rejected because of missing data: 7692							
Number of cases included in the analysis: 5900							
Dependent Variable.	FP_S1_R2	LAST SOURCE OF FP					
Goodness of Fit	5921,464						
Model Chi-Square	999.692	df	Significance				
Improvement	999.692	25	.0000				
		25	.0000				
Variables in the Equation							
Variable	B	S.E.	Wald	df	Sig	R	Exp (B)
AGE	-.0411	.0394	1.0884	1	.2968	.0000	.9598
AGE2	.0007	.0006	1.6566	1	.1981	.0000	1.0007
CEB	.0581	.0712	.6658	1	.4145	.0000	1.0598
CEB2	-.0042	.0073	.3274	1	.5672	.0000	.9958
URBAN (1)	-.3607	.0408	78.0939	1	.0000	-.1056	.6972
EDU_PRIM (1)	-.2126	.0672	9.9983	1	.0016	-.0342	.8085
EDU_SECN (1)	-.4163	.0731	32.4080	1	.0000	-.0668	.6595
EDU_HI (1)	-.7046	.1119	39.6752	1	.0000	-.0743	.4943
FLR_DIRT (1)	.2048	.0559	13.4300	1	.0002	.0409	1.2273
FLR_WOOD (1)	.1580	.0473	11.1833	1	.0008	.0367	1.1712
ELECTRIC (1)	-.1577	.0476	11.0007	1	.0009	-.0363	.8541
DEP_5	-.0098	.0027	13.5289	1	.0002	-.0411	.9903
EXPT_MED (1)	-.1710	.0501	11.6487	1	.0006	-.0376	.8428
EXPT_HI (1)	-.2575	.0548	22.0559	1	.0000	-.0542	.7729
OCC_PROF (1)	.1175	.0790	2.2122	1	.1369	.0056	1.1246
OCC_SERV (1)	-.0074	.0446	.0274	1	.8685	.0000	.9926
OCC_AGR (1)	.1755	.0503	12.1686	1	.0005	.0386	1.1919
OCC_IND (1)	.0645	.0712	.8204	1	.3651	.0000	1.0666
W_JAVA (1)	-.0365	.0795	.2107	1	.6462	.0000	.9642
C_JAVA (1)	-.0353	.0857	.1698	1	.6803	.0000	.9653
YGKARDA (1)	.0663	.0922	.5160	1	.4726	.0000	1.0685
E_JAVA (1)	.1536	.0909	2.8526	1	.0912	.0112	1.1660
BALI (1)	-.2843	.0816	12.1268	1	.0005	-.0385	.7525
JB_I (1)	.0931	.0640	2.1180	1	.1456	.0042	1.0976
JB_II (1)	.4044	.0667	36.7799	1	.0000	.0714	1.4983
Constant	1.3171	.7236	3.3126	1	.0688		

Source: 1994 IDHS (raw data).



Women resident in urban areas are less likely to be using public sector services (the odds decline by 30.3 percent when compared to women resident in rural areas). In addition, more highly educated women are less likely to be using public sector services. Poorer households appear to be more reliant upon public sector services. Households with dirt floors have a much greater likelihood of using public sector services (the odds increase by 22.7 percent) compared to households with hard floor surfaces. In addition, the odds of using public sector services decline dramatically among households with medium and high expenditure levels (by 15.7 and 22.7 percent respectively). Electrified households and women who work in agricultural occupations are also less likely to be using public sector services. These results all lead to the same overwhelming conclusion; namely, that poorer Indonesian households are still heavily reliant upon government service outlets for their family planning care.

When compared to Jakarta, most women in other regions of the country are far more likely to be using public sector family planning services. For example, the odds of using public sector services are 109.3 percent greater in Outer Island II, 93.5 percent greater in Yogyakarta, 55.9 percent greater in Outer Island I, and 56.5 percent greater in Central Java. The only exception to this pattern is Bali, where differences with Jakarta are not statistically meaningful (significant).

### **8.3 Choice of Public and Private Sector Source of Supply for Prenatal Services**

Results shown in Table 12 indicate that there are strong regional patterns of public and private sector use of prenatal services in Indonesia. Women residing in urban areas are much less likely to be using public sector services (the odds of using public sector services decline by 28.9 percent). Regional patterns mirror this result, with the odds of using public sector prenatal care being lower in Jakarta than most other regions of the country (the only exception to this pattern being the island of Bali).

There also appear to be important socioeconomic differentials influencing the choice of public and private prenatal care. The use of public sector prenatal services is much greater among women with less education, women living in households with dirt floors, and in households with lower average monthly expenditures. The decline in public sector use among women with education beyond the secondary level is especially pronounced (the odds of using public sector sources decline by 44.1 percent). In addition, households with higher child dependency burdens--a greater percentage of children under

the age of 5 in the household--are also more likely to rely upon public sector services. In other words, there is clear evidence that less advantaged elements of Indonesia's population still rely primarily upon public sector prenatal services. In many regions of the country, this finding may result in part from the non-accessibility of private sector prenatal care, which tends to more readily available in urban settings, rather than simply a matter of individual choice.

**Table 12**  
**DETERMINANTS OF PUBLIC AND PRIVATE SOURCE OF SUPPLY**  
**FOR PRENATAL SERVICE**

Number of selected cases: 13592							
Number rejected because of missing data: 8016							
Number of cases included in the analysis: 5576							
Dependent Variable.	PRENCR2	PRENATAL CARE PLACE					
Goodness of Fit	5595,379						
Model Chi-Square Improvement	746.106	df	Significance				
	746.106	25	.0000				
		25	.0000				
Variables in the Equation							
Variable	B	S.E.	Wald	df	Sig	R	Exp (B)
AGE	-.0364	.0434	.7018	1	.4022	.0000	.9643
AGE2	.0004	.0007	.3631	1	.5468	.0000	1.0004
CEB	.0753	.0567	1.7627	1	.1843	.0000	1.0782
CEB2	-.0136	.0053	6.5381	1	.0106	-.0253	.9865
URBAN (1)	-.3410	.0400	72.5521	1	.0000	-.0997	.7110
EDU_PRIM (1)	-.0500	.0576	.7530	1	.3855	.0000	.9512
EDU_SECN (1)	-.1939	.0646	9.0018	1	.0027	-.0314	.8237
EDU_HI (1)	-.5812	.1056	30.2987	1	.0000	-.0631	.5592
FLR_DIRT (1)	.2174	.0501	18.8147	1	.0000	.0487	1.2428
FLR_WOOD (1)	-.0125	.0401	.0973	1	.7551	.0000	.9876
ELECTRJC (1)	-.0119	.0405	.0864	1	.7687	.0000	.9881
DEP_5	-.0101	.0028	13.1906	1	.0003	-.0397	.9900
EXPT_MED (1)	-.0623	.0431	2.0883	1	.1484	-.0035	.9396
EXPT_HI (1)	-.2361	.0480	24.2379	1	.0000	-.0560	.7897
OCC_PROF (1)	.2500	.0825	9.1887	1	.0024	.0318	1.2840
OCC_SERV (1)	.0155	.0470	.1081	1	.7423	.0000	1.0156
OCC_AGR1 (1)	-.0635	.0431	2.1696	1	.1408	-.0049	.9385
OCC_IND (1)	.0539	.0745	.5243	1	.4690	.0000	1.0554
W_JAVA (1)	.3644	.0865	17.7639	1	.0000	.0471	1.4397
C_JAVA (1)	.4480	.0958	21.8806	1	.0000	.0529	1.5651
YKARDA (1)	.6600	.1109	35.3931	1	.0000	.0686	1.9349
E_JAVA (1)	.4017	.1015	15.6699	1	.0001	.0439	1.4944
BALI (1)	.0554	.0982	.3183	1	.5727	.0000	1.0570
JB_I (1)	.4443	.0728	37.2079	1	.0000	.0704	1.5594
JB_II (1)	.7384	.0737	100.2834	1	.0000	.1176	2.0925
Constant	3.3607	.7577	19.6730	1	.0000		

Source: 1994 IDHS (raw data).

#### 8.4 Choice of Public or Private Sector Source of Supply for Delivery Services

For place of delivery, the choice of public and private sector provider appears to be similar to results shown in Table 12 for prenatal care. As can be seen in Table 13, women who are residing in rural areas, living in poorer household structures, and having lower average monthly household expenditures are more likely to give birth in a public sector facility. However, unlike prenatal services, there are no significant differences in public and private delivery source by region and level of educational attainment. This result may stem largely from the fact that the overwhelming majority of births in Indonesia are delivered at home rather than in public and private sector facilities.

A final analysis presented in Table 14 assesses factors that are important in predicting whether women deliver at home or in a medical facility (public or private sector clinic/hospital). Despite the fact that most births occur at home, these results do suggest some systematic behavioral differences in accounting for where they have their children. For example, younger women are more inclined to deliver in clinics/hospitals than older women, which may suggest that a longer-term trend away from home-based delivery could be emerging. In addition, women residing in urban areas and women with more education are more likely to avoid giving birth at home. The odds of having children at home declines by 42.4 percent among women with secondary-level schooling and by 61.7 percent among women with post-secondary level education. These findings suggest that as educational levels continue to rise in the general population, one might anticipate that more women will prefer not to have their children at home. This factor needs to be considered in allocating resources for future maternal health facilities.

Additional evidence that home-based delivery is more prevalent in poorer disadvantaged households can be seen by the fact that the odds of delivering at home fall significantly among households with high monthly expenditures (the odds fall by 22.9 percent compared to low expenditure households), and in households that are electrified (the odds fall by 27.8 percent). In addition, home-based deliveries are more likely to occur in households with dirt and wood floors and among respondents working in agrarian occupations.

A somewhat surprising result is that the odds of giving birth at home actually varies considerably by region. In West Java, the odds of having a birth at home are 38.6 percent greater than in Jakarta, while the odds of having a

home-based delivery are significantly lower in Yogyakarta (31.9 percent lower), Bali (38.6 percent lower), and the Outer Islands I region (24.8 percent lower) when contrasted with Jakarta. Other provinces (Central and East Java) and Outer Islands II are not significantly different from Jakarta. Despite Jakarta's highly urbanized environment and the widespread availability of public and private sector clinics/hospitals, women in some regions of the country appear less inclined to have home-based deliveries when contrasted with mothers in Jakarta.

**Table 13**  
**DETERMINANTS OF PUBLIC AND PRIVATE SECTOR DELIVERY SERVICE**

Dependent Variable.		DEL_PUB		DELIVERY AT PUBLIC			
Goodness of Fit		1199.781					
Model Chi-Square Improvement		117.466	25	.0000			
		117.466	25	.0000			
----- Variables in the Equation -----							
Variable	B	S.E.	Wald	df	Sig	R	Exp (B)
AGE	-.1437	.1009	2.0284	1	.1544	-.0041	.8661
AGE2	.0018	.0017	1.2517	1	.2632	.0000	1.0018
CEB	.3132	.1233	6.4530	1	.0111	.0518	1.3678
CEB2	-.0297	.0134	4.9442	1	.0262	-.0421	.9707
URBAN (1)	-.3689	.0753	24.0161	1	.0000	-.1152	.6915
EDU_PRIM (1)	-.0213	.1817	.0137	1	.9069	.0000	.9790
EDU_SECN (1)	-.0288	.1853	.0241	1	.8766	.0000	.9716
EDU_HI (1)	-.2580	.2110	1.4950	1	.2214	.0000	.7726
FLR_DIRT (1)	-.0625	.1381	.2045	1	.6511	.0000	.9395
FLR_WOOD (1)	-.0396	.0964	.1685	1	.6814	.0000	.9612
ELECTRIC (1)	-.0100	.1176	.0072	1	.9326	.0000	.9901
DEP_5	-.0098	.0057	2.8948	1	.0889	-.0232	.9903
EXPT_MED (1)	-.2245	.1196	3.5234	1	.0605	-.0303	.7989
EXPT_HI (1)	-.3909	.1233	10.0460	1	.0015	-.0696	.6764
OCC_PROF (1)	.2516	.1134	4.9252	1	.0265	.0420	1.2861
OCC_SERV (1)	.1356	.0829	2.6800	1	.1016	.0202	1.1453
OCC_AGRJ (1)	-.2396	.1452	2.7222	1	.0990	-.0209	.7869
OCC_IND (1)	-.0689	.1495	.2122	1	.6450	.0000	.9335
W_JAVA (1)	-.2991	.1864	2.5747	1	.1086	-.0186	.7415
C_JAVA (1)	-.2263	.1822	1.5414	1	.2144	.0000	.7975
YGKARDA (1)	-.0535	.1605	.1111	1	.7388	.0000	.9479
E_JAVA (1)	-.3731	.1849	4.0711	1	.0436	-.0353	.6886
BALI (1)	.1797	.1647	1.1910	1	.2751	.0000	1.1969
JB_I (1)	-.0248	.1053	.0554	1	.8140	.0000	.9755
JB_II (1)	.2318	.1081	4.6001	1	.0320	.0396	1.2609
Constant	1.6382	1.6188	1.0242	1	.3115		

Source: 1994 IDHS (raw data).

**Table 14**  
**DETERMINANTS OF HOME DELIVERY**

Dependent Variable.	DELVHOME	DELIVERY AT HOME					
Number of selected cases:	13592						
Number rejected because of missing data:	7007						
Number of cases included in the analysis:	6585						
Goodness of Fit	6801.743						
Model Chi-Square	1756.992	df	Significance				
Improvement	1756.992	25	.0000				
----- Variables in the Equation -----							
Variable	B	S.E.	Wald	df	Sig.	R	Exp (B)
AGE	-.2087	.0578	13.0565	1	.0003	-.0421	.8116
AGE2	.0024	.0009	6.5265	1	.0106	.0269	1.0024
CEB	.3426	.0705	23.6167	1	.0000	.0588	1.4086
CEB2	-.0157	.0069	5.2380	1	.0221	-.0228	.9844
URBAN (1)	-.5467	.0452	146.5540	1	.0000	-.1520	.5788
EDU_PRIM (1)	-.1966	.0893	4.8483	1	.0277	-.0213	.8215
EDU_SECN (1)	-.5525	.0927	35.5163	1	.0000	-.0732	.5755
EDU_HI (1)	-.9599	.1268	57.3048	1	.0000	-.0940	.3829
FLR_DIRT (1)	.2532	.0698	13.1500	1	.0003	-.0422	1.2881
FLR_WOOD (1)	.3781	.0538	49.3235	1	.0000	.0870	1.4595
ELECTRIC (1)	-.3256	.0579	31.6180	1	.0000	-.0688	.7221
DEP_5	-.0006	.0034	.0289	1	.8650	.0000	.9994
EXPT_MED (1)	-.0813	.0612	1.7637	1	.1842	.0000	.9219
EXPT_HI (1)	-.2603	.0641	16.4852	1	.0000	-.0481	.7708
OCC_PROF (1)	-.0702	.0826	.7213	1	.3957	.0000	.9322
OCC_SERV (1)	.0411	.0529	.6024	1	.4377	.0000	1.0419
OCC_AGRI (1)	.3354	.0713	22.1453	1	.0000	.0568	1.3984
OCC_IND (1)	.0821	.0887	.8562	1	.3548	.0000	1.0856
W_JAVA (1)	.3268	.1071	9.3179	1	.0023	.0342	1.3865
C_JAVA (1)	-.0779	.1098	.5029	1	.4782	.0000	.9251
YGKARDA (1)	-.3835	.1157	10.9894	1	.0009	-.0379	.6815
E_JAVA (1)	-.1356	.1146	1.3992	1	.2369	.0000	.8732
BALI (1)	-.4872	.1062	21.0340	1	.0000	-.0552	.6143
JB_I (1)	-.2852	.0730	15.2549	1	.0001	-.0460	.7519
JB_II (1)	-.1280	.0735	3.0313	1	.0817	-.0128	.8799
Constant	3.4761	.9540	13.2754	1	.0003		

Source: 1994 IDHS (raw data).

## 9. Conclusions

The analysis presented in this report has shown that there is substantial variation in the level and distribution of household expenditure in Indonesia. In addition, the wealth status of households (as measured by average monthly expenditures) does appear to be correlated with the utilization of family

planning and maternal health services. These patterns are important to consider when planning for the future reproductive health needs of Indonesia's women.

The 1994 IDHS reports that the median level of household expenditure varies considerably in Indonesia. At the national level, the median level of household expenditure is Rp 181,733 (ranging from a high of Rp 488,773 per month in Jakarta to a low of Rp 149,024 in Irian Jaya). Most households in Indonesia spend more money each month for food than non-food items. In addition, poorer provinces (as measured by total monthly household expenditure levels), tend to have greater inequality in the distribution of wealth. Irian Jaya has the greatest inequality in expenditure levels while Bengkulu has the most equitable distribution. However, in general, Indonesia is not typified by major regional variations in the equality of household expenditures. It will be important to continue monitoring change in these household expenditure (wealth) patterns in future years.

Findings clearly indicate that the use of family planning and maternal health services are often correlated with the welfare status of households. Households with high expenditure levels are more likely to use contraception (55.5 percent) than households with low expenditure levels (45.4 percent). In terms of individual methods, women residing in wealthier households are more likely to use injectables and female sterilization—which suggests that poor accessibility and the cost of these methods may be discouraging use among women poorer women. However, implant prevalence is greater in households with lower spending levels. This reflects the fact that implants are more commonly made available through public sector outlets, which also tend to be the service points utilized by poorer women. Pills, IUDs, condoms, and male sterilization do not have clear patterns of association with household expenditure levels.

As has been noted in previous studies, poorer households rely more on public sector family planning services. Households with high expenditure levels rely more upon private hospitals, pharmacy/drug stores, private doctors, and private family planning clinics for their family planning care. Households with the lowest expenditure levels rely primarily upon fieldworkers/PKLB, family planning mobile units, traditional healers/dukuns, government health centers/puskesmas, and government health posts/posyandu. As in the case of family planning, households with higher expenditure levels are more likely to rely upon private sector prenatal and delivery services (primarily private hospitals). It is important to note that private sector social marketing programs designed to offer methods through commercial outlets have not been readily utilized by Indonesia's poorer households. Continuing efforts are needed to

ensure that poorer households are able to gain access to family planning services, primarily through lower cost public sector providers and segmented commercial distribution systems.

In 1994, women who obtained their last method from a private-sector outlet paid considerably more than clients obtaining services from the public sector. Total family planning costs (method provision and service fee) are highest among clients who obtained their last method from a private or government hospital. This result may partly reflect the fact that more expensive long-term methods (e.g., male and female sterilization) are most often provided in hospital or clinical settings. In addition, pills are most expensive when supplied through private pharmacies, a factor which might tend to inhibit commercial pill distribution in the future. The cheapest family planning services are provided healer/dukuns, village family planning posts/PPKBD, and fieldworkers/PLKB.

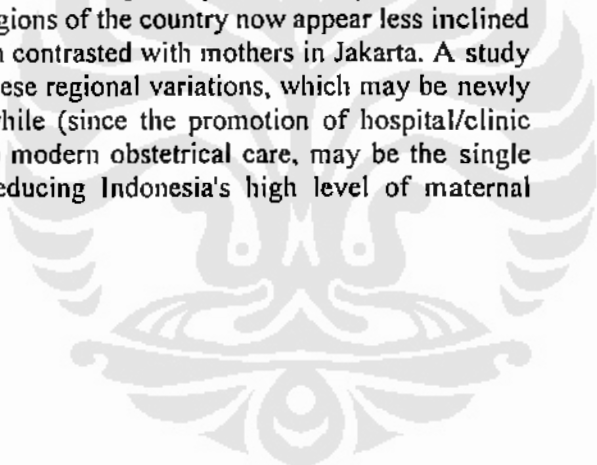
This study also provided a partial assessment of whether the market for family planning services is allocated efficiently in relation to households' ability to pay. In other words, are poorer households able to obtain services at a lower price than wealthier households, thereby ensuring that all segments of the population have equal access to services. In general, the total costs for family planning services, mean pill costs, and services costs are far lower for households with low monthly expenditure levels than among more prosperous households. However, among clients who actually paid for their family planning care, the median price paid for pills does not vary by household welfare status, which suggests that many clients pay roughly similar prices for pills. Therefore, there appears to be rather poor market segmentation for pills. A previous study by Winfrey and Heaton (1996) also found highly inefficient market segmentation among clients who obtained free family planning services, primarily for pills, implants, and injectables. Clearly, there are still imperfections in the pricing and subsidization mechanisms that define accessibility and affordability in the Indonesian family planning program.

Multivariate analysis accounting for the determinants of public and private sector family planning and maternal care all lead to the same overwhelming conclusion; namely, that poorer Indonesian households are still heavily reliant upon government service outlets. For example, the use of public sector prenatal services is much greater among women with less education, women living in households with dirt floors, and in households with lower average monthly expenditures. In addition, when compared to Jakarta, most women in other regions of the country are far more likely to be using public sector family planning and maternal care services (the only exception to this

pattern being in Bali). In many regions of the country, this finding may result in part from the non-accessibility of private sector reproductive health care. Given the heavy reliance upon public sector service provision in Indonesia, significant near-term improvements in the accessibility and quality of reproductive health services would appear to be most dependent upon efforts to further upgrade government service delivery capabilities.

Multivariate analysis also uncovered some systematic behavioral differences that account for where mothers have their children. For example, younger women are now more inclined to deliver in clinics/hospitals than older women, which may suggest that a trend away from home-based delivery could be emerging. In addition, women residing in urban areas and women with more education are more likely to deliver at a medical facility. These findings suggest that as educational levels continue to rise among younger women, one might anticipate that more mothers will prefer not to have their children at home. This factor needs to be considered in allocating resources for future maternal health services.

A somewhat surprising result is that the likelihood of giving birth at home actually varies considerably by region. In West Java, the odds of having a birth at home are greater than in Jakarta, while the odds of having a home-based delivery are significantly lower in Yogyakarta, Bali, and the Outer Islands I region when contrasted with Jakarta. Despite Jakarta's highly urbanized environment and the widespread availability of public and private sector clinics/hospitals, women in some regions of the country now appear less inclined to have home-based deliveries when contrasted with mothers in Jakarta. A study that would attempt to account for these regional variations, which may be newly emerging, would likely be worthwhile (since the promotion of hospital/clinic delivery, which improves access to modern obstetrical care, may be the single most important intervention for reducing Indonesia's high level of maternal mortality).





## Notes

1. Printed with the permission of the East-West Center Program on Population, Honolulu Hawaii and the State Ministry of Population National Family Planning Coordinating Board, Jakarta, Indonesia.

2. A median rather than mean expenditure estimate actually provides a more accurate representation of the average monthly level of household spending. A median value represents the average household expenditure level at the mid-point of the entire sampled population and does not give undue weight to extreme outlying values (as is the case with a mean. Therefore, median values will be utilized in the discussion of household expenditure patterns.

However, both mean and median estimates will be presented for total family planning, pill, and service-fee costs later in this study since many respondents report not have paid for their family planning care (resulting in several tables with median cost values = 0).

## References

Central Bureau of Statistics, National Family Planning Coordinating Board, Ministry of Health and Macro International. 1995. *Indonesia Demographic and Health Survey 1994*. Calverton, Maryland: Macro International.

Winfrey, William, and Laura Heaton. 1996. *Market Segmentation Analysis of the Indonesian Family Planning Market: Consumer, provider and product market segments*. Washington, DC: Options for Population Policy, The Futures Group.



**Tohir Diman, Drs, MA.** Head of Bureau of System and Data Processing, National Family Planning Coordinating Board, Jakarta, Indonesia. Phone: 62-21 8009077; Fax: 62-21 8008335.

**Andrew Kantner, PhD.** Program on Population, East-West Center, Honolulu, Hawaii.

E-mail: abkantner@aol.com

پروفیسر ڈاکٹر  
پروفیسر ڈاکٹر  
پروفیسر ڈاکٹر  
پروفیسر ڈاکٹر  
پروفیسر ڈاکٹر



پروفیسر ڈاکٹر  
پروفیسر ڈاکٹر  
پروفیسر ڈاکٹر  
پروفیسر ڈاکٹر  
پروفیسر ڈاکٹر