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Monitoring of macro-level family planning quality of care indicators

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**MONITORING OF MACRO-LEVEL
FAMILY PLANNING
QUALITY OF CARE INDICATORS**
April 1994 - January 1998

**CENTER FOR BIOMEDICAL RESEARCH
THE NATIONAL FAMILY PLANNING COORDINATING BOARD**

THE POPULATION COUNCIL

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**ASIA & NEAR EAST OPERATIONS RESEARCH AND
TECHNICAL ASSISTANCE PROJECT**

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I. INTRODUCTION

1.1. Population Development and Quality of Care

The success of population development in Indonesia can be seen partly from Indonesia's success in reducing the rate of population growth during the first "Long-term Development Plan" (1969-1994). The rate of population growth has declined from 2.32% (1971-1980) to 1.98% (1980-1990) and then to 1.66% (1990-1995) (Inter-censal survey/*SUPAS*, 1995). The continued slowing of population growth in this country of 202 million people is expected to bring expanded opportunities for economic development, improved quality of life for Indonesians, as well as the quality of social services, education and health.

Fertility and fertility control are two dominant issues in population policy, despite the importance of mortality as a determinant of population growth. Fertility measurement is more complicated than mortality because fertility (and fertility control) involves two persons, whereas death involves only one. Women control their fertility for various reasons, from wanting to delay pregnancy or space births, to not wanting any more children, and family planning programs must fulfill the need to control fertility in all reproductive life stages, which span nearly 35 years, from menarche to menopause. This includes reproductive needs of adolescents, unmarried women and women over 40, as these groups are most vulnerable to unwanted and high risk pregnancy.

The success of family planning programs in Indonesia cannot be judged solely on the reduction of population growth, but should also be judged in terms of quality of care they provide and the extent to which they are successful in helping women as individuals achieve their reproductive goals. To date, family planning programs are left with the responsibility to offer a variety of safe, effective, acceptable, affordable contraceptive methods to help women prevent both unwanted pregnancies and STDs.

Quality of care, or QOC, as stated by Hull (1996), is defined as "the way clients are treated by the system, or the actual process of care-giving, and by a focus on the client's or user's perspectives of service." In the preparation for adoption of the

platform of the International Conference on Population and Development (ICPD, Cairo 1994), the policy of the Indonesian National Family Planning Coordinating Board (NFPCB or *BKKBN*) has already acknowledged the need for improved quality of care and continuous quality improvement in order to increase satisfaction among clients and the community in general (Iskandar and Dharmaputra, 1996:3).

Goals for reproductive health and well-being are realized when clients of reproductive age can carry out their reproductive function and process, without facing unplanned or unwanted pregnancy or reproductive health problems or illness (Jain & Bruce, 1993:20; Mensch, Arends-Kuenning, Jain and Garate, 1995:4). Individuals' and couples' reproductive intentions are broadly influenced by three social and cultural factors: (1) religion, (2) male child preference, and (3) the status of women (Singarimbun, 1997). Age, socio-economic status, desired family size, and concerns about contraceptive complications and side effects, can influence women's contraceptive use and choice of methods (Barnett, 1995:14).

1.2. Purpose

At the national level, there is a need to monitor the quality of contraceptive services to ensure efficient use of scarce government resources and to evaluate the extent to which the Indonesian family planning program has provided information and services of adequate quality. One method of approaching this task is by making effective use of government family planning statistics reports which publish data collected and tabulated by the Bureau of Reporting and Statistics (*Biro Pelaporan dan Statistik, or BILAP*) of the NFPCB.

In this review, the value of five selected macro-level quality of care indicators is discussed to highlight their potential usefulness to central level program planners and managers in their efforts to improve quality of family planning care. The five indicators selected for use by the Indonesian FP program, are:

1. Regularity of new acceptor recruitment, as reflected by analysis of Coefficient of Variation (CoV), and geographic region.
2. Complication Ratios

3. Failure Ratios
4. Percentage of acceptors who switch methods
5. Reported implant removals compared to estimated removals needed

(Additional potentially useful indicators, based on the type of family planning method, age and parity, are presented in Appendix A.).

II. METHODS

2.1. Data Sources

Two monthly publications from NFPCB *BILAP* provide the necessary variables for calculation of the selected indicators at the macro level. These are: (1) the monthly feedback reports on the coverage of family planning clinics (*Laporan Bulanan Umpanbalik Hasil Pelayanan Klinik KB*), and (2) the monthly feedback reports on the family welfare community-based registration (*Laporan Bulanan Umpanbalik Pembinaan Keluarga Sejahtera*). Both reports collect data two or three months before the report is published (for example, the November 1996 edition only reported data up until August 1996). Data down-loaded from the NFPCB's Central Computer (*PUKOM*) were also used to supplement and cross-check data published in the above reports (see Appendix B).

The following variables have been selected from the two monthly reports:

1. Total numbers of new acceptors, stratified by *MUPAR* vs. Non-*MUPAR* (i.e. age and parity of acceptors) (publication codes are: KPW3 & KPW4)
2. Total numbers of acceptors who have switched methods (KPW7)
3. Total number of complications by method (KPW9)
4. Total method failures and Implant removals (KPW12)
5. Levels of new FP acceptors recruited, compared to the target for fulfillment of community needs, by time period (KPW15)
6. Total number of current contraceptive users (DPW12)

2.2. Regional Typology

In 1994, taking into account differences in development at the local, provincial and national levels, the national FP program adopted a strategy for streamlining the operational target segments of the population by grouping the 27 provinces into four types of target areas based on similarity of features among regencies, municipalities, district and villages (such as existing conditions and other, strengths and weaknesses related to family planning program). Region I consists of provinces classified as having an established and successful program, while Region IV provinces are those which need further programmatic development. It is hoped that priorities for intervention activities and allocation of resources can be tailored to the “Typology” category of that area (NFPCB, 1996:3).

Table 2.2 Regional Typology, Original 1994 Formulation

Region	Number of Provinces	Provinces
Region I Advanced	6	DI Yogyakarta, East Java, Bali, Central Java, North Sulawesi, DKI Jakarta
Region II Good	5	Bengkulu, South Sumatra, Jambi, West Java, West Sumatra
Region III Fair	9	West Nusa Tenggara, East Kalimantan, Riau, Lampung, North Sumatra, Central Sulawesi, Central Kalimantan, South Kalimantan, South Sulawesi
Region IV Poor	7	Maluku, East Nusa Tenggara, Irian Jaya, South East Sulawesi, West Kalimantan, DI Aceh, East Timor

Source: *Pokok-pokok Pikiran Penggarapan Wilayah (Typology) Gerakan KB Nasional*. Jakarta: NFPCB, 1994.

This typology formulation was adjusted in 1996, but the data tabulation for the period of time studied in this paper (up until January 1998) was done using the original 1994 formulation. Thus all data in this paper are according to the typology in Table 2.2 above. (See Appendix C for an explanation of the changes that were made in 1996, which may be used in future data analyses).

2.3. Data Tabulation

The data series presented here were both down-loaded from the NFPCB's Central Computer for the period April 1994 - January 1998, and retrieved from *BILAP*'s monthly feedback reports on clinical services for the same period.

III. REGULARITY OF NEW ACCEPTOR RECRUITMENT

Regular access to family planning services, at any time of the month or year, is one key criterion for evaluation of quality of care, as regularity allows for meeting client needs for contraceptive provision, for follow-up care and for the development of a client-provider relationship. Regularity implies access, since it indicates whether services are there whenever clients need them (which could be at any time), as opposed to when programs have supplies or outreach campaigns. Regularity of acceptor recruitment can thus be used as an indicator of the quality of services.

3.1. Monthly fluctuation in totals of new acceptors

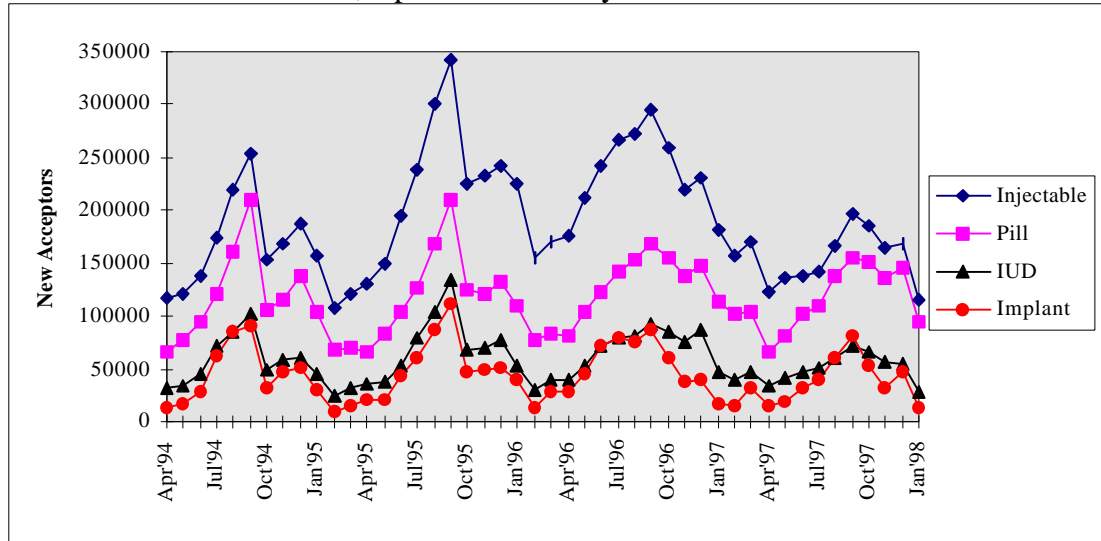
Over the course of a year, we can use a measurement of variability that indicates the spread of monthly values around the annual mean. This measurement, the coefficient of variation (CoV), is presented as a percentage, and is calculated by the simple statistical procedure of dividing the standard deviation by the mean, as follows :

$$\text{CoV} = \frac{S_y}{\bar{x}} \times 100\%$$

From the monthly fluctuation of the total numbers of new family planning recruits during the period April 1994 to January 1998, we can see the trends of new recruitment for each contraceptive method, at the national level and by regional typology category. The popularity of each FP method among new acceptors month by month reflects the actual availability and/or access. Figure 3.1. shows the

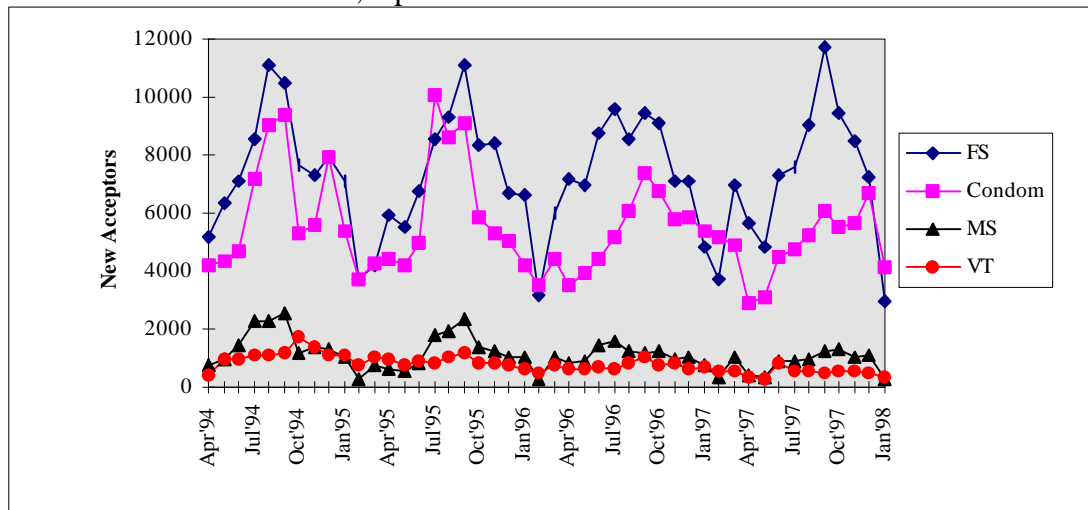
nationwide trend for total numbers of new acceptors of injectables, pills, IUDs, and implants, the most popular contraceptive methods (defined here as consistently over 10,000 new acceptors per month).

Figure 3.1 Trends for New Acceptors of the Most Common Contraceptive Methods in Indonesia, April 1994-January 1998



Source: Raw Data form PUKOM and BKKBN “*Laporan Umpan Balik*”, April 1994- January 1998.

Figure 3.2 Trends for New Acceptors of the Less Common Contraceptive Methods in Indonesia, April 1994-Januari 1998



Source: Raw Data form PUKOM and BKKBN “*Laporan Umpan Balik*”, April 1994- January 1998.

FS = Female Sterilization; MS = Male Sterilization; VT = Vaginal Tablet

Notes for Fig. 3.1 and 3.2:

Although reported data for 1997/98 included data from doctors’ private practices, this has been removed from data presented here for 1997/98 in order to present a comparison with previous years, which did not include this data.

Recruitment of new injectable acceptors over the year was consistently over 100,000 acceptors per month. The pill was the next most frequent method, with over 60,000 new acceptors every month. For the IUD, totals were always over 20,000 per month. Figure 3.2 presents the trend for total new acceptors of female sterilization, condoms, vasectomy, and vaginal tablets, which are generally less popular than those in Figure 3.1. Figure 3.1 shows that new participant recruitment peaks each year in August/September and is at its lowest in February-April. Similarly for the less common methods (see Fig. 3.2), the peaks are always in the months of July - September. The same pattern is reflected when the trend is analyzed by regional typology (Regions I to IV) (see Table 3.1), which shows the irregularity of recruitment of new acceptors over the course of a year, the magnitude of which is represented numerically by the CoV.

Table 3.1 Coefficient of Variation by Method for Indonesia and Regional Categories, 1994/95, 1995/96 , 1996/97 and 1997/Jan. 1998

Region Strata	Years	Methods								
		IUD	MS	FS	Implant	Injectable	Pill	Condom	VT	All
Indonesia	1994/95	44.3	51.3	30.7	67.4	27.6	38.4	33.1	29.6	37.2
	1995/96	47.6	52.6	28.8	59.4	28.9	34.7	37.7	21.0	35.9
	1996/97	30.0	31.4	24.3	50.1	20.3	20.8	20.7	19.1	23.7
	1997/98*	27.4	43.5	33.6	55.4	17.5	26.8	25.7	30.0	25.2
Region I	1994/95	42.5	38.8	25.3	60.3	23.0	34.7	38.4	40.2	33.0
	1995/96	50.4	39.7	25.5	52.5	28.5	32.8	49.5	23.5	35.5
	1996/97	31.3	38.5	24.6	48.1	21.9	21.9	21.7	27.8	24.1
	1997/98*	22.6	46.1	34.3	51.0	22.1	23.2	18.6	19.5	19.9
Region II	1994/95	46.7	63.6	37.7	76.6	36.4	41.2	26.4	68.5	42.7
	1995/96	41.5	64.5	32.4	63.1	33.9	35.6	32.7	30.3	37.5
	1996/97	32.4	36.3	24.1	53.1	23.0	24.2	18.8	31.1	26.5
	1997/98*	33.9	47.1	32.2	62.6	25.9	30.9	51.5	49.5	30.6
Region III	1994/95	48.8	58.6	49.1	71.3	28.9	45.4	40.6	37.0	40.9
	1995/96	60.3	74.5	45.0	79.0	27.8	40.6	44.9	29.2	41.2
	1996/97	29.4	62.3	27.7	53.9	17.0	25.0	32.4	22.8	24.1
	1997/98*	34.6	78.4	45.2	62.3	24.9	29.4	28.9	57.0	30.8
Region IV	1994/95	35.3	104.0	29.2	72.2	26.4	40.9	56.1	57.6	34.5
	1995/96	21.2	103.4	30.7	60.4	24.6	32.9	38.0	34.3	29.1
	1996/97	25.7	71.7	50.7	63.5	19.8	21.0	29.5	33.6	23.5
	1997/98*	15.8	90.1	42.9	61.3	25.5	26.4	26.1	34.8	26.9

Note: MS = Male Sterilization; FS = Female Sterilization; VT = Vaginal Tablet; * 1997/98 CoV calculations are based on only 9 months of data

Source: NFPCB's Central Computer April 1994-January 1998

From Table 3.1 we can see that the CoV for injectables is the lowest compared to other methods, which indicates the most regular availability. Meanwhile, the CoV for implants is by far the highest nationwide (except in Region IV). The CoV percentage, stratified by method, can assist in monitoring the progress towards client-oriented services, such as the “cafeteria” system for variety of method choice, and continuity of method availability, which are indicative of higher quality services. However, it should be kept in mind that a low CoV value is not always good because it may be based on low coverage (few clients served). Quality requires a combination of coverage and regularity.

Overall, decreasing fluctuation in the total numbers of new acceptors led to decreasing CoV values for pills, implants and female sterilization, from 1994/95 to 1995/96 and again in 1996/97. Meanwhile, from 1994/95 to 1995/96 the CoV for injectables and vasectomy showed no significant change, while for IUDs and condoms, it increased. The low CoV values for vaginal tablets are meaningless since the overall number of new acceptors for this method is so low. The decreases in overall CoV for every method between 1995/96 and 1996/97 indicate the possibility that significant programmatic improvements were made. Unfortunately, the monetary crisis which reached its peak in January 1998 has reversed the decreasing trend for every method except IUD and injectables in 1997/98 (nine months of data only).

Table 3.1 also shows that among the four regional categories (Regions I-IV), the evenness of the distribution of new family planning recruitment in Region I is similar to Indonesia overall, but not so for Regions II, III, and IV. Provinces classified into Regions II, III, and IV show relatively high CoV values for male and female sterilization. Can this CoV be interpreted as an indication of the low level of availability or access to facilities and trained providers for performing sterilization? For other methods also requiring more clinical training of providers, such as the implant or the IUD, we find the same trend, though not as pronounced as for sterilization. For all methods among the regions (except vasectomy), there were substantial reductions in the CoV from 1995/96 to 1996/97, except in Region IV. Does this really indicate an increase in regular access? After the peak of the monetary

crisis (Dec'97 - Jan'98), except in Region I, there have been substantial rises in CoV for most methods in 1997/98 (nine month period only), indicating the unsustainability of previous gains. The potential usefulness of the CoV as a macro indicator for QOC is proven, although the accuracy of the data still requires further study.

3.2. Concentration of new acceptors by recruitment “Phase”

Delivery of services in the field are not immune to the effect of pre-determined program estimates for distribution cycles. Since the 1980s, there has been an established policy of setting new recruitment target schedules for different times of year. This suggests that program managers anticipate fluctuation in the rate of fulfillment of community needs (FCN), although this is at odds with the pursuit of regularity as a requisite element of QOC. The time phases and associated FCN targets were re-formulated by the NFPCB from three to four phases, as a “demand fulfillment strategy” after 1994/95. The schedules for the three year period are detailed in Table 3.2, showing the wide variation in expected levels of contraceptive service delivery by time of year.

Phase I is intended as a three month stage of coordination and social marketing which emphasizes cross-sectoral activities such as the NFPCB's new programs, “Village Pride” (*Bangga Suka Desa*), the “Safe Motherhood Movement” (*Gerakan Ibu Sehat Sejahtera*), the “Family Welfare Income Generating Program” (*UPPKS*), and other program meetings or events. Phase II brings an increase in outreach momentum in the form of “Armed Forces Day” (*Hari ABRI*) which integrates population activities into an “Integrated Movement for Family Planning, Health and the Armed Forces” (*KB-Kes Manunggal ABRI*) and represents the “extensification” stage with the highest target. Phase III brings the “Integrated Movement of *PKK* and Family Planning/Health” (*PKK* = Family Welfare Movement, a nationwide women's organization), and is called the “intensification” stage. The final phase in general is the completion and consolidation of the achievements from previous phases.

Table 3.2. Phases and Associated Fulfillment of Community Needs (FCN) Targets as Formulated and Re-Formulated for 1994/95, 1995/96, and 1996/97

Years and Phase	Breakdown by Months	FCN Target
1994/95:		
Phase I	April-June	15%
Phase II	July-December	75%
Phase III	January-March	10%
		Total: 100%
1995/96:		
Phase I	April-June	15%
Phase II	July-September	45%
Phase III	October-January	30%
Phase IV	February-March	10%
		Total: 100%
1996/97:		
Phase I	April-June	10%
Phase II	July-September	50%
Phase III	October-January	35%
Phase IV	February-March	5%
		Total: 100%

Note: Data of the FCN formula for 1997/98 is not available

Source: BKKBN. *Buku Materi Rapat Kerja Nasional (Rakernas) Gerakan KB Nasional dan PKS Tahun 1996*. Jakarta: BKKBN, 1996.

It is clear from the division of time periods above that field activities are concentrated in Phases II and III (or just Phase II, in 1994/95). It is the dramatic change in the level of field activities between July/August and December/January which causes the high CoV value discussed earlier, because the concentration of new acceptor recruitment is not steady over the year. What are the implications of this jump for quality of service? Two issues should be monitored: 1) Is there an effect on quality factors such as access, availability of supplies “cafeteria style”, attitudes/practices of field workers in providing clinical and informational services, or logistical planning?; and, 2) Are the services provided during the mass-campaign activities in the second Phase (“extensification”) associated with any sacrifice in quality of interaction with the client, or quality of information provided? These are important questions, if the goal is to achieve an improvement in quality of care, and thus require further investigation.

Table 3.3 Percentage of New Acceptors of the Four Most Popular Methods, During Recruitment Phases II & III*

Years	Region Strata	Time Period	Methods			
			IUD	Implant	Injectables	Pill
1994/1995	Indonesia	July - December	42.9	112.8	59.3	47.0
	Region I	July - December	37.0	109.7	51.3	37.8
	Region II	July - December	61.1	129.0	57.0	54.1
	Region III	July - December	44.1	99.2	70.6	48.2
	Region IV	July - December	29.2	87.2	86.6	56.8
1995/1996	Indonesia	July - September	37.2	41.5	39.9	38.3
		October - January	31.3	30.3	41.9	37.1
		Total (Phase II+III)	68.5	71.8	81.8	75.4
	Region I	July - September	38.1	35.2	40.7	30.9
		October - January	30.2	28.3	40.6	30.0
		Total (Phase II+III)	68.3	63.4	81.3	60.9
	Region II	July - September	36.3	45.0	45.4	48.1
		October - January	36.2	30.9	51.9	51.3
		Total (Phase II+III)	72.5	75.9	97.3	99.4
	Region III	July - September	36.6	51.7	35.2	36.8
		October - January	26.6	32.2	33.8	30.9
		Total (Phase II+III)	63.1	83.9	69.0	67.7
	Region IV	July - September	34.5	47.5	29.4	42.6
		October - January	40.5	43.7	32.2	43.0
		Total (Phase II+III)	75.0	91.2	61.6	85.6
1996/1997	Indonesia	July - September	25.4	23.8	45.3	33.2
		October - January	29.7	15.4	48.4	39.8
		Total (Phase II+III)	55.1	39.3	93.7	73.0
	Region I	July - September	29.7	24.1	47.2	28.7
		October - January	35.9	16.4	49.7	38.2
		Total (Phase II+III)	65.6	40.4	96.9	66.9
	Region II	July - September	25.1	22.3	51.1	45.7
		October - January	27.4	13.2	53.3	52.2
		Total (Phase II+III)	52.4	35.6	104.4	97.9
	Region III	July - September	18.9	25.5	37.7	29.6
		October - January	22.9	16.8	43.8	35.6
		Total (Phase II+III)	41.8	42.3	81.5	65.2
	Region IV	July - September	15.3	25.7	35.9	30.1
		October - January	17.5	17.5	38.5	30.2
		Total (Phase II+III)	32.8	43.2	74.4	60.3

Note: * Estimated targets for fulfillment of community needs (FCN or PPM):

1994/95 : Phase II = 75%

1995/96 : Phase II = 45% and Phase III = 30%.

1996/97 : Phase II = 50% and Phase III = 35%.

Calculations for this table are dependent on the FCN formula, and thus cannot be calculated for 1997/98, for which the formula is as yet unavailable.

Source: NFPCB Central Computer, April 1994-March 1997

The change in the breakdown of yearly time periods from three phases to four in 1995/96 (essentially splitting Phase II in half) seems to have a positive effect on quality from the managers' perspective since, overall, the later combined achievement (Phase I + Phase II) is closer to the 75%, which was the original Phase II target in 1994/95 (compare Tables 3.2 and 3.3). However, whether the change also has a positive effect on the quality of services from the perspective of the client and community requires supplementary data from case studies or direct observation of client satisfaction.

IV. COMPLICATION RATIOS FROM NEW ACCEPTORS & CURRENT USERS

Complications include severe side effects which generally require discontinuation of the method, such as circulatory disorders, severe infection, pelvic inflammatory disease, ectopic pregnancy or severe bleeding, as well as other milder problems. While they could occur at any time, in general complications arise within a short time (1-4 weeks) after beginning method use. A low complication ratio can be seen as an indication of good quality of services because it is indicative of the level of health screening, counseling and information-giving that went into helping the client choose the method that was the best fit for her, with regard to health, lifestyle and preferences. Women will be more likely to complain of complications if they were not fully informed about what to expect of the method or if they were not screened for contraindicated health conditions.

Keeping in mind the importance of the complication ratio as an indicator of quality of care, in the following analysis we will discuss two different complication ratios. Ratio 1 is calculated from the total number of cases with complications divided by the cumulative number of new acceptors during the same one year period. Ratio 2, which is currently used by the NFPCB, is calculated from the total cases with complications divided by the total number of active family planning participants (all current users) at the end of the same one-year period. Clearly, with a high total number of current users, the complication ratio will be small, and thus Ratio 2 will be less likely to catch the attention of a program manager as an important quality of care

issue requiring prioritization. The use of Ratio 1 as a replacement indicator is suggested here as a mechanism to raise awareness among program managers of the serious issue of complications.

Table 4.1 Complication Ratios (in Percentages) for Injectables, IUD and Implant, by Region, 1994/95, 1995/96, 1996/97 and 1997/ Jan. 98

Region Strata	Years	Injectables		IUD		Implant	
		Ratio 1	Ratio 2	Ratio 1	Ratio 2	Ratio 1	Ratio 2
Indonesia	1994/95	3.87	1.05	16.84	2.13	9.48	2.52
	1995/96	1.74	0.58	9.42	1.38	5.51	1.49
	1996/97	1.34	0.04	7.22	0.09	4.28	0.09
	1997/1998*	1.35	0.23	10.54	1.00	5.66	0.90
Region I	1994/95	4.52	1.00	22.67	2.16	11.20	2.60
	1995/96	1.58	0.46	11.73	1.36	6.12	1.49
	1996/97	1.17	0.03	8.58	0.09	4.78	0.09
	1997/1998*	2.19	0.24	14.94	1.03	7.74	0.93
Region II	1994/95	3.18	0.86	13.49	2.36	7.07	2.21
	1995/96	1.49	0.54	7.65	1.64	4.30	1.34
	1996/97	1.08	0.03	5.61	0.10	3.54	0.08
	1997/1998*	0.27	0.05	6.51	1.01	3.73	0.73
Region III	1994/95	3.31	1.31	7.99	1.64	9.96	2.91
	1995/96	1.95	0.74	5.28	1.03	6.18	1.74
	1996/97	1.55	0.05	4.96	0.07	4.36	0.11
	1997/1998*	1.97	0.46	6.50	0.81	5.24	1.02
Region IV	1994/95	5.03	1.65	22.06	2.33	11.70	2.37
	1995/96	3.10	0.96	16.71	1.62	6.78	1.45
	1996/97	2.74	0.07	12.98	0.11	4.69	0.10
	1997/1998*	1.96	0.49	17.65	1.31	7.72	1.23

Note: **Ratio 1:** Denominator: Total Cumulative New Acceptors in that Year; **Ratio 2:** Denominator: Year-End Total of Current Acceptors; * Most recent data (1997/98) are reported according to two categories of complications: minor and severe. Here we have grouped both together for the purposes of comparison with earlier data.

Source: NFPCB Central Computer, April 1994 - January 1998

In Indonesia overall, among the three most common methods of contraception, injectables, IUDs and implants (see Table 4.1), it seems that the highest complication ratio is for the IUD, followed by implants. Injectables, which are the most common family planning method, clearly have the lowest complication ratio. Among the 4 regional types, the provinces in Region I, which should by definition have the best service delivery facilities compared to the other regions, actually display a very high IUD complication Ratio 1 for all years, second only to that in Region IV (see Table 4.1). There are several questions that should be

raised here. First, are the clients in Region I actually experiencing more serious or more frequent complications, or are they just reporting the complications more frequently (as opposed to not reporting them)? Secondly, is it really the medical service standards that cause the high complication ratio found in these provinces of Regions I and IV? Third, are there provinces in Regions I and IV which don't "fit" in those categories, or act as outliers, causing higher complication ratios to be reported for that region as a whole? And finally, how accurate are the data as reported in the various regions and could there be any connection between high reported complications and the perceived need for regional programs to provide proof of high complication ratios in order to request budget money for compensation of acceptors who experience complications?

The complication ratios for injectables using Ratio 1 (the recommended method) are the lowest ratios among methods: in 1997/98 the ratio was 1.35% (1.34% in 1996/97) (Table 4.1). This is surprising as many studies on the safety of contraceptive injectables discuss the likelihood of service deviating from medical standards, causing a risk of infection or abscess at the site of the injection, among other complications (Indonesian Epidemiology Network Foundation, 1995: 2). The plausible reason for the low reported ratio may be that clients are reluctant to express their complaints to a health worker - often a client who develops an abscess will just quietly seek out a new service provider next time. As with other indicators, client-oriented data collection and accuracy are key to the usefulness of complication ratios for monitoring QOC.

At the national level, the complication ratio for sterilization, calculated using the cumulative total of new acceptors for the same year as the denominator (Ratio 1), indicates that in 1994/95 1 in 9 men who received vasectomies experienced complications (11.1%), while in 1997/98 this fell to about 1 in 15 (6.8%) (see Table 4.2). However, when calculated using the total current users as the denominator (Ratio 2), the complication ratios are much lower and would not draw any attention from a program manager to take any action towards "quality improvement".

Table 4.2 Complication Ratio for Female and Male Sterilization, All Methods, and Long-Term Methods (LTM) by Region, 1994/95, 1995/96, 1996/97 and 1997/Jan. 1998

Region	Years	FS		MS		All Methods		LTM	
		Ratio1	Ratio 2	Ratio 1	Ratio 2	Ratio 1	Ratio 2	Ratio 1	Ratio 2
Indonesia	1994/95	4.90	0.42	11.07	0.57	7.44	1.53	13.02	1.95
	1995/96	2.76	0.22	7.14	0.36	3.79	0.92	7.46	1.23
	1996/97	2.19	0.01	5.01	0.02	2.91	0.06	5.74	0.08
	1997/1998*	3.76	0.24	6.84	0.21	3.98	0.55	8.06	0.86
Region I	1994/95	5.90	0.43	8.47	0.30	10.14	1.58	16.95	1.95
	1995/96	2.83	0.21	10.46	0.40	4.59	0.91	9.05	1.21
	1996/97	2.54	0.02	7.34	0.02	3.49	0.06	6.83	0.08
	1997/1998*	4.20	0.25	7.33	0.16	6.67	0.61	11.36	0.88
Region II	1994/95	4.35	0.38	13.39	0.85	5.74	1.38	10.08	2.03
	1995/96	3.56	0.30	5.90	0.35	2.97	0.90	5.99	1.34
	1996/97	1.96	0.01	3.66	0.02	2.21	0.05	4.57	0.08
	1997/1998*	3.94	0.26	6.40	0.23	2.06	0.37	5.21	0.80
Region III	1994/95	2.60	0.32	5.16	0.48	5.18	1.55	8.21	1.75
	1995/96	2.13	0.19	3.46	0.25	3.24	0.93	5.42	1.1
	1996/97	1.69	0.01	2.43	0.01	2.60	0.06	4.48	0.07
	1997/1998*	2.59	0.18	5.61	0.28	3.36	0.62	5.65	0.78
Region IV	1994/95	6.87	0.79	19.83	1.24	7.22	1.83	16.34	2.14
	1995/96	1.56	0.18	8.58	0.24	4.51	1.11	10.64	1.38
	1996/97	1.06	0.01	14.63	0.02	3.73	0.08	7.67	0.09
	1997/1998*	2.56	0.25	19.05	0.26	3.54	0.71	11.18	1.13

Note: FS = Female Sterilization; MS = Male Sterilization; LTM = Long Term Methods

Ratio 1: Denominator : Total Cumulative New Acceptors in that Year

Ratio 2: Denominator : Year-End Total of Current Acceptors

* Data for 1997/98 include only the nine month period up to January, 1998.

Source : NFPCB Central Computer, April 1994 - January 1998

V. FAILURE RATIO FROM CURRENT USERS

Method failure here is defined as pregnancy. The ratio is calculated as a percentage of pregnancies per total current users of each method. A high failure ratio can be a reflection not only of low method effectiveness, but also of inadequate quality of care. There is a significant association between method failure and the frequency and quality of contact with a family planning provider (Hoesni, et al., 1995:55). For example, among those who never visit a health provider for follow-up care or counseling, it is found that the proportion who experience IUD expulsion is three to four times higher (ibid). In using the available NFPCB data sources to

calculate this indicator in the following analysis, it must be remembered that these data are subject to under-reporting and should be interpreted as minimum figures.

From Table 5.1, we can see that the reported failure ratios overall are relatively small. Injectables, for example, had a national failure ratio of approximately 1 in 2000 acceptors (0.05%) in 1995/96 and 1 out of 2500 in 1996/97 (0.04%). Failure ratio data are no longer reported as of 1997/98. The highest method failure ratio in Indonesia has long been for the IUD: in 1995/96 it was 1 in 476 acceptors (0.21%), and in 1997/98 is 1 out of 750 (0.13%). Meanwhile, for the implant, the ratio is currently 1 in 1250 acceptors (0.08%). Grouping all contraceptives together, we find that nationwide, 1 in every 1000 acceptors reported a failure in 1997/98, the same as the ratio in 1995/96.

Table 5.1 Contraceptive Method Failure Ratio Percentages by Method and Region, 1994/95, 1995/96, 1996/97, and 1997/Jan. 1998

Region	Years	Methods					
		Injectables	IUD	Implant	FS	MS	All
Indonesia	1994/95	0.06	0.24	0.13	0.06	0.18	0.13
	1995/96	0.05	0.21	0.08	0.04	0.11	0.10
	1996/1997	0.04	0.16	0.06	0.04	0.07	0.16
	1997/1998*	-	0.13	0.08	0.05	0.09	0.10
Region I	1994/95	0.05	0.24	0.10	0.05	0.09	0.14
	1995/96	0.04	0.21	0.06	0.03	0.09	0.11
	1996/1997	0.03	0.17	0.05	0.04	0.06	0.08
	1997/1998*	-	0.13	0.07	0.04	0.06	0.10
Region II	1994/95	0.04	0.26	0.15	0.10	0.27	0.12
	1995/96	0.03	0.19	0.06	0.06	0.14	0.07
	1996/1997	0.03	0.14	0.05	0.05	0.07	0.03
	1997/1998*	-	0.11	0.08	0.07	0.10	0.09
Region III	1994/95	0.07	0.22	0.14	0.09	0.12	0.13
	1995/96	0.05	0.19	0.12	0.06	0.12	0.11
	1996/1997	0.06	0.16	0.10	0.04	0.10	0.03
	1997/1998*	-	0.15	0.07	0.05	0.17	0.11
Region IV	1994/95	0.11	0.28	0.25	0.07	0.28	0.17
	1995/96	0.15	0.28	0.18	0.07	0.07	0.18
	1996/1997	0.11	0.19	0.14	0.05	0.08	0.02
	1997/1998*	-	0.14	0.13	0.07	0.11	0.13

Note: FS = Female Sterilization; MS = Male Sterilization; Failure ratio data for injectables are no longer available in 1997/1998; * Data for 1997/98 include only the nine month period up to January 1998.

Source : NFPCB Central Computer, April 1994 - January 1998.

Taking the IUD use as an example, from a total of 5,272,037 current IUD users in 1994/95, with a failure ratio of 0.24% we can calculate that approximately 12,653 pregnancies occurred; similarly in 1995/96, 11,213 pregnancies occurred (0.21% of 5,339,675 current IUD users). In 1996/97, however, this fell to an estimated 8,799 unplanned pregnancies (0.16% out of 5,499,367 current users) and in 1997/98 to 7,014 pregnancies (0.13% out of 5,395,760 current users). We must keep in mind that these recorded failure ratios are thought to be severely under-reported, implying that the proportion of IUD users who are forced to face unwanted pregnancy or to seek unsafe abortions may be even higher each year.

In 1995/96, the failure ratio for vasectomy seemed to be relatively high at 0.11%, however, it had already decreased significantly from the previous year (0.18%). This failure ratio, nevertheless, was still the second highest after the IUD. A further decrease was seen in the failure ratio data in 1996/97, but increased again in 1997/98. In light of this, we must ask, if the results in the routine reports are accurate, how high is the quality of vasectomy services relative to the established standards for operation procedure?

VI. RATE OF METHOD CHANGE

The rate of method change can be used as a QOC indicator in that a good match between user and method will be less likely to end in method switching and a good match can only be made by quality services, including access to a variety of methods, counseling, health history review and information on potential side-effects, complications and method efficacy rates. A study by Hoesni, et al. (1995), shows the strong relationship between experience of side-effects or method failure and the desire to change methods. It is hoped by the FP program that the high rates of method change imply a trend of switching to more effective methods, such as the IUD, Implant or sterilization. However, data for all four years for Indonesia overall, show that the most significant trend is for acceptors to change to the pill or injectables (see Table 6.1). After these choices, the next most likely switches are to implants and IUDs. However, the value of this indicator would be greatly enhanced if the data of method switched *to* could be linked to the method switched *from*. This

information is lacking in the existing NFPCB's monthly statistics. Also, information on the duration of use of the previous method before switching would be revealing, and could be estimated by periodic "dynamic use study," in order to supplement existing statistical data.

Table 6.1 Percent of Couples who Changed Method by the New Method They Chose, by Year for 1994/95, 1995/96, 1996/97 and 1997/Jan. 1998

Region	Years	New Method								Total (%)
		Long-term Methods				Short-term Methods				
		IUD	MS	FS	Implant	Injec.	Pill	Condom	VT	
Indonesia	1994/1995	11.9	0.2	2.1	14.4	32.4	34.7	3.3	1.1	100
	1995/1996	13.0	0.2	2.1	21.6	33.0	27.2	2.2	0.8	100
	1996/1997	9.6	0.2	1.8	16.1	41.1	26.9	2.2	2.2	100
	1997/1998*	12.5	0.1	2.4	14.8	35.3	31.7	2.7	0.5	100
Typology I	1994/1995	15.0	0.2	3.2	15.4	31.6	30.5	2.9	1.2	100
	1995/1996	14.3	0.2	3.7	23.3	31.5	24.2	2.3	0.6	100
	1996/1997	11.1	0.1	2.8	15.8	47.2	20.6	1.9	0.5	100
	1997/1998*	23.4	0.2	4.9	11.6	30.2	26.5	2.6	0.5	100
Typology II	1994/1995	11.2	0.4	1.4	18.3	31.1	33.7	2.8	1.1	100
	1995/1996	10.6	0.1	0.9	20.9	35.7	27.9	2.3	1.5	100
	1996/1997	8.3	0.2	0.9	16.9	44.5	25.2	2.1	1.9	100
	1997/1998*	9.1	0.2	1.0	30.3	32.9	24.2	1.8	0.5	100
Typology III	1994/1995	10.3	0.2	1.2	12.5	33.6	37.9	3.3	0.9	100
	1995/1996	13.7	0.2	1.4	24.5	30.6	26.9	2.1	0.7	100
	1996/1997	10.8	0.3	1.6	17.1	30.3	31.5	2.7	5.8	100
	1997/1998*	10.0	0.1	2.0	15.4	38.8	29.9	3.3	0.5	100
Typology IV	1994/1995	6.4	0.0	1.7	7.2	34.9	43.3	5.7	0.8	100
	1995/1996	11.8	0.1	1.4	10.3	38.3	35.6	2.0	0.5	100
	1996/1997	5.2	0.1	0.9	13.3	36.2	41.4	2.3	0.7	100
	1997/1998*	3.5	0.1	0.6	3.9	41.2	47.3	2.9	0.5	100

Note: MS = Male Sterilization; FS = Female Sterilization; VT = Vaginal Tablet; * Data for 1997/98 include the nine month period up to January 1998

Source : NFPCB Central Computer, April 1994 - January 1998.

VII. IMPLANT REMOVALS

The contraceptive implant involves special QOC considerations, most significantly with regard to timely removal on expiration and on request. If clients fail to seek out or do not have access to removal, they may be subject to adverse health effects. Seeking removal in a timely manner is influenced by the completeness of the information, counseling and follow-up reminders given to clients.

The NFPCB (*BKKBN*) data shows the rise in total new implant acceptors over the past 5 years (Table 7.1). After a rapid increase of 42% in 1994/95, new implant acceptors seemed to decline in the following years, with only 3.4% increase in 1996/97 compared to the previous year's recruitment.

Table 7.1 Total New Implant Acceptors in Indonesia, 1991-1996

Years	Total	% Increase
1991/92	284,144	-
1992/93	294,309	3.6
1993/94	341,631	16.1
1994/95	485,108	42.0
1995/96	571,814	17.9
1996/97	591,202	3.4

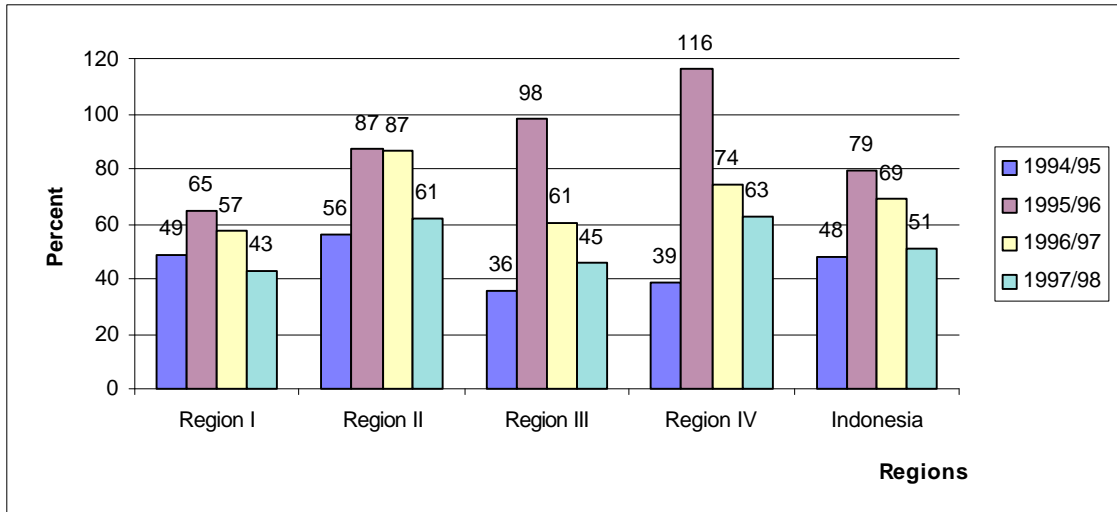
Source: NFPCB Central Computer, 1996

The Norplant six-rods implant is marketed for 5 year use (the effective use period), which has become the basis for BISEP's calculation of expected early implant removals, which is as follows: 4.5% in the first year of use, 4.0% in the second year, 3.2% in the third year and 6.9% in the fourth year. These estimates have been used to determine total anticipated removals each calendar year (i.e. early, on-time and late removals). The data show that actual removals for Indonesia overall have reached only 48% (1994/95), 79% (1995/96), 69% (1996/97) and 51% (1997/98) of these projected expectations (see Table 7.2).

When it was found that removals were not reaching 100% of targets, it was at first inferred that there must be a large backlog (500,000 to 800,000 women) of late implant removals. However, a study entitled “Indonesia Norplant Removal Assessment” in 1996 showed that only about 10% of implant acceptors had not had the implant removed by the 6th year of use (Prihartono, 1996:ii). Of the 2,979 women who received implants between 1987 and 1991 in 14 provinces, only 8.2% had not had them removed by the time of the survey in 1996. The differences between the estimated and actual removals may be due to the large number of removals which are not reported or recorded (Prihartono, 1996:v), if a large number of women went to private practices for their removals. These data were apparently not reported to the NFPCB (Note: the implant data is the only data which includes only government service data and not private practice data). There are also removals in the public sector that go unreported, perhaps because they are provided by untrained practitioners.

Overall, we find an increase in the percent of realized implant removals (percentage of the NFPCB target estimates) from 1994/95 to 1995/96 in all regions (I-IV) of the country, followed by a decrease in each subsequent year in all regions (see Fig. 7.1). Among regions, the actual removal percentage was highest in Region IV in 1995/96 (116%) and in 1997/98 (63%), as compared to 1994/95 and 1996/97, when the highest removal rates were found in Region II (56% and 87% respectively). Given the decreased removal rates since 1995, we must ask if quality is going down, or if this is a reflection of lingering problems with data recording and reporting? The accuracy of the formulation of implant removal estimates and of the data reporting system need further investigation, if the percentage of realized removals is to become a valid indicator of quality of implant services.

Figure 7.1 Percentage Realized Implant Removals compared with Expected Removals by Region, 1994/95, 1995/96, 1996/97 and 1997/Jan. 1998



*Data for 1997/98 include the nine month period up to January 1998

Source: NFPCB Central Computer, April 1994 - January 1998

From Table 7.2 we can see that the highest realized removal rate ever was in 1995/96 in Irian Jaya, where it reached 434% of the estimate. Such a high removal rate may have been caused by an underestimate of expected removals (only 299 expected compared to 1,297 actual implant removals). The entire process of recording and reporting insertions and removals of implants clearly needs further revision and refinement, keeping in mind that the largest proportion of insertion and removal services take place during mass campaigns such as the Armed Forces Day campaign and others. In cases where recording is not facility-based, it is likely that data are not recorded accurately later by clinic staff or FP field workers, who are responsible for data collection.

Table 7.2 Percent Distribution of Implant Removal by Provinces & Regions, 1994/95, 1995/96, 1996/97 and 1997/Jan. 1998

Province/ Region	Estimated Removal				Realized Removal							
	1994/95	1995/96	1996/97	1997/98	1994/95		1995/96		1996/97		1997/1998*	
	A	B	C	D	E	(E/A) %	F	(F/B) %	G	(G/C) %	H	(H/D) %
D.I. Yogyakarta	2,281	2,809	2,114	2,210	1,210	53	1,062	38	1,273	60	1,131	51
East Java	83,347	61,247	69,558	65,566	43,948	53	30,616	50	28,016	40	22,246	34
Bali	618	1,584	422	473	405	65	341	22	371	88	377	80
Central Java	78,712	52,252	57,278	61,546	36,293	46	45,037	86	40,322	70	32,968	54
North Sulawesi	4,890	5,765	3,890	3,214	1,994	41	5,945	103	7,204	185	1,346	42
DKI Jakarta	5,699	6,924	3,754	4,538	1,664	29	1,524	22	1,308	35	1,126	25
Typology I	175,547	130,581	137,015	137,548	85,514	49	84,525	65	78,494	57	59,194	43
Bengkulu	1,908	1,260	4,080	3,944	1,516	79	2,092	166	2,620	64	2,653	67
South Sumatra	27,141	18,238	32,434	41,516	9,377	35	12,628	69	20,129	62	19,267	46
Jambi	3,979	2,257	7,222	4,660	2,367	59	5,678	252	7,512	104	2,949	63
West Sumatra	8,195	11,797	5,979	7,483	4,671	57	4,874	41	6,121	102	5,009	67
West Java	72,504	53,583	55,433	60,048	45,789	63	50,687	95	54,792	99	42,469	71
Typology II	113,727	87,136	105,147	117,651	63,720	56	75,959	87	91,174	87	72,347	61
NTB	10,094	7,050	12,366	13,987	4,901	49	7,348	104	7,490	61	7,379	53
East Kalimantan	1,588	1,049	1,704	1,342	1,136	72	1,197	114	1,688	99	808	60
Riau	7,906	3,225	4,049	3,859	1,271	16	2,207	68	2,531	63	1,603	42
Lampung	10,253	7,637	7,768	10,721	3,186	31	8,847	116	7,236	93	6,306	59
North Sumatra	16,572	8,565	10,692	10,593	3,324	20	3,420	40	2,843	27	2,328	22
Central Sulawesi	3,480	967	1,555	2,293	2,147	62	3,483	360	1,756	113	1,423	62
Central Kalimantan	2,872	943	4,228	4,797	1,359	47	2,664	283	1,985	47	1,857	39
South Kalimantan	2,452	1,984	3,674	3,919	1,948	79	2,531	128	2,237	61	1,776	45
South Sulawesi	12,155	6,053	4,194	4,526	4,727	39	5,067	84	2,729	65	1,991	44
Typology III	67,371	37,472	50,229	56,036	23,999	36	36,764	98	30,495	61	25,471	45
D.I. Aceh	7,593	801	1,673	1,651	1,549	20	2,111	263	463	28	481	29
NTT	5,393	3,298	4,299	3,687	2,219	41	2,411	73	2,460	57	2,078	56
Wast Kalimantan	3,608	1,512	2,094	2,888	2,055	57	3,902	258	2,308	110	1,934	67
Southeast Sulawesi	2,483	2,654	1,782	1,757	1,336	54	1,785	67	1,695	95	1,301	74
Maluku	1,487	2,094	3,436	3,808	526	35	935	45	2,643	77	2,432	64
Irian Jaya	1,015	299	737	1,054	592	58	1,297	434	780	106	875	83
East Timor	846	519	646	694	385	46	528	102	536	83	626	90
Typology IV	22,426	11,177	14,666	15,538	8,662	39	12,969	116	10,885	74	9,727	63
Indonesia	379,072	266,366	307,056	326,773	181,895	48	210,217	79	211,048	69	166,739	51

Note : *Data for 1997/98 include the nine month period up to January 1998

Removal Estimation Formula (NFPCB-BISEP)

Year I = 4.5% x a

Year II = 4% x (a-b)

Year III = 3.2% x (b-c)

Year IV = 6.9% x (c-d)

Year V = a - (sum of year I + year II + year III + year IV)

a= Insertion Year V b= Result Year I c= Result Year II d= Result Year III

Sources : A, B, C : "Data Implant: Pemasangan, Pencabutan, Pelatihan, Pengadaan". Jakarta: NFPCB-BISEP, May 1995 (raw data), p.6-8.

D, E, F : NFPCB Central Computer & NFPCB Monthly Report on Family Planning Clinics ("Laporan Umpan Balik"), April 1994 - January 1998

VIII. CONCLUSIONS & RECOMMENDATIONS

This analysis has tested out five macro-level family planning quality of care indicators on government data from the Indonesian FP program and has raised various questions about their current and potential usefulness to the program in its efforts at continuous quality improvement. The selected indicators are an attempt to shift the focus of data analysis from method-based and target-based indicators to measurable client-centered aspects of FP quality of care. These indicators thus cover issues of regularity of access to services, and various measures of appropriate “fit” between acceptors and the methods they select, with the assistance of FP workers. “Fit” of the client with the method (e.g. in terms of client age, parity, health risk assessment, beliefs, preferences, ability to comply with need for follow up care, etc.) can be measured indirectly by reported complications, method failures, method switching and removal of implants.

In looking at regularity of access, high coefficient of variation (CoV) can indicate the magnitude of irregularity of access over the course of a year. However, it is important to note that CoV must be assessed in conjunction with level of coverage, since a low CoV may be accompanied by low coverage and therefore does not indicate good quality either. With this in mind, the CoV can be used as a QOC indicator in place of the focus on meeting targets for various phases over the course of a year. The effect on clients and the quality of care they receive during intensified recruitment phases or campaigns designed by the FP program need to be studied.

With regard to the complication ratio, it is suggested that the ratio be calculated using only new acceptors as the denominator (Ratio 1) rather than all current users (Ratio 2). This is because most complications occur within a few months of first-time use of a method and thus complication ratios using all current acceptors as the denominator tend to be so small that they are of little use in high-lighting quality of care priorities to program managers who review the data. Furthermore, due to the use of regional categories (groups of provinces) for analysis, the potential effect of outlying data values for particular provinces must be kept in mind and investigated in the case of unusual findings. Also, when considering the complication ratio for various methods, it must be considered that many acceptors may choose not to report

complications, but simply discontinue method use or seek a new provider or method. Thus there may be problems with the validity of the data for complications. In general, complications experienced by acceptors must be a top priority of any FP program seeking to improve care. In particular, where outreach recruitment campaigns are periodically used to reach mass numbers of potential acceptors, rates of complications experienced by these recruits should be looked at separately to evaluate the quality of client centered care provided during these “safari” campaigns.

Turning to the analysis of failure ratios, it seems likely that failures are under-reported due to the implications of the unwanted pregnancy for a client who may choose to seek abortion, and thus would not want to report her pregnancy, as abortion is illegal in Indonesia. If we look at the data regardless of questions of validity, we see that there were surprisingly high failure rates for sterilizations. This brings into question the quality of surgical sterilization procedures.

Rates of method switching would be more useful as an indicator if the data collected were designed to follow the client and not the method. The current data only indicate new methods chosen by FP users who decided to switch, but there is no data to support an analysis of how long a particular method was used before switching, which would provide more useful information for the design of quality of care improvement initiatives. QOC improvement requires this more client-centered approach, which must be a consideration in the initial process of selecting which variables will be collected and analyzed.

As for implant removals, it is again of key importance to trace whether acceptors are receiving timely removals, as well as whether requests for early removals are being granted. As described, the data on removal of implants implies a serious need for improvement in data collection and/or formulation of the estimates for number of removals needed. Since a large proportion of implant acceptors are recruited during outreach campaigns, these recruits must also be carefully monitored to assure the quality of care and follow-up they receive. Finally, these data will be improved when data from private practices are added to the government data from public providers, as has been done for other variables used in calculations for the other four indicators.

In summary, the five indicators selected have high potential use for monitoring and improving quality of family planning care. However, the value of all calculations is, of course, dependent on the validity, reliability and availability of the requisite variables. Various questions have been raised, in the course of this analysis, specifically concerning the accuracy of the reporting and recording of data, and the selection of variables which the program chooses to record. The Indonesian FP program puts a large amount of emphasis and resources into data collection, recording and reporting. Improvement in quality of care requires monitoring of services which indeed requires data and that data must in turn be accurate and client-centered to maximize its value. In addition, there will always be a need for comparison of these service/program-based variables with data from surveys which seek input from the perspective of both the client and the health care provider. A variety of data sources are invaluable for triangulation of findings.

Appendix A: Alternative Indicators

The following two indicators, using method type and age and parity of the client, may be potentially useful for QOC monitoring in the future, as discussed below.

1. Total new acceptors by type of method (long-term and short-term)

Since clients needs for a variety of contraceptive methods can be assumed to be fairly constant by geographic location, quality services should show a mix in usage of method types and a similar distribution of choices by region. Furthermore, overall utilization proportions should be age appropriate (i.e., more LTM users among older women, etc.). However, this can only be a useful indicator if access to all methods can be assumed. This is not yet a safe assumption in many regions of Indonesia where the FP program is less developed, though it may be useful in Region I. The following discussion of the usage of this indicator may be more useful to the FP program at a later date.

Although the terms “long term” and “short term” contraceptive method are under consideration for change, in order to take advantage of existing data, the current analysis will look at trends of new acceptors using these categories. Long-term methods (LTM) include the IUD, Implant and male (MS) and female sterilization (FS); short-term methods (STM) consist of injectables, pills, condoms and vaginal tablets (VT).

Nationwide, there was no apparent change in the proportion of new acceptors by method type (LTM vs. STM) from 1994/95 to 1995/96; it remained approximately 26% LTM acceptors (see Table 3.4). The proportion of new LTM acceptors in provinces of Region I was higher than the national average, approximately 34% in 1994/95, falling slightly to 32% in 1995/96 and remaining there in 1996/97. The proportions of new LTM users in provinces of Regions II and III have almost reached the national level (22%-24%), however the proportion in the mostly Eastern provinces of Region IV is still far lower (13%). Clearly this situation is due to differences in the level of development of the national family planning program, which began much earlier in the western regions of Indonesia. The planning of the

FP program, in order to better meet user needs and accommodate for individual risks and reproductive goals, should put less emphasis on the comparison of rates of acceptance of long-term vs. short-term methods, in and of themselves, but rather limit the use of this distinction to discussion in terms of age of the acceptors (obviously a key factor in choice of method type). At this time, however, age-linked data are not available from existing reports.

Table 3.4 Percentage Distribution of New Acceptors By Long-term or Short-term Family Planning Method, 1994/95, 1995/96, 1996/97 and 1997/Jan.1998

Years	Region Strata	LTM (%)	STM (%)	Total (100%)
1994/1995	Indonesia	26.9	73.1	4,568,512
	Region I	34.0	66.0	1,622,933
	Region II	25.6	74.4	1,477,131
	Region III	23.4	76.6	1,081,114
	Region IV	12.4	87.6	387,334
1995/1996	Indonesia	26.2	73.8	5,544,226
	Region I	32.2	67.8	2,089,210
	Region II	24.2	75.8	1,892,333
	Region III	23.5	76.5	1,158,670
	Region IV	12.3	87.7	404,013
1996/1997	Indonesia	25.8	74.2	5,782,769
	Region I	32.1	67.9	2,204,404
	Region II	24.0	76.0	1,915,610
	Region III	22.1	77.9	1,232,350
	Region IV	13.1	86.9	430,405
1997/1998*	Indonesia	26.3	73.7	3,757,586
	Region I	35.2	64.8	1,162,634
	Region II	25.3	74.7	1,369,668
	Region III	21.9	78.1	894,355
	Region IV	11.0	89.0	330,929

Note: LTM = Long-term Methods (IUD, Implant, & Sterilization);

STM = Short-term Methods (Injectables, Pill, Condom, & Vaginal Tablet).

* Data for 1997/98 include the nine month period up to January 1998, and does not include new data from private practices of nurses or doctors, for purposes of comparison with previous years for which such data were unavailable.

Source: Central Computer *BKKBN*, April 1994 - January 1998

Appendix A, continued

2. Proportion of new acceptors classified as “MUPAR” (young & low parity)

Coverage of women classified as young (15-29 years) and low parity (≤ 2 children), known in Indonesia as *MUPAR*, can be considered a quality indicator if these women are considered a high need group, most at risk of bearing more children than they would like during their reproductive years. Also monitoring *MUPAR* by type of method is only useful if access to all types of methods can be assumed. As above, this is not the case as yet for all regions of Indonesia. Again, the use of this indicator to assess quality, as discussed below, may be inappropriate at this time, but useful at some point in the future.

The proportion of new acceptors who are *MUPAR* did not change significantly in 1995/96 or in 1996/97 compared with the previous period. Moreover, the pattern of method use among *MUPAR* new acceptors is similar to the pattern for new acceptors overall. Injectables are the most common methods for *MUPAR* new acceptors, followed by the pill, the IUD, and the implant (see Table 3.5).

The proportions of new acceptors who are *MUPAR* in provinces of Regions I and II approximate the overall national rate while those in Region III and IV are still trailing at a lower level. The lower proportion of new *MUPAR* acceptors does not necessarily mean that the family planning program in those regions is not doing as well, it could also imply that in those provinces the age of marriage is higher so that although a woman's parity is low (≤ 2 children), she is excluded from the *MUPAR* category because of her age. Clearly “MUPAR” as a category would be less meaningful if there are large portions of women who are excluded from it by virtue of a just few years of age. The Non-*MUPAR* new acceptors who are over age 29 but still with low parity, form a group who need to be targeted to receive safe motherhood information from the Safe Motherhood Movement (*Gerakan Ibu Sehat Sejahtera*). Data on this group are not included in routine notes and reports and therefore need to be gathered by way of survey. Overall, the usefulness of the “MUPAR” (young and low parity) category needs to be studied further.

Table 3.5 Percentage of Young, Low Parity (*MUPAR*) New Acceptors Compared With Total New Acceptors By Method, 1994/95, 1995/96 and 1996/97

Region Strata	Years	Methods								
		Inject.	Pill	IUD	Implant	FS	Condom	MS	VT	All
Indonesia	1994/95	60.7	59.3	56.3	54.2	10.7	50.2	12.5	55.0	57.7
	1995/96	61.4	59.5	56.2	54.8	11.4	50.4	12.2	49.2	58.4
	1996/97	61.5	58.4	56.8	55.3	10.3	51.5	11.2	50.9	58.4
Region I	1994/95	66.5	64.6	60.9	58.2	11.3	55.8	14.4	55.5	62.0
	1995/96	67.9	65.4	60.9	60.0	11.7	57.7	15.2	55.2	63.7
	1996/97	67.4	62.2	61.1	60.8	11.5	53.6	10.0	52.8	62.9
Region II	1994/95	60.2	62.0	55.3	54.6	9.4	49.2	12.2	60.7	58.6
	1995/96	59.4	60.9	54.2	53.7	9.4	48.4	10.7	44.0	57.9
	1996/97	59.4	60.7	54.5	53.4	8.6	47.2	12.5	49.2	57.8
Region III	1994/95	55.9	53.8	48.9	46.4	9.6	46.7	8.2	53.8	52.3
	1995/96	55.2	54.4	48.3	46.5	10.6	46.1	10.5	49.7	52.3
	1996/97	56.5	54.5	49.0	49.2	8.0	53.1	7.1	52.9	53.4
Region IV	1994/95	52.7	51.6	49.3	44.0	13.7	46.1	12.8	44.6	51.0
	1995/96	53.4	51.5	51.0	47.7	17.2	43.9	15.0	46.6	51.7
	1996/97	53.9	51.3	48.0	48.8	11.4	45.5	16.3	44.9	51.8

Note: Inject.= Injectables; FS = Female Sterilization; MS = Male Sterilization; VT = Vaginal Tablet

Source: Central Computer *BKKBN*, April 1994 - March 1997

Appendix B: Two Different Sources of Data

Research intended to analyze the new FP acceptor data must compare data from two sources; (1) regular data from the NFPCB's monthly feedback reports as described in the text, and (2) data directly down-loaded from the NFPCB's Central Computer (*PUKOM*) to diskette. Comparison of these two data sources is useful in cross-checking coverage and accuracy of different forms of reporting. Data from the Central Computer generally include the estimates based on monthly data adjusted for late reports, and corrected. The latest recorded data published in NFPCB reports are usually the down-loaded data from the Central Computer. However, data from the monthly reports are sometimes used. Comparison of the sources can still sometimes highlight discrepancies between initial recorded and reported data for particular months, and the final figures.

For example, the total new participants (*KPW15*) printed in the Review Feedback Report on clinical family planning service outcomes, for June 1995 is 389,182, while the total new participants for June 1995 printed in the review feedback report on clinical family planning services outcomes for July 1995 is 403,718. It is difficult to know the specific contraceptive methods accounting for the difference in the totals because the changes are recorded only for the group of new participants as a whole. However, by double-checking with the Central Computer down-loaded data, the break-down of new participants by FP method can be traced back for the month of June. In this way, the data analysis must use two data sources which together function as a built-in consistency check in data tabulation. If the research did not employ this method of matching the two available sources of data, the value of the analysis would suffer. An example in Table 2.1 below shows how the CoV is determined for total new participants in the province of Bali, North Sumatra, South Sumatra, and Indonesia for the year 1995/96

Table 2.1. Differences Between Data and CoVs calculated from the published reports and the Central Computer data (Example of Provinces of Bali, N. Sumatra, S. Sumatra and Indonesia overall, 1995/96)

	Bali		North Sumatra		South Sumatra		Indonesia	
	Monthly Reports*	NFPCB Central Computer**	Monthly Reports*	NFPCB Central Computer**	Monthly Reports*	NFPCB Central Computer**	Monthly Reports*	NFPCB Central Computer**
Total	28770	31266	303485	323326	301859	330963	5428166	5544226
Mean	2397.5	2605.5	25290.4	26943.8	25154.9	27580.25	452347.2	462018.83
SD	645.4	303.4	15940.8	15199.3	15228.6	14639.81	169709.9	165793.8
CoV	26.9	11.6	63.0	56.4	60.5	53.1	37.5	35.9
Percent		92.0		93.9		91.2		97.9

Note:

* Data from the monthly publication of the NFPCB's (*BKKBN*) Bureau of Reporting & Statistics

** Data directly down-loaded from the NFPCB's (*BKKBN*) Central Computer (*PUKOM*)

Appendix C: Re-Formulation of Regional Typology in 1996

At the end of 1996, the region types were adjusted from the original 1994 formulation in order to improve the usefulness of the categorization. The changes were based on 24 strategic variables, including 4 program outcomes at the national level, i.e.: (1) Population growth rate, (2) Total fertility rate, (3) Infant mortality rate, (4) Family economic well-being (*pra sejahtera dan sejahtera I* families), plus 20 programmatic variables, covering both quantitative and qualitative measures.

Table 2.2.b. Regional Typology, 1996 Re-Formulation

Region	Number of Provinces	Provinces
Region I Advanced	5	DI Yogyakarta, East Java, Bali, Central Java, DKI Jakarta.
Region II Good	6	North Sulawesi, North Sumatra, West Java, West Sumatra, South Sulawesi, South Kalimantan
Region III Fair	14	East Kalimantan, Jambi, Bengkulu, West Kalimantan, Central Kalimantan, Riau, South Sumatra, Lampung, DI Aceh, Maluku, West Nusa Tenggara, East Nusa Tenggara, South East Sulawesi, Central Sulawesi
Region IV Poor	2	East Timor, Irian Jaya.

Source: *Typology Wilayah Penggarapan Gerakan KB Nasional (Tingkat Nasional)*, Jakarta: NFPCB, 1996.

Appendix D: Recorded Number of Current Users, April 1994 - January 1998

Year/ Month	IUD	Vasektomi	Tubektomi	Implant	Injectables	Oral Pills	Condoms	Vaginal Tablet	Total
9404	5,061,943	266,814	966,590	1,558,058	6,278,992	7,016,513	369,187	10,260	21,528,357
9405	5,043,471	268,172	968,846	1,560,531	6,337,550	6,967,860	372,607	5,258	21,524,295
9406	5,060,888	267,696	978,418	1,583,814	6,405,035	7,013,811	370,470	5,329	21,685,461
9407	5,097,878	269,728	985,595	1,633,163	6,542,889	7,101,708	367,786	5,398	22,004,145
9408	5,162,161	271,326	991,075	1,695,512	6,699,563	7,129,609	371,024	5,811	22,326,081
9409	5,272,037	273,524	1,005,330	1,781,356	6,935,514	7,290,280	373,764	6,185	22,937,990
9410	5,300,365	274,477	1,007,758	1,812,853	7,002,542	7,315,854	385,018	6,740	23,105,607
9412	5,392,414	277,719	1,010,388	1,865,715	7,175,281	7,366,599	384,053	6,494	23,478,663
9501	5,388,796	278,348	1,018,053	1,889,662	7,294,165	7,319,402	380,814	7,145	23,576,385
9502	5,324,997	277,605	1,026,360	1,864,457	7,273,588	7,308,811	381,197	21,091	23,478,106
9503	5,069,917	315,399	1,018,835	1,827,634	7,056,495	7,160,067	364,012	20,363	22,832,722
9504	5,062,174	274,538	1,030,882	1,800,598	6,960,493	7,053,240	357,319	13,365	22,552,609
9505	5,079,647	275,667	1,039,805	1,817,176	7,051,111	7,079,973	355,911	10,131	22,709,421
9506	5,101,913	276,337	1,034,883	1,836,278	7,155,231	7,125,202	366,759	9,771	22,906,374
9507	5,157,812	282,971	1,039,859	1,892,141	7,304,292	7,177,015	362,415	11,073	23,227,578
9508	5,245,460	278,761	1,044,094	1,952,505	7,412,286	7,305,504	356,125	9,494	23,604,229
9509	5,339,675	280,678	1,060,590	2,052,892	7,678,496	7,338,792	363,174	9,601	24,123,898
9510	5,376,415	281,580	1,066,027	2,080,770	7,777,215	7,348,019	348,739	9,613	24,288,378
9511	5,442,027	282,509	1,071,971	2,116,348	7,883,027	7,385,609	360,869	15,339	24,557,699
9512	5,461,468	283,090	1,075,580	2,157,781	8,003,628	7,405,347	362,453	10,076	24,759,423
9601	5,494,509	283,491	1,080,743	2,168,146	8,099,685	7,434,399	360,707	9,506	24,931,186
9602	5,556,090	283,308	1,083,671	2,172,026	8,152,291	7,418,354	368,606	18,579	25,052,925
9603	5,330,850	278,056	1,077,747	2,118,196	7,859,959	7,173,618	354,715	10,124	24,203,265
9604	5,189,307	280,971	1,080,777	2,078,214	7,694,247	7,058,037	350,260	11,139	23,742,952
9605	5,228,156	278,906	1,085,095	2,114,024	7,813,225	7,098,213	343,238	10,893	23,971,750
9606	5,286,583	279,528	1,092,003	2,174,967	7,949,102	7,122,274	344,842	11,406	24,260,705
9607	5,297,029	278,689	1,089,782	2,226,215	8,052,445	7,135,699	345,656	11,600	24,437,115
9608	5,393,774	282,692	1,106,980	2,289,808	8,225,666	7,214,077	348,029	10,057	24,871,083
9609	5,499,367	283,713	1,118,016	2,370,085	8,421,958	7,252,594	348,252	10,301	25,304,286
9610	5,491,116	285,760	1,118,266	2,430,380	8,556,569	7,320,385	350,287	9,839	25,562,602
9611	5,566,185	285,672	1,124,675	2,458,369	8,668,380	7,360,916	348,825	10,875	25,823,897

Appendix D: Recorded Number of Current Users, April 1994 - January 1998

9612	5,593,810	285,703	1,126,868	2,466,447	8,768,320	7,382,550	351,199	10,625	25,985,522
9701	5,607,239	285,528	1,127,382	2,481,979	8,733,688	7,235,679	340,906	15,457	25,827,858
9702	5,620,687	286,744	1,130,800	2,479,176	8,859,502	7,410,247	351,905	11,502	26,150,563
9703	5,433,766	279,518	1,125,952	2,422,508	8,634,474	7,255,335	343,476	11,808	25,506,837
9704 (7)	1,654,096	171,128	423,413	881,231	3,393,006	2,311,267	124,547	11,000	8,933,022
9705 (8)	1,954,416	182,865	482,907	981,857	4,050,146	2,787,385	148,652	9,137	10,597,365
9706 (15)	3,264,226	229,419	749,879	1,791,452	5,732,771	4,523,920	190,556	7,430	16,489,653
9707	5,135,449	278,916	1,119,337	2,315,968	8,396,372	6,921,653	319,443	14,527	24,501,665
9708	5,318,256	283,611	1,134,318	2,400,093	8,745,254	7,128,051	331,420	17,707	25,358,710
9709	5,395,760	281,030	1,161,014	2,474,857	8,917,935	7,112,823	326,046	14,419	25,683,884
9710	5,456,574	282,178	1,155,600	2,555,652	9,102,911	7,311,168	327,842	16,626	26,208,551
9711	5,507,747	284,408	1,158,961	2,572,200	9,273,215	7,410,254	331,034	18,091	26,555,910
9712	5,545,106	285,259	1,159,777	2,615,253	9,389,284	7,494,818	326,141	14,902	26,830,540
9801	5,610,457	289,501	1,184,206	2,654,195	9,475,283	7,407,800	328,514	22,221	26,972,177

Appendix E: Recorded Number of New Acceptors, April 1994 - January 1998

Year/Month	Tubektomi	Condoms	Vasektomi	Vaginal Tablet	Injectables	Oral Pills	IUD	Implant	Total
9404	5202	4226	732	407	117109	66315	32344	13941	240276
9405	6372	4348	973	933	120748	76780	34708	17777	262639
9406	7121	4714	1460	962	138900	95446	44799	29059	322461
9407	8543	7143	2268	1113	174222	121663	71033	61742	447727
9408	11084	9058	2306	1106	220182	160853	86060	84879	575528
9409	10500	9399	2527	1171	253630	209898	103061	89944	680130
9410	7657	5282	1178	1729	153135	106839	49315	32342	357477
9411	7325	5588	1386	1359	168304	115811	59462	48228	407463
9412	7957	7910	1276	1070	187639	137803	59800	51928	455383
9501	7137	5396	1038	1115	157058	103417	45997	30586	351744
9502	3746	3756	277	780	108504	68466	24303	9893	219725
9503	4180	4289	781	1010	120491	70811	31608	14789	247959
9504	5946	4406	627	967	129661	67069	35008	20690	264374
9505	5501	4240	536	792	148787	83689	38470	20813	302828
9506	6783	4995	797	904	194311	104232	52469	43159	407650
9507	8518	10079	1807	810	237713	126191	79066	59817	524001
9508	9340	8623	1938	1021	301203	168417	104518	86854	681914
9509	11089	9113	2337	1171	342485	209964	133999	111246	821404
9510	8379	5852	1349	831	224658	124122	67581	47010	479782
9511	8418	5321	1261	821	233034	121958	70071	49041	489925
9512	6686	5054	1020	739	242037	133071	76836	51365	516808
9601	6629	4217	1009	643	225999	109075	52733	40615	440920
9602	3165	3489	261	500	154421	77699	29415	13481	282431
9603	6006	4408	1030	726	169440	83353	39503	27723	332189
9604	7138	3518	797	615	175718	81595	39500	27716	336597
9605	6989	3932	886	641	211519	104089	52845	45109	426010
9606	8771	4420	1444	716	243012	122688	71325	71682	524058
9607	9557	5195	1591	639	266335	141692	79256	79726	583991
9608	8550	6079	1268	798	272135	153104	80851	75910	598695
9609	9482	7375	1184	1007	295860	167878	93513	86137	662436

Appendix E: Recorded Number of New Acceptors, April 1994 - January 1998

9610	9097	6756	1224	784	258672	154940	86039	60311	577823
9611	7074	5793	937	834	220398	138318	76356	38196	487906
9612	7105	5843	1066	627	231575	147244	87189	40080	520729
9701	4832	5395	768	656	181887	114447	48021	17639	373645
9702	3716	5145	366	545	156630	102278	39596	15833	324109
9703	6975	4870	1055	550	169496	104225	46736	32863	366770
9704	5661	2878	426	376	122184	66168	33803	15814	247310
9705	4850	3069	342	307	135861	80477	41493	18552	284951
9706	7313	4472	919	831	137929	103010	46889	32650	334013
9707	7615	4728	902	534	142380	108905	50584	39887	355535
9708	9044	5225	978	572	165846	138324	61429	60600	442018
9709	11702	6051	1222	457	196809	156043	71787	81310	525381
9710	9438	5550	1332	530	185979	151165	66462	52978	473434
9711	8469	5662	1030	561	164287	135869	57391	31481	404750
9712	7258	6720	1105	484	167941	145903	55586	46728	431725
9801	2943	4121	291	339	115928	94244	27945	12658	258469

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