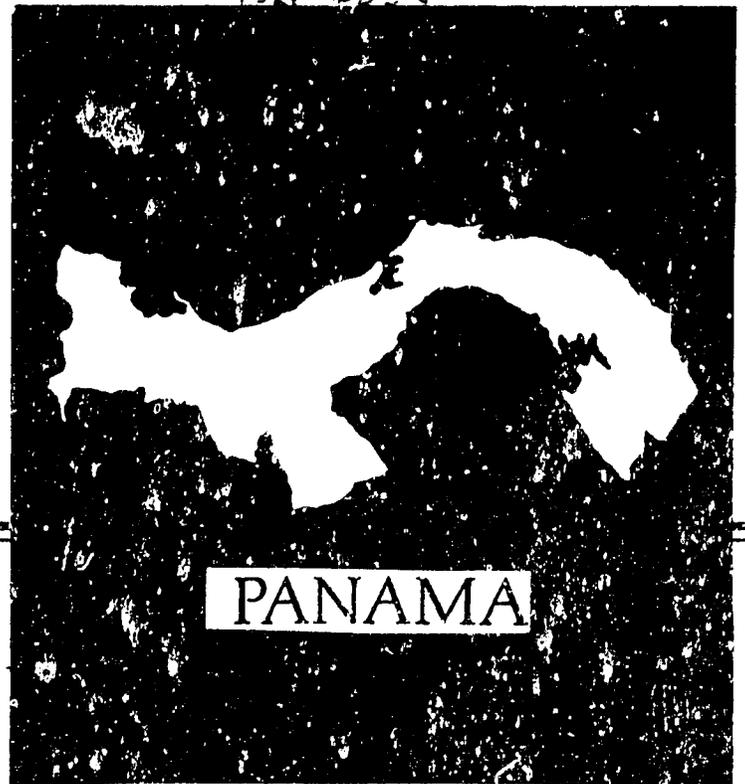


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A Projection of
Family Planning
Needs & Costs
1985--2000



This report is one of a series of country reports illustrating the potential future needs and costs for family planning in the Latin American and Caribbean region.

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December 5, 1986

PROJECTION OF
FAMILY PLANNING NEEDS AND COSTS, 1985 TO 2000:
PANAMA

Preface

All Latin American and Caribbean countries joined the United States in adopting the "Mexico City Declaration on Population and Development" at the August 1984 International Conference on Population.

The Declaration focused attention on the need to make family planning accessible to all couples so they can exercise the basic human right to decide for themselves the number and spacing of their children.

Now in 1986, two years after the Conference, Latin American and Caribbean nations with support from international donors are implementing the Declaration. The key questions are: How can family planning services be made more widely available to growing numbers of couples of fertile age? How much will it cost?

Reports in this series are designed to provide systematic estimates of what needs to be done and how much it will cost to reach the population policies and goals that have been formulated explicitly or endorsed implicitly by the Latin American and Caribbean nations themselves. The reports do not attempt to apportion family planning costs among the various funding sources, be they individual couples, Latin American and Caribbean governments, the international donor community, or private family planning organizations.

The reports are follow-on to "Project 1990," the first comprehensive cost forecasting system developed by James W. Brackett at The Population Institute. The methodology made extensive use of target setting models developed by John

Bongaarts of The Population Council and John Stover of The Futures Group.

To provide a context for understanding future family planning needs and costs, each report contains a brief overview of the national demographic and family planning situation. The cost estimates per user are calculated on what an individual from the poorer segment of society would pay for unsubsidized contraceptive services purchased in 1986 from local sources.

I

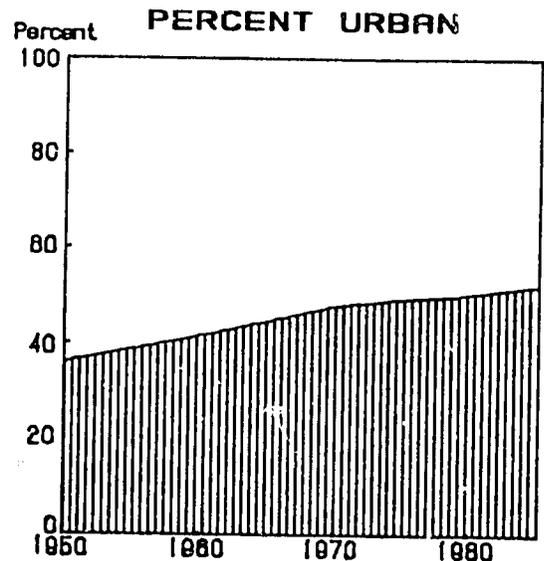
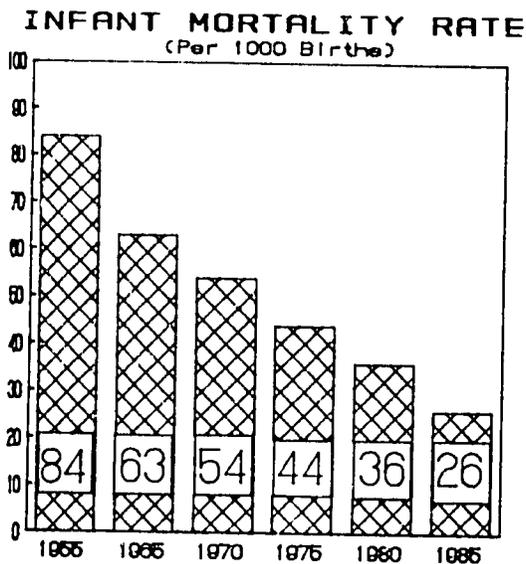
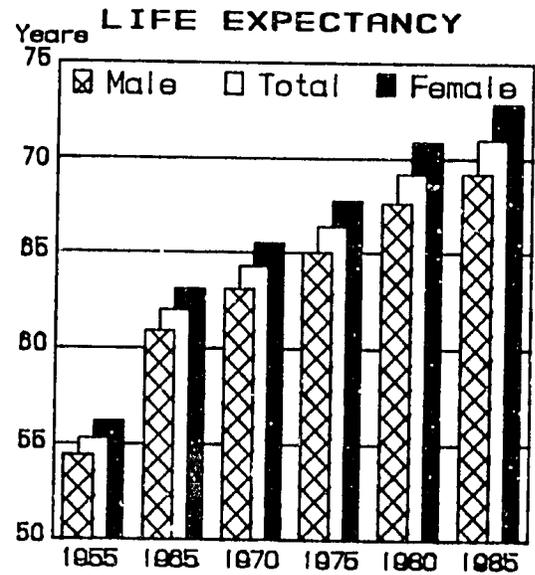
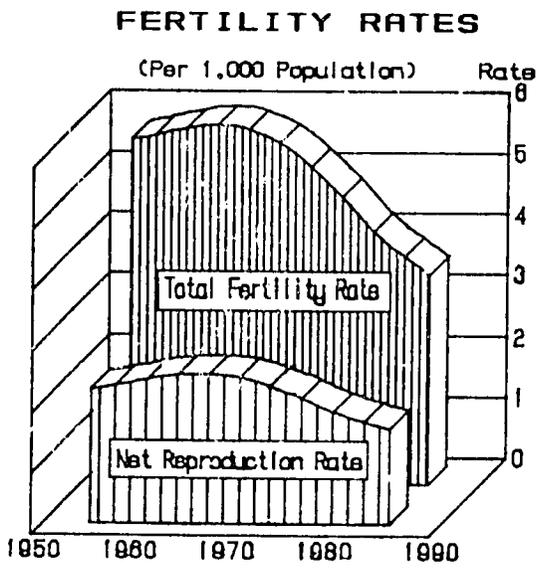
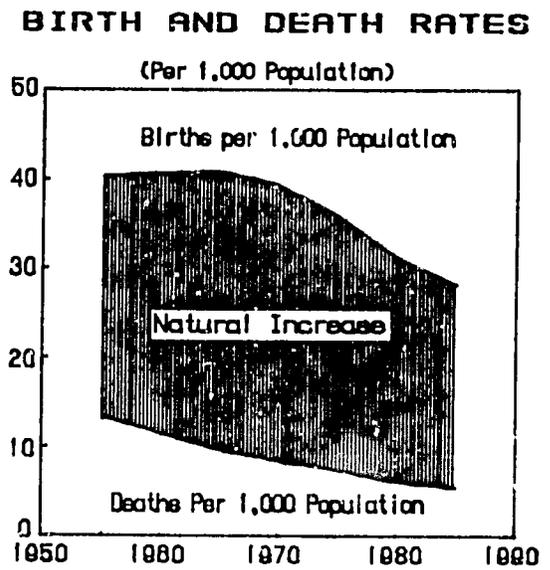
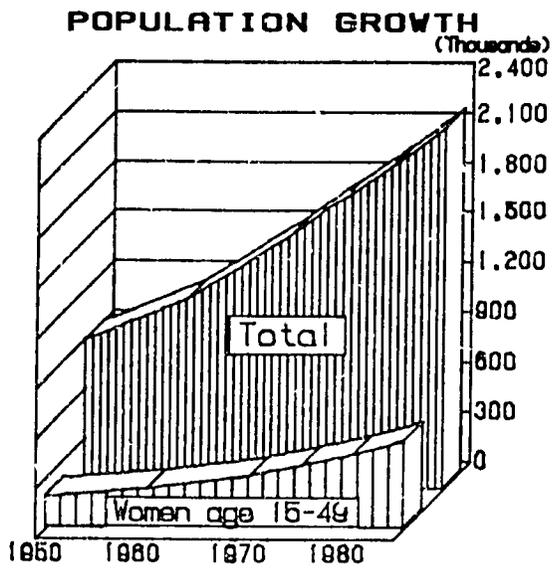
The Current Demographic Situation in Panama

Panama is one of the few developing nations passing rapidly through the transition from high fertility/rapid growth to low fertility/slow growth according to the pattern that prevailed in Europe and North America. It has been more of a spontaneous "grassroots" movement than an accomplishment of organized efforts by public and private agencies. With comparatively little controversy, as the Panamanian citizenry modernized, its couples of reproductive age seem to have accessed the appropriate sources and availed themselves of contraceptive services.

Certainly there has been some confrontation between pronatalist and proplanning forces, just as there were and are in developed countries, but there was comparatively little. Somehow the country moved toward lower fertility. The exact cause is unclear. It could be excellent access to low-cost contraceptives; it could be the high degree of urbanization; it could be higher levels of per capita income and higher levels of education--or a combination of all. Figure A provides a graphic overview of current and recent population trends, and Appendix Tables A and B contain more detailed statistics prepared by the United Nations. The following trends are documented by these data.

Fertility. The estimated total fertility rate for 1985 of 3.5 children per woman is only 60 percent as high as the 5.9 children per woman estimated for 1960-65, only twenty years earlier. Before that date the birth rate seems to have been on a high plateau, with no evidence of an impending decline. A rather abrupt downward deflection began about 1965-67 and has maintained a steady decline since. Today, Panama is about two-thirds of the way through the process of making a very rapid transition from extremely high to much lower fertility. If the recent trend of reducing the total fertility rate by 1.25 child per woman every ten years

FIGURE A



continues, the nation could easily be at replacement level fertility by the year 2000. Both the official projections of the United Nations and the projections used in this report anticipate a slower decline than this, but both could be unduly pessimistic about the possibility of near-zero natural increase by the end of the century.

Mortality. Mortality rates in Panama declined much earlier than in most Latin American countries. As early as 1950-55 the expectation of life at birth was 55 years--something nations such as Honduras, Guatemala, and El Salvador are only now attaining. Today, expectation of life is 71 years or even higher, which is close to the values for most nations of Europe, the United States, and Canada. This early and continued steep decline in mortality can be attributed in part to the intensive health programs associated with establishing and maintaining the Panama Canal, as well as to public health efforts by the Panamanian Government itself. Infant mortality was high in the 1950s, but nevertheless lower than in most of Latin America, and today the rate of infant mortality is among the lowest in Central America and all of Latin America. In fact, Panama now has largely conquered all of the major infectious and acute diseases that can be easily controlled by public health, environmental sanitation, and adequate levels of nutrition. Like the industrialized countries, its mortality problems are focused on the degenerative and chronic diseases associated with aging. Hence, future declines in mortality will be smaller than in the past.

Growth. During the 15 years from 1950-55 to 1965-70, the rate of population growth in Panama accelerated, because of the rapid decline in mortality and the apparent rise in fertility. When the turnaround in birth trends began about 1965, growth rates immediately began to decline. Today the growth rate is about 2.2 percent per year. This is still high by comparison with the industrialized nations, which are growing at less than one-half this rate. Because death rates will soon become stationary or even rise, due to aging of the population and the approach of the upper limits of lifesaving under present technology, any further declines in the birth rate will be translated directly into declines in the growth rate. Hence, by the year 2000 the growth rate could easily be as low as 1.5 percent--or even lower. When a growth rate of 1.0 percent per year is reached under conditions of low fertility, the citizenry then has all of the knowledge, tradition of family planning, and motivation to bring about whatever level of growth it desires, remaining on a plateau or declining further to zero growth. By the year 2000, Panama will be in this situation, simply if present trends continue with no additional effort to accelerate them.

Distribution. Panama was among the first of the Latin American nations to urbanize, and its urbanization has proceeded rapidly. From being only 36 percent urban in 1950 it became 50 percent urban in 1980. The influence of the Panama Canal and the location of the national capital at a world crossroads of commerce promoted urban growth. However, the nation did have a substantial supply of agricultural rural land, and rural population has continued to grow, although only about one-half as fast as urban growth.

II

Panama's Population Policy and Goals

The Government of Panama has never shown a deep concern for the effects of rapid population growth. At international conferences it has expressed satisfaction with the existing situation and maintained that intervention for demographic reasons was not needed. However, nearly fifteen years ago the Ministry of Health added family planning as a service of public medical and health facilities, primarily as a maternal and child health activity. The private family planning association has offered public information and a limited amount of services, but has never provided more than a token share of the total contraception being practiced in the country. Instead, the public has responded by making very active use of the public sector services and of services by private physicians and pharmacies. Hence, Panama cannot be said to have any specific family planning goals, other than to supply the demands for contraceptive services placed upon its facilities by the public. Those demands are large and growing.

A recent set of population projections released by the United Nations, which are endorsed by the Government's Instituto Nacional de Estadística, assumes that the total fertility rate will decline to about 2.57 children per woman by the year 2000 and to 2.1 (replacement level) by 2020-2025. This is consistent with Panama's report to the International Population Conference of 1984 that it expected to have a growth rate of 1 percent in the year 2025. This is used as the basis for the projection of future family planning needs later in this report. It should be pointed out that this "target" expects a fertility decline less than one-half the rate of change in recent years. Hence, it is entirely possible that the goal of a 1.0 percent growth rate will be achieved a quarter-century ahead of schedule, and that the projections of family planning needs (demands) made in this report are much too low.

III Current Family Planning Situation in Panama

The prevalence of contraceptive use is very high in Panama. Surveys taken in 1976 and 1979 indicated that contraceptive prevalence had risen from 53 to 63 percent of currently married women of reproductive age. A subsequent national survey in 1984 reveals no change in the overall level of use. The overwhelming majority of the public has already joined the family planning movement.

Figure B and Table 3 show the current "mix" of family planning methods in use in Panama. Voluntary female sterilization provides over 50 percent of the contraception, while oral pills and IUDs provide most of the remainder (31 percent). Condoms, spermicides, and other methods account for only 8 percent of all contraception. Male sterilization is popular in Panama as in Guatemala, but still accounts for only 3 percent of all family planning. Injectables are used infrequently. Thus, contraception in Panama is founded on two of the most effective methods available.

The recent very rapid decline in fertility seems to have been a product of public demand and a good supply network. Now a substantial amount of concern is being shown about childbearing by teenage girls. Programs are underway to provide responsible parenthood education to this group.

The following summary reveals the "mix" of service outlets as estimated for 1985:

Source of service	Number of users (000)	Percent distri- bution
Total.....	214.0	100.0
Ministry of Health.....	111.1	51.9
CSS (Social Security).....	29.9	14.0
Private physician.....	27.7	12.9
Pharmacy.....	22.4	10.5
Other.....	22.9	10.7

This distribution of sources was inferred from a 1984 contraceptive prevalence survey. It appears that about two-thirds of family planning comes via the public sector and one-third from private sources, with private physicians and pharmacies having equal shares. In the public sector, the Ministry of Health serves a larger percentage of users than Social Security.

IV
Projections of Future Family Planning Needs

In order to reach the goal of 2.57 children per woman by the year 2000, as implied in current official population projections, Panama must increase the percentage of couples of reproductive age who are practicing contraception from 64 percent in 1985 to 74 percent in the year 2000. This is a rather small increase in comparison with growth during recent years. Meanwhile, the number of couples of reproductive age is growing moderately rapidly because of past high fertility. Table 1 reports that the number of such couples will increase from 307,000 to 437,000 (an increase of 42 percent) within the next 15 years. Combining these two trends--a smallish rise in the contraceptive prevalence rate and a rather rapid rise in the number of couples--produces a projected estimate of contraceptive need which is surprisingly large. Table 2 reports the yearly number of family planning users in order to attain the goal. The number of users must increase from 197,700 in 1985 to 323,400 in the year 2000, for an increase of 63 percent, or more than 4 percent per year. Providing contraceptive services for five couples for each three couples now being served will require an expansion which may not be fully anticipated. It must be emphasized that these data represent public demand.

Table 1. PROJECTED NUMBER OF WOMEN OF REPRODUCTIVE AGE
 AND CONTRACEPTIVE PREVALENCE

Indicator	1985	1990	1995	2000
Total fertility rate.....	3.70	3.32	2.95	2.57
Women 15-49 years (000s)...	535.0	619.0	694.0	763.0
Women 15-49 years in union (000s).....	353.1	408.4	457.7	503.9
Percent of MWRA currently using.....	60.6	65.3	69.8	74.0
Number of contraceptive users (000s).....	214.0	266.7	319.5	372.9

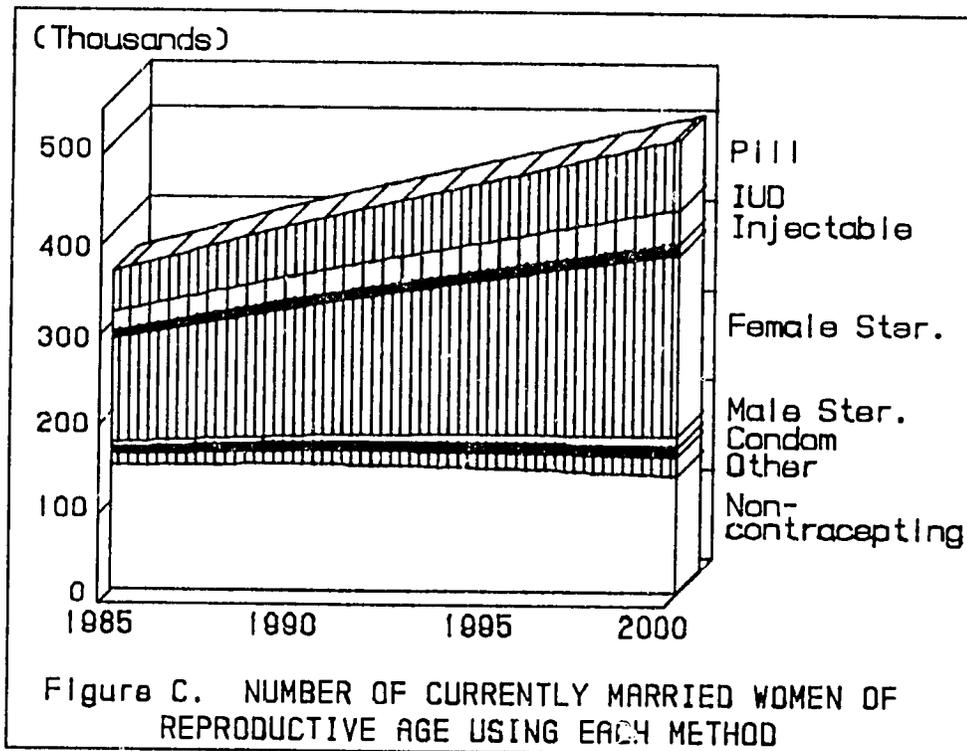
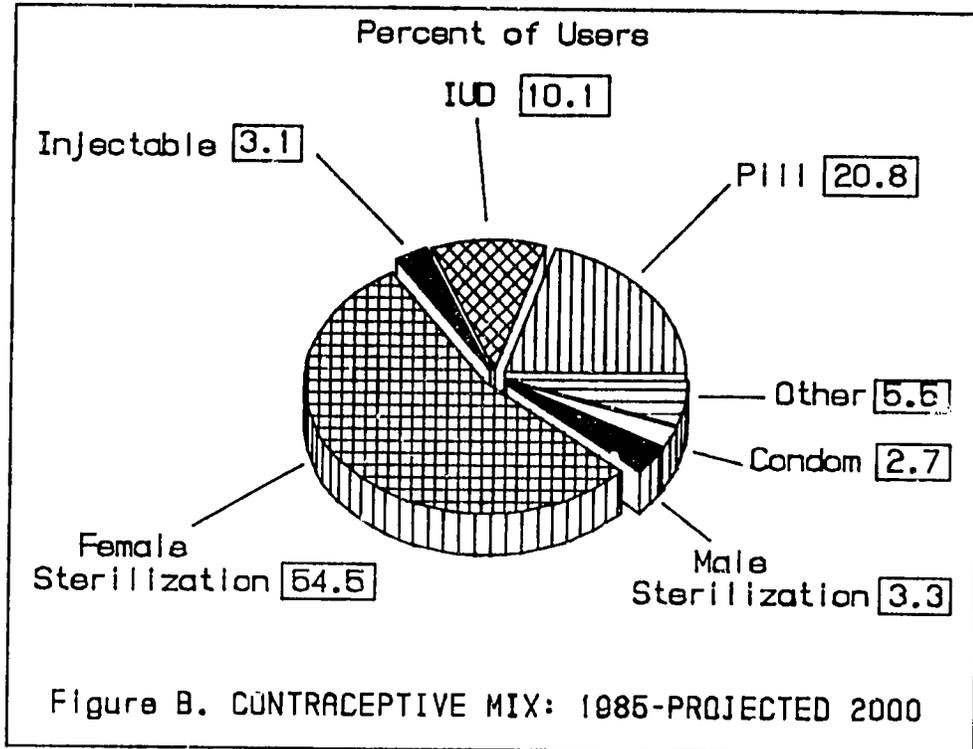


Table 2. PROJECTED FAMILY PLANNING USERS.

Year	Percent using	Users (000s)
1985.....	60.6	214.0
1986.....	61.6	224.5
1987.....	62.5	235.1
1988.....	63.4	245.6
1989.....	64.4	256.1
1990.....	65.3	266.7
1991.....	66.2	277.2
1992.....	67.1	287.8
1993.....	68.0	298.3
1994.....	68.9	308.9
1995.....	69.8	319.5
1996.....	70.6	330.1
1997.....	71.5	340.8
1998.....	72.4	351.4
1999.....	73.2	362.1
2000.....	74.0	372.9

Table 3. CONTRACEPTIVE METHOD DISTRIBUTION: 1985-2000.

Method	1985	2000
Total.....	94.5	94.5
Pill.....	20.8	20.8
IUD.....	10.1	10.1
Injectable.....	3.1	3.1
Female sterilization.....	54.5	54.5
Male sterilization.....	3.3	3.3
Condom.....	2.7	2.7
Other.....	5.5	5.5

Table 4. PERCENTAGE OF CURRENTLY IN-UNION WOMEN AGED 15 TO 49 USING CONTRACEPTIVES, BY METHOD: 1985-2000.

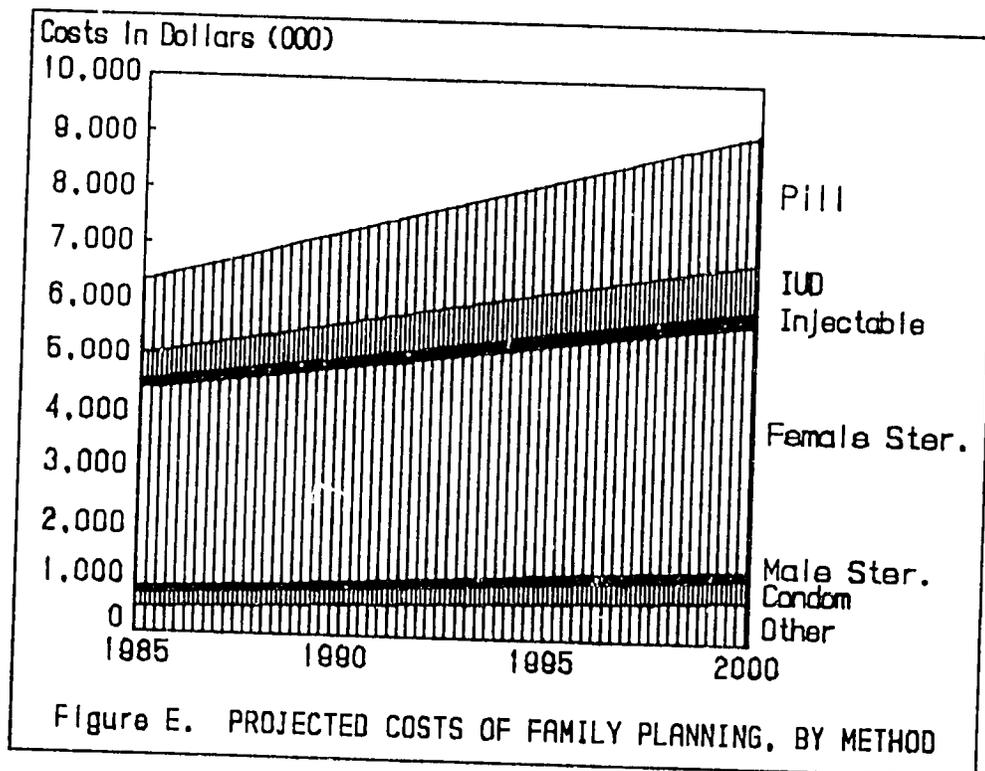
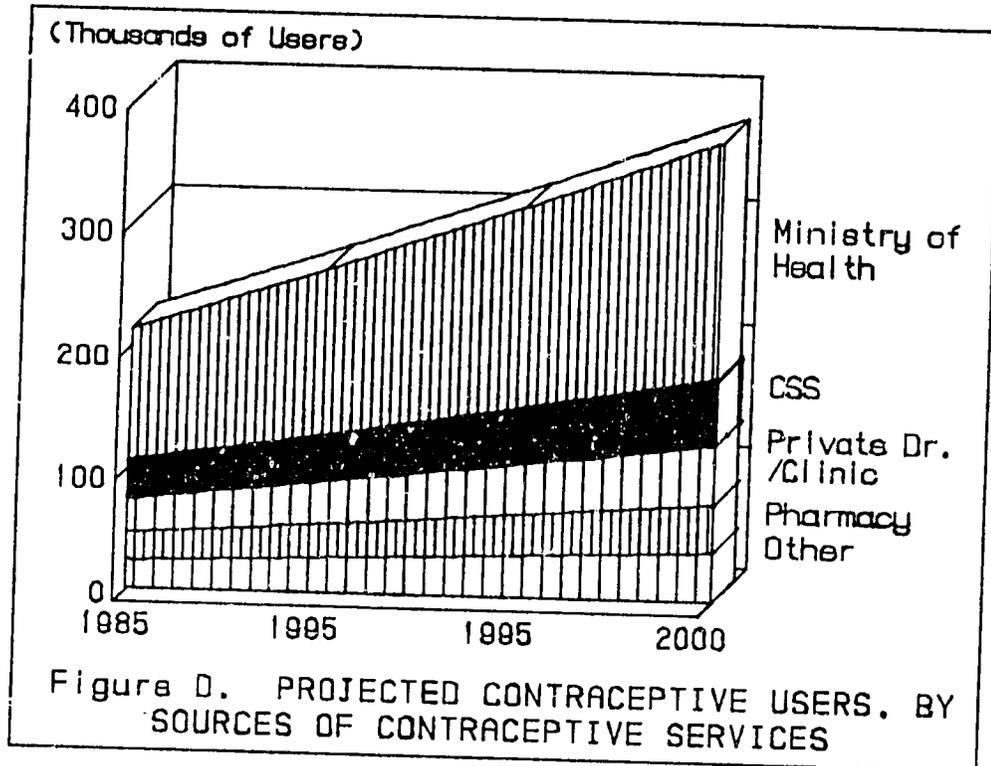
Method	1985	1990	1995	2000
Pill.....	12.6	13.6	14.5	15.4
IUD.....	6.1	6.6	7.0	7.5
Injectable.....	1.9	2.0	2.2	2.3
Female sterilization.....	33.0	35.6	38.0	40.4
Male sterilization.....	2.0	2.2	2.3	2.4
Condom.....	1.6	1.8	1.9	2.0
Other.....	3.3	3.6	3.8	4.1

Table 5. PERCENT DISTRIBUTION OF SOURCE OF CONTRACEPTIVE, BY METHOD: 1985.

Method	Service Source					
	Total	Ministry of Health	CSS	Private Doctor/Clinic	Pharmacy	Other
Pill.....	100.0	40.0	12.0	3.0	43.0	2.0
IUD.....	100.0	58.0	19.0	14.0	1.0	8.0
Inject... Female	100.0	50.0	--	50.0	--	--
ster... Male	100.0	65.0	17.0	11.0	--	7.0
ster... Condom...	100.0	--	--	100.0	--	--
Other....	100.0	28.0	11.0	3.0	52.0	6.0
	100.0	--	--	--	--	100.0

Table 6. CONTRACEPTIVE USERS (000s), BY SERVICE SOURCE: 1985 TO 2000.

Source	1985	1990	1995	2000
Total.....	214.0	266.7	319.6	372.9
Ministry of Health.....	111.1	138.4	165.9	193.6
CSS.....	29.9	37.3	44.7	52.1
Private Doctor/Clinic.....	27.7	34.6	41.4	48.3
Pharmacy.....	22.4	27.9	33.4	39.0
Other.....	22.9	28.5	34.2	39.9



In attempting to estimate in more detail how these needs would be met, it was assumed that there would be no change in the "mix" of contraceptive methods shown in Table 3. Also, the projections assume that the sources of family planning would remain unchanged between 1985 and the year 2000.

Table 6 reports how contraceptive users will be distributed by source of service at five-year intervals from 1985 to the year 2000. The projections of Table 6 make it abundantly clear, however, that every source of service is almost certain to undergo a nearly a two-thirds increase in the number of its clients. This large increase in number of users is caused much less by the anticipated increased prevalence of use than by the very substantial rise in the number of women 15 to 49 years of age in a conjugal union, resulting from past higher fertility.

The following table spells out the amount of each type of contraception that will be required at five-year intervals to attain the desired goal:

Method	1985	1990	1995	2000
Oral pills (000 cycles)..	578.5	721.1	864.0	1008.8
IUDs (insertions).....	4.8	5.6	6.5	7.4
Injectables (cycles)(000)	26.4	33.1	39.6	46.4
Female sterilizations....	8.9	9.6	10.4	11.1
Male sterilizations.....	0.6	0.7	0.7	0.8
Condom (user/year).....	5.8	7.2	8.6	10.1
Other methods.....	11.8	14.7	17.6	20.5

Note. Number of sterilizations is thousands of operations. "Other methods" is couple-years of protection.

The sources from which each of these methods would be supplied is specified in Table 5. By multiplying the quantities in the above table by the proportions of Table 5, it is possible to calculate the quantity of each method to be provided by each source.

Figure C graphs the anticipated demand for each method to supplement Table 4, while Figure D graphs the anticipated demand for services that will be placed on each of the principal sources as a supplement to Table 6.

Because these projections assume no change in the "mix" of methods nor in the "mix" of sources of service, the results call for about the same rate of increase in each method and in each source--roughly 75 percent in the 15 years from 1985 to 2000.

V

Projected Costs of Family Planning in Panama

The "fair market price" of contraception in Panama for each of the methods was obtained in 1986. "Fair market prices" are considered to be those paid by the poorer segment of society if they were to seek contraceptive services through private or professional channels. These estimates are provided by informed sources within Panama. The following average estimates of cost (in \$US) were used in making the projections:

Oral pills.....	\$1.50 per cycle
IUD insertion.....	65.00 per insertion
Injectables.....	4.75 per injection
Female sterilization.....	400.00 per procedure
Male sterilization.....	200.00 per procedure
Condom.....	0.35 per intercourse
Other.....	0.40 per intercourse

The average cost for a medical visit for a person in the poorer segment of society is about \$10.00. By multiplying these prices by the quantities of contraceptives reported in the table above, an approximate cost of contraceptive services can be obtained. For oral pills and IUD insertions it was assumed there would be one medical visit per year in addition to the per unit cost cited. It was further assumed that the "other" contraception should be treated as if all of it were use of condoms or spermicides. Scheduling the costs of contraception, by method, yields the following estimates for selected years:

Method	1985	1990	1995	2000
Total.....	\$6,291.2	\$7,189.4	\$8,154.6	\$9,089.1
Oral pill.....	1,312.8	1,636.7	1,961.0	2,289.2
IUDs.....	528.0	633.0	745.5	858.0
Injectations.....	125.4	157.2	188.1	220.4
Female sterilization.	3,560.0	3,840.0	4,160.0	4,440.0
Male sterilization...	120.0	120.0	140.0	160.0
Condom.....	232.0	288.0	344.0	404.0
Other.....	413.0	514.5	616.0	717.5

These estimates indicate that contraception in Panama without subsidy would cost about \$6.3 million per year. With an estimated 214,000 total number of users in 1985, this represents an average cost per user per year of \$29.44. Because of the increased number of new acceptors projected for the future, to meet the national goal costs must increase to \$9.1 million dollars per year by the year 2000, an increase of about 44 percent.

VI
Discussion, Implications, Conclusions

In evaluating the above projections it should be kept in mind that the quantities of contraceptive services needed for the remainder of this century very probably are minimal, and the true demand will be substantially higher. At the same time, the cost projections, which represent services obtained from the private sector, are probably overestimated because of the high prices for providing some of the methods. However, it should be noted that voluntary sterilizations and other services are largely provided in public sector facilities at very nominal prices. Expanded contraceptive advertising and sales programs are underway in Panama, which should provide improved access for new clients, especially younger couples who wish to access contraception for spacing or limiting the size of their families.

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APPENDIX TABLES
Table A. INDICATORS OF DEMOGRAPHIC STATUS FOR 1950 TO 1985:
PANAMA

Indicator	1950	1960	1970	1975	1980	1985
Total population (000)	893	1,148	1,531	1,748	1,956	2,180
Women age 15-49 (000).	199	250	331	388	455	535
Median age.....	19.6	18.3	17.8	18.3	19.3	20.6
Age 0-14 (percent)....	41.0	43.5	44.2	43.1	40.5	37.5
Age 65 over (percent).	3.9	4.0	4.1	3.9	4.1	4.5
Sex ratio (M/F*100)...	105.3	104.4	104.3	103.9	104.4	104.0
Percent urban.....	35.6	41.2	47.6	48.9	50.1	51.9

SOURCE: United Nations. World Population Prospects: Estimates and Projections as Assessed in 1982. New York: United Nations, 1985, p. 352-53.

Table B. INDICATORS OF DEMOGRAPHIC CHANGE, 1950 TO 1985:
PANAMA

Indicator	1950-55	1960-65	1965-70	1970-75	1975-80	1980-85
Births per 1000 population..	40.3	40.8	39.3	35.7	31.0	28.0
Deaths per 1000 population..	13.2	9.6	8.4	7.3	6.0	5.4
Natural increase /1000.....	27.1	31.3	30.9	28.4	25.0	22.6
Total fertility rate.....	5.68	5.92	5.62	4.94	4.06	3.46
Expectation of life, male...	54.4	60.9	63.1	65.0	67.6	69.2
Expectation of life, female.	56.2	63.1	65.5	67.8	70.9	72.9
Expectation of life, total..	55.3	62.0	64.3	66.4	69.2	71.0
Infant mortality rate (1000)	84	63	54	44	36	26
Net reproduction rate.....	2.22	2.49	2.43	2.18	1.84	1.60
Annual rate of growth, total	2.49	2.69	2.86	2.65	2.26	2.17
Annual rate of growth, urban	3.9	4.4	4.3	3.2	2.8	2.9
Annual rate of growth, rural	1.6	1.8	1.7	2.2	1.8	1.5

SOURCE: Same as Table A.