- 28. S. Kim and W. K. Paik. ibid. 245. 1806 Kill and W. K. Palk, 1981. 1991. 1900.
 Biochemistry 10, 3141 (1971); Anal. Biochem. 42, 255 (1971); S. Kim, G. Litwack, W. K. Paik, Arch. Biochem. Biophys., in press.
- 29. L. Benoiton, Can. J. Chem. 42, 2043 (1964). 30. J. Puskás and E. Tyihák, Period. Polytech.
- 350, 966 (1969).
 31. V. K. Hempel, H. W. Lange, L. Birkofer, Hoppe-Seyler's Z. Physiol. Chem. 350, 966
- T. Tidwell, V. G. Allfrey, A. E. Mirsky, J. Biol. Chem. 243, 707 (1968).
 J. M. Orenstein and W. H. Marsh, Biochem. J. 109, 697 (1968).
 S. Kim and W. K. Paik, J. Biol. Chem. 240, 420, (1968).
- 35. W. K. Paik and S. Kim, ibid. 245, 6010 (1970).
- 36. —, unpublished data.
 37. We would like to suggest the following names for various protein methylases. Previous, protein methylase I; suggested, S-adenosyl-Lmethionine: protein-arginine methyltransferase. Previous, protein methylase 11; suggested, S-adenosyl-L-methionine: protein-carboxyl methyltransferase. Previous, protein methylase III; suggested, S-adenosyl-1-methionine: protein-lysine methyltransferase.
 W. K. Paik and S. Kim, J. Biol. Chem. 243,
- 2108 (1968); Arch. Biochem. Biophys. 134,
- C. E. Sekeris, K. E. Sekeris, D. Gallwitz, Hoppe-Seyler's Z. Physiol. Chem. 348, 1660

- 40. B D. Patterson and D. D. Davies, Biochem.
- Au. B. D. Patterson and D. D. Davies, Biochem. Biophys. Res. Commun. 34, 791 (1969).
 R. H. Burdon and E. V. Garven, Biochim. Biophys. Acta 232, 371 (1971).
 W. K. Paik, H. W. Lee, D. Lawson, Exp. Control in press.
- W. K. Paik, H. W. Lee, D. Lawson, Exp. Gerontol., in press.
 W. K. Paik, H. W. Lee, H. P. Morris, Cancer Res., in press.
 W. K. Paik and S. Kim, J. Neurochem. 16, 100 (2012)

- K. Shepherd, J. M. Hardin, B. J. Noland, Arch. Biochem. Biophys. 143, 1 (1971).
 S. Kim, L. Benoiton, W. K. Paik, Biochim. Biophys. Acta 71, 745 (1963); J. Biol. Chem. 239, 3790 (1964).
- L. F. Fieser and M. Fieser, Advanced Organic Chemistry (Reinhold, New York, 1963), p. 493.
 H. C. Brown, D. H. MacDaniel, O. Haeflinger, in Determination of Organic Structure by Physical Methods, E. A. Braude and F. C. Nachod, Eds. (Academic Press, New York, 1955), p. 573.
- 50. C. Tanford, J. Am. Chem. Soc. 84, 4240

- - C. Tanford, J. Am. Chem. Soc. 84, 4240 (1962).
 R. J. DeLange, D. M. Fambrough, E. L. Smith, J. Bonner, J. Biol. Chem. 244, 5669 (1969); Y. Ogawa, G. Quagliarotti, J. Jordan, C. W. Taylor, W. C. Starbuck, H. Busch, ibid., p. 4387.
 L. S, Desai and G. E. Foley, Biochem. J. 119, 165 (1970)
 - 165 (1970).

Toward the Reduction of Unwanted Pregnancy

An assessment of current public and private programs.

Frederick S. Jaffe

By 1965, "clearly the norm of fertility control [had] become universal in contemporary America" (1, p. 394). Yet between 1960 and 1965 at least 19 percent of all births were reported as unwanted by the parents at the time of conception (2, p. 1178).

These central and seemingly paradoxical findings of the 1965 National Fertility Study, which is the most recent national study, provide the basic framework in which current U.S. fertility control efforts can be assessed. Family planning has become a prevailing social norm, practiced in some fashion at

some time by a greater proportion of Americans than is almost any other social norm. But its full potential for enabling Americans to choose freely whether and when to have children remains to be realized. The reduction of unwanted pregnancy-that is, pregnancies that are unwanted by the parents at the time of conception-provides a tangible objective for national policy, while the normative nature of family planning provides a measure of the potential interest in, and public support for, the programs required to achieve this goal.

At the outset of this analysis a key distinction should be made. The fertility control situation in the United States today is the result of the individual decisions of millions of couples seeking to realize their aspirations for themselves

- W. A. Scott and H. K. Mitchell, Biochemistry 8, 4282 (1969).
 K. Okunuki, K. Wada, H. Matsubara, S. Takemori, in Oxidases and Related Redox System, T. E. King, H. S. Mason, M. Morrison, Eds. (Wiley, New York, 1965), vol. 2, p. 549.
 S. Brostoff and E. H. Eylar, Proc. Nat. Acad. Sci. U.S. 68, 765 (1971); G. S. Baldwin and P. R. Carnegie, Biochem. J. 123, 69 (1971).
 A. M. Kaye and D. Sheratzky, Biochim, Biophys. Acta 190, 527 (1969).
 W. K. Paik and R. Balek, unpublished data.
 G. Turner and R. L. Hancock, Life Sci. 9,

- W. K. Palk and R. Baiek, unpublished data.
 G. Turner and R. L. Hancock, Life Sci. 9, 917 (1970).
 G. E. Means and R. E. Feeney, Biochemistry 7, 2192 (1968); M. Gorecki and Y. Shalitin, 7, 2192 (1968); M. Gorecki and Y. Shalitin, 91, 200 Biochem. Biophys. Res. Commun. 29, 189
- 60. L. Benoiton and J. Deneault, *Biochim, Biophys. Acta* 113, 613 (1966).
 61. A. Neuberger and F. Sanger, *Biochem, J.* 38, 119 (1944).
- 38, 119 (1944).
 T. Takemoto, K. Daigo, N. Takagi, Yakugaku Zasshi 84, 1176 (1964); P. O. Larsen, Acta Chem. Scand. 22, 1369 (1968).
 T. Nakajima and B. E. Volcani, Biochem. Biophys. Res. Commun. 39, 28 (1970).
 H. H. Tallan, W. H. Stein, S. Moore, J. Biol. Chem. 206 825 (1954).
- Chem. 206, 825 (1954).
- 65. Supported by research grant GB-22663 from NSF and grants AM 09603, CA 10439, and 12226 from NIH.

and their children. It is not the result of a conscious national policy. Couples who practice family planning do so because of their personal objectives, not because of family planning's potential social or demographic impact. The government's present family planning program has been designed as a means of helping individuals achieve their own goals, not as part of an official population policy. These millions of voluntary, individual decisions may well add up to a national pattern that significantly affects the future growth of the U.S. population, but they remain, both in origin and rationale, individual-not societal.

Discussions of policy issues often focus almost exclusively on the professed long-range objective, apparently on the assumption that this is the most crucial aspect of public policy. My analysis rests on a different view-one that regards public policy as comprising primarily our laws, regulations, and, most important, the allocation of our resources of funds and time. While the goals that a governmental agency or social system (or subsystem) articulates are not unimportant, a more accurate description of its policies is derived from careful analysis of its budget, which often shows disparities between its professed objectives and its actual priorites.

Throughout nearly all of our history, public policy has made it difficult for health professionals and institutions to dispense, and for couples to practice, family planning. While court decisions,

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beginning in 1936, have helped to moderate the impact of the anticontraceptive Comstock laws, it was not until 1958 that the ban on prescribing contraceptives in public hospitals was lifted in New York City and the way opened for publicly financed health institutions to provide family planning services. It was not until 1965 that the Supreme Court struck down the Connecticut statute barring the use of contraceptives, that a number of states repealed their restrictive laws, and that some federal funds became available to support projects offering family planning services. Public funds played no part in the development of the oral contraceptive or the intrauterine device (IUD), the two contraceptive methods that were developed in the last decade. It was not until 1967 that Congress adopted any specific legislation on family planning. It has only been in the last few years that some states have begun to allow abortion for reasons other than preservation of life, and only in the past year have any states moved to allow termination of pregnancy on request. Last December the federal Comstock law was finally repealed. Even today, laws and customs in some states limit the providing of contraceptive information and services in important respects. Most states still have highly restrictive abortion laws. This recital could be extended almost indefinitely, but its conclusion is clear: whatever success Americans have had in controlling their fertility has been accomplished, until very recently, in spite of public policy, not because of it.

In the last 5 years, there have been rapid and significant changes. Federal and state agencies have adopted policies favoring family planning, some have actually initiated programs, and funds are beginning to be made available. A federal family planning agency has been established and is functioning. The passage of the Family Planning Services and Population Research Act of 1970 (Public Law 91-572), by overwhelming majorities of both houses of Congress, attests to the new situation and suggests its potential: for the first time, public policy can become a positive force to help Americans avoid unwanted pregnancy. This occurs at a time when the technology of fertility control makes it possible to at least envision the virtual elimination of unwanted pregnancy as a realistic objective of national policy and programming. The resulting opportunity is unprecedented in human history, and the way in which our society responds to this opportunity will, I believe, have substantial implications throughout the world.

Bumpass and Westoff (2) have suggested the considerable societal and demographic consequences of the elimination of unwanted pregnancy. In the cohort of women aged 35 to 44 who were nearing the end of their childbearing years in 1965, the elimination of births that the respondents characterized as unwanted at the time of conception would have reduced their fertility from 3.0 to 2.5 births per woman. Eliminating these births would not have been sufficient to establish exact replacement for this cohort (3), but, according to Bumpass and Westoff, "it would have resulted in considerable progress toward that objective" (2, p. 1180), particularly since the study's basic measure is regarded as an underestimate of unwanted fertility (2, p. 1178).

A national policy and program to reduce unwanted pregnancy would thus be justified as one component of a national population policy, the objective of which would be to achieve a stabilization of population. The other components of a population policy presumably consist of measures "beyond family planning," which are primarily designed to influence fertility motivations. Those measures which are generally discussed lack specificity, political or ethical acceptability, or scientific or administrative feasibility; in addition, they are untested as to presumed effectiveness (4). Given the fact that voluntary fertility control is already an integral part of U.S. values, a policy and program to reduce unwanted pregnancy is a logical first step in the development of an overall population policy because it offers the hope of a greater impact on growth rates, at lower costs, than does any other currently known or proposed policy and program.

At the same time, however, the justification for a national policy and program to reduce unwanted pregnancy is independent of the justification for a population policy. It is justified on its own merits in terms of the individual benefits of the elimination of unwanted pregnancy and the individual consequences of failure to do so. Unwanted pregnancy affects different couples in different ways, depending on their circumstances. For many couples, the consequences of unwanted pregnancies are significant although not overwhelming;

some of the results are increased family stress, altered life plans, and less time and attention for each child. Fortunately for both the children and society, many couples have learned to adapt in one way or another to the arrival of more children than they want. For other couples, however, the consequences are more serious. Unwanted pregnancy sets off a chain of events that forecloses some young people's chances in life; early pregnancy often leads to dropping out of school, precipitous marriage, or an out-of-wedlock birth, followed by poor prospects for employment, the likelihood of continued poverty, and limited opportunities for themselves and their children. For some, an unwanted pregnancy leads to increased risk of maternal and infant mortality or morbidity. An unwanted pregnancy in some families means that modest resources must be stretched thin; in others, it places the family below the official poverty level (5). And for many individuals and families, an unwanted pregnancy is sufficiently disastrous for them to seek to remedy it at the hands of an illegal abortionist. These consequences for the parents are, of course, in addition to such consequences for the children themselves as physical and emotional neglect and abuse (6).

Some of these consequences would be the result of any high parity or early pregnancy, whether or not the parents wanted to have a child. For example, since the official poverty level varies with family size, any additional birthwanted or unwanted-would have the effect of placing some families below that level. A program to prevent parents from having wanted children would violate constitutional and human rights; if confined to low-income persons, it would also be discriminatory. The program discussed here assumes that all American couples, including low-income couples, will have the number of children they want, but that they will be assisted by public policy, programs, and resources to avoid having children they do not want. Since poor and nearpoor parents reported that one-third of their children born between 1960 and 1965 were unwanted at the time of conception (2, p. 1179), such a program could significantly affect the aggregate fertility of low-income couples-without violating personal freedoms. In principle, therefore, it could also assist some couples in avoiding officially defined poverty associated with involuntary increases in family size. Similarly, respondents in all socioeconomic groups reported that significant proportions of fourth births and above between 1960 and 1965 were unwanted—30 percent of fourth births, 44 percent of fifth births, and 50 percent of sixth or higher order births (2, p. 1178). A policy and program to assist couples to prevent these births would thus affect all of the consequences enumerated above.

In sum, then, a national policy and program to reduce unwanted pregnancy is related to both overall population and social policy. The ability of individual couples to control fertility successfully is, under current circumstances, a necessary condition either for reaching defined demographic objectives or for improving their social functioning and their chances in life. However, individual control of fertility may not be sufficient for attaining either demographic or social objectives; thus, overall population and social policy will require additional components. Desired family size, for example, changes with time as a result of social, economic, and cultural factors that are only poorly understood. A viable population policy would thus have to include more research to determine how these factors operate and how their effects might be offset, if necessary for demographic purposes, with realistic policies and programs. Similarly, in terms of alleviating poverty or improving health, a fertility control policy is no substitute for an adequate policy on income maintenance and redistribution, on the one hand, or for a national health policy, on the other. In both cases, a successful fertility control policy would complement national income or health policies and intensify the impact of the limited resources made available for these programs.

Within this framework, I outline U.S. fertility attitudes and practices, present the principal problems that appear to affect the ability of Americans to control their fertility, and assess the adequacy of current public and private efforts to solve them.

Fertility and Family Planning in the United States

A series of national studies, supplemented by local investigations, has demonstrated that almost all American couples, regardless of income, class, or color, have very similar fertility values and aspirations (1, 7, 8). In 1960, near-

Table 1. The rate of failure over a period of 12 months for various methods of contraception, and the distribution of the last method used in 1965 (27, p. 69; 28). (Figures are based on a sample of married couples only.)

Contraceptive	Failure (%)	Method used (%)
Pills	4	27
Intrauterine device	7	. 1
Condom	16	24
Diaphragm	18	11
Withdrawal	21	7
Rhythm	28	12
Foam	29	4
Jelly, suppository, douche, other	n.d.	13
Total		99*

^{*} Because of rounding, does not total 100 percent.

ly 90 percent of couples wanted families of four children or fewer. Low-income couples wanted the same number of children as high-income couples, and nonwhites wanted slightly fewer than whites (7, pp. 38, 105). In 1965, more than 87 percent of couples again wanted four children or fewer (9).

This convergence in values has been accompanied by a convergence in fertility control behavior. By 1965, 90 percent of white married couples and 86 percent of nonwhite married couples had used or expected to use some method of contraception (1, p. 411). Between 1960 and 1965, the greatest increase in the use of contraception occurred among Catholic, nonwhite, and young women, with couples appearing to adopt some method of contraception earlier in marriage. There still remained some differences in the use of contraception, based on education, religion, and other socioeconomic factors, but these differences diminished sharply between 1960 and 1965.

These percentages measure the use of all methods of fertility control, including those known to be least effective in preventing conception. This is an important distinction, since the reliability of the method employed is crucial to whether or not an unwanted pregnancy is actually prevented. Findings of the 1965 National Fertility Study reveal widely varying 12-month failure rates for the different methods of contraception and the distribution of methods last used by married couples (Table 1).

While the pill was the most recent method used by 27 percent of U.S. couples who practiced contraception in 1965, nearly two out of five continued to rely on methods of doubtful effectiveness. Typically, couples in higher

socioeconomic groups, who can afford private medical care, tend to use the more reliable, medical methods of family planning, while parents in low-income groups, with less access to medical care, depend more on the less reliable, nonmedical, drugstore methods. This disparity stems in part from the structure of health care delivery in the United States—a medical economy that is dominated by private practice, in which the precondition for securing any health service, including medical family planning, has been the financial ability to employ a private physician. This disparity has been reinforced by the failure, for political reasons, of many publicly financed health services to provide consultation on and supplies for contraception. Although some of these agencies have begun to provide services in the last 5 years, these services are still scattered, less than efficient, and grossly inadequate to the need (10, 11).

Number and Timing Failures

It is evident that, within these general patterns, many couples do not achieve the degree of fertility control they wish, even though individual motivations for fertility control are subject to ambivalence and change with time. Couples who have more children than they say they want are classified as "number failures"; those who fail to have their children when they want them are described as "timing failures." In the National Fertility Study in 1965, more than half of all U.S. couples reported one or the other failure; about 20 percent of all couples reported at least one more child than they wanted, and about 40 percent reported at least one timing failure (12). Since the 1965 study was restricted to married women and does not report the incidence of induced abortion, and since many parents have a propensity for retroactively rationalizing unwanted births as "wanted," these estimates must significantly understate the extent to which U.S. couples fail in controlling their fertility. Even understated, however, it seems clear that unwanted pregnancy is a major problem and affects a large proportion of American women in the childbearing years (ages 15 to 44). Indeed, if social researchers had devoted significant attention to unwanted pregnancy and had conducted studies that permitted its consequences to be readily quantified in terms of mortality or morbidity, we

would probably be speaking of it as an "epidemic."

While failure to limit and time pregnancies is found among all socioeconomic groups, it is more prevalent among the poor, among nonwhites (the majority of whom are poor or nearpoor), and among women with higher parity and less education. Between 1960 and 1965, an estimated 15 percent of all births to nonpoor couples were unwanted, compared to 32 percent among low-income couples (2, p. 1179). The annual fertility rate (births per 1000 women) among low-income couples in this period was 153 births per 1000 women aged 15 to 44, 55 percent higher than the fertility rate of 98 among the nonpoor (13). In spite of the expressed preferences of lowincome parents for families with two to four children, nearly half of the children growing up in poverty in 1966 were members of families with five or more children under age 18; the incidence of poverty increased rapidly from 9 percent for families with one child to 42 percent for families with six or more children. In terms of poverty, the most significant demarcation appears to be at the level of three children, the number that low-income as well as other American couples say they want. More than 26 percent of all families with four or more children in 1966 were poor, and 40 percent were poor or near-poor; their incidence of poverty was 2.5 times that of families with three children or fewer (14). Since family size is one factor in the definition of poverty, these findings do not necessarily imply a causal relation between high fertility and poverty. Nevertheless, in the 1965 study poor couples reported that 34 to 56 percent of fourth births and above between 1960 and 1965 were unwanted at the time of conception (2, p. 1179).

Since the poor and near-poor constitute about 25 percent of the population, it is evident that their higher fertility is not the only or even the major factor responsible for U.S. population growth, which has been caused primarily by the fertility of middle-class American families. The importance of high fertility among the poor lies not so much in its contribution to the national birth rate as in the handicaps it imposes on the poor themselves.

A final factor establishing the setting for current efforts is the nature of the U.S. health care system. Most Americans are expected to receive their medical care from private physicians and to pay for the services they require. Organized service programs (usually in the form of clinics), subsidized by public or private funds, are established primarily to provide care for persons who cannot afford to pay for the medical care they need. This pattern is changing as a result of such new programs as Medicaid; however, most organized health services continue to be designed for, and utilized primarily by, low-income persons, and most public funds for health services go to programs designed primarily for low-income Americans.

Family Planning Programs in the United States

Organized U.S. family planning programs in both governmental and private sectors have been shaped by these basic factors. Programs in the United States differ from national family planning programs in developing countries in that there is no necessity to introduce family planning to the majority of fertile couples, since they practice it in some form already. In lieu of this objective, current programs have two principal goals.

1) For all couples of childbearing age: the reduction or elimination of unwanted pregnancy (and, for the small number who are sterile or subfecund, of involuntary infertility) and improved control of spacing. Toward these ends, efforts are being made to increase the efficiency of contraceptive practice by improving fertility control technology and its distribution and increasing medical understanding of reproductive physiology.

2) For low-income couples of child-bearing age: in addition to the first goal, a "catch-up" program to provide them with the same degree of access to effective methods of contraception as the nonpoor already have. This can be done by developing services that make family planning and infertility treatment readily available and financially accessible.

Table 2 presents these two programs schematically. It outlines the current fertility practices and the principal unmet family planning needs of low-income and nonpoor couples, and describes the major means in public and private sectors of meeting these needs. Nine distinguishable, intermediate objectives emerge; taken together, eight of them would comprise a comprehensive national program to reduce un-

wanted pregnancy, while the ninth would reduce unwanted births. In principle, the achievement of these intermediate objectives would take us a long way toward the elimination of unwanted pregnancy in the United States. For each objective, a brief assessment of current efforts and pressing needs, as well as a summary of the directions indicated for national policy and programming, follow.

Improvement of Contraceptive Technology

Given the near-universal use of some form of contraception among the nonpoor, the single most important means of helping these couples to control their fertility more successfully is thought to be the development of more efficient and acceptable methods of contraception. This will require considerable expansion of basic research in human reproductive physiology (which would also help to solve the problems of sterility and subfecundity), as well as studies to apply the findings to the development of safe and convenient techniques for controlling fertility. An adequate network of mission-oriented research institutions will need to be created, and capable scientists will need to be attracted to this field.

Because federal funds dominate the financing of medical research, there have been periodic calls for a large-scale federal program in the development of contraceptives to augment the limited funds that have been available from private foundations. In 1968, the National Institute of Child Health and Human Development began a modest program in this area.

It is estimated that in 1971 only \$53 million is available, from all public and private institutional sources in the entire Western world, to support research and training in reproductive biology and methods of contraception (15). This may be contrasted with the report of an expert task force, assembled by the National Institute of Child Health and Human Development in 1969, which estimated that, in 1971, \$197.2 million would be required for an effective program of biomedical research and training (and \$43.1 million for research in demography, behavior, and operations). The task force's report recommended that the field be expanded rapidly to reach a funding level of \$322.3 million in 1974 (Table 3) (16, p. 175). The Family Planning and Population Research Act of 1970 authorized \$145 million, above existing authorizations, for a 3-year research program, to begin in fiscal year (FY) 1971. The Administration, however, opposed a supplemental research appropriation for FY 1971 and has requested only \$10 million (out of the \$50 million authorized) in additional research funds for FY 1972.

Greater Involvement of Private Physicians

Some degree of improvement in the efficiency of the present practice of contraception could be anticipated if physicians would routinely offer instruction and guidance in family planning rather than wait, as they frequently do, for patients to request it. The periodic efforts of foundations and voluntary and professional associations to encourage effective instruction in family planning in medical and nursing schools and to stimulate interest in family planning among physicians, nurses, and students have met with uneven success. But little attention has been paid to structural factors in the organization and financing of health care that may affect the provision of family planning services. For example, private health insurance plans usually pay for very few of the routine costs of medical care, such as office visits, drugs, and laboratory tests, or for preventive services, which are the principal components of a family planning service. Even the financing of such surgical procedures as sterilization and abortion is often limited in private insurance policies (17). Such constraints on the delivery of family planning services should be clearly identified, as a first step toward determining appropriate remedies.

The question of coverage for family planning services must be given serious consideration in any national health insurance program that is adopted. The several bills already introduced appear to provide little or no coverage (18). The various national health insurance plans proposed by the Administration and by others should be analyzed in detail, in order to determine their probable impact on the financing of fertility control services (contraception, abortion, and sterilization). Only in this way can these proposals be considered on an informed basis as the national debate over health policy unfolds. If national policy has as its goal the re-

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Table 2.

Current and proposed means of meeting needs (not in order of priority)		Improvement of contraceptive technology through expansion of research Greater involvement of private physicians in the providing of family planning services Expansion of educational programs on family planning and population problems Removal of remaining policy and cultural barriers to delivery of services Repeal of abortion laws Increased availability of voluntary sterilization		Creation of an adequate network of organized family planning services coupled with recruitment programs to inform prospective parents Increase in public funding, to a level of \$300 million a year. Higher priority for family planning in health, welfare, antipoverty, and education programs Same as those (above) proposed for nonpoor women
Principal needs		Increased efficiency of contraceptive practices and methods, to eliminate or reduce unwanted pregnancy and improve control of spacing		Increased availability and accessibility of effective methods of contraception of contraceptive practices and methods, to eliminate or reduce unwanted pregnancy and improve control of spacing
Approximate incidence of excess fertility 1960-1965 (2, p. 1179) (No. and % of births)	s 15-44)	451,000 (15%)	ges 15–44)	329,000 (32%)
Major problems in fertility control	Nonpoor women (ages 15-44)	Moderate degree of excess fer- tillity (30) Timing failures (including out-of- wedlock conceptions)	Low-income women (ages 15-44)	Substantial degree of excess fertility Timing failures (including out-of- wedlock conceptions)
Current family planning practices	Non	Almost universal use of contraceptives; heavy use of more reliable methods (for example, pill, IUD, diaphragm)	Low-	Moderate use of contraceptives; dependence on less reliable methods (for example, douche, foam, with-drawal)
Primary sources of family planning services		Private physicians Private drugstores		Public and voluntary hospitals Public health departments Voluntary health agencies Private physicians (sometimes reimbursed with public funds) Antipoverty programs Private drugstores
Estimated annual number of potential users of contraception (29) (millions)		82		vo
Average annual fertility rate (13, p. 244) 1960-1965	-	98.1		152.5
Average number of women ages 15-44 1960-1965 (13, p. 244) (millions)		29.5		7.9

duction of unwanted pregnancy, a national health insurance program should facilitate this process, even if special coverage is necessary for fertility control services.

Expansion of Educational Programs

The expansion of informational and educational activities in the area of family planning and population, and in such related areas as family life and sexuality, is regarded by many as a necessary addition to a national program for fertility control. In recent years, the mass media have been increasingly used in this field, even in such ostensibly sensitive areas as information for patients on the availability of family planning and abortion services. These privately financed efforts suggest a potential for massive expansion, given adequate levels of funding (19).

At least one state (California) has adopted legislation that requires health departments to provide newlyweds with information on the availability and location of family planning services. The results of this law should be evaluated to determine its suitability as a model for other states.

Efforts to integrate courses and materials on family planning and population problems in the curricula of public schools have intensified, though they are still limited by the amount of private funds available and by conflicting goals among groups supporting these programs (20). There is, as yet, little evidence of interest or involvement on the part of the Office of Education or state and local school systems. A national effort in education on family planning and population problems would be analogous to the revisions, supported by the National Science Foundation and private foundations, of high school mathematics and science curricula during the 1950's; such a national program would require funding, over several years, of at least \$5 to \$15 million (21).

Removal of Remaining Policy and Cultural Barriers

In view of the recent finding that at least one-third of all first children are conceived before marriage (22), state and local legal, administrative, and cultural barriers to providing family planning to unmarried persons remain

a critical obstacle to the reduction of unwanted pregnancy. State laws in Massachusetts and Wisconsin prohibit the prescribing of contraceptives to unmarried persons. But in almost all states, laws and regulations regarding any medical treatment of minors without parental consent have been interpreted by many physicians and health agencies as limiting the prescription of contraceptives for unmarried persons (23).

In addition, community and professional attitudes in many areas regard contraception as inappropriate for unmarried persons. The result is that many unmarried minors gain access to medical family planning services only after having paid the penalty of at least one out-of-wedlock pregnancy. There is a trend in a number of states to adopt laws that permit some medical treatment of minors without parental consent, and this trend might be accelerated by appropriate federal activity. Adequate studies of the social and individual consequences of these laws would be useful to inform both public and legislative opinion.

Repeal of Abortion Laws

As long as contraceptive technology is imperfect, a comprehensive national system for the reduction of unwanted pregnancy will need to be backed up by abortion services that are available and accessible to those who need them. In the last 3 years, both the legal situation and public opinion on abortion have changed rapidly. Since 1967, legislatures in 12 states have modified their abortion laws, and abortion has become a matter between the doctor and the patient in four other states (legislative proposals for repeal or reform are pending in at least 35 states).

These actions are almost exclusively the result of local initiative. It is not certain how such federal programs as Medicaid or Maternity and Infant Care treat abortion services in states where they have been legalized. The Family Planning Services and Population Research Act of 1970 bans the use of its funds to finance abortions, but its conference report makes clear that this is intended only to reserve these funds for preventive services, not to constitute a prohibitive national policy on abortion. Competent studies are needed to assess the impact of legal abortion on fertility, illegitimacy, mortality, and morbidity; to determine the utilization of abortion by different segments of the population and the probable demand for abortion nationally; to identify constraints stemming from professional interests that vitiate the intent of the law; and to evaluate the most effective and safe arrangements for the delivery of abortion services. Studies such as these would provide the basis for an informed national policy on abortion, one which would comprehend both societal and individual interests.

Increased Availability of Voluntary Sterilization

The acceptability of voluntary sterilization has increased in the last decade. Utilization of this method of family limitation would probably increase further if administrative, professional, and financial obstacles were removed. To provide the basis for action at the national level to make sterilization more available and accessible, these constraints should be identified in laws; in policies and practices of hospitals, health departments, and public programs such as Medicaid; in health insurance policies; and in professional attitudes. In addition, research should be pressed to discover simpler, reversible sterilization techniques, since a reversible method would undoubtedly be the choice of many couples.

The above programs would seek to meet the overall needs of all fertile Americans. In the last 5 years, the acknowledgement that family planning services have long been denied to lowincome couples, despite their particularly acute problems of unwanted fertility, has led to a major additional program, one that more closely resembles the national family planning programs of other countries—that is, an effort to create an adequate network of facilities to provide effective family planning services for a defined population. Since health services for the poor are financed principally with public funds, this effort has become a major focus of governmental programming in this field.

The emergence of the federal family planning program was preceded by a series of local initiatives, beginning in the late 1950's, to remove legal or policy impediments to the provision of family planning services in tax-supported health institutions. A decade of state and local activity was followed

by the enactment in 1967 of the first positive federal legislation on domestic family planning. This legislation established family planning as one of eight "special emphasis" programs in the antipoverty program, earmarked at least 6 percent of federal maternal and child health funds for family planning service projects, and required that voluntary family planning services be offered to recipients of public assistance. Congressional action in 1970 in adopting the Family Planning Services and Population Research Act was intended to provide the additional resources necessary for an adequate national program.

Creation of an Adequate Network of Family Planning Services

In 1960, no more than 175,000 lowincome persons received effective family planning services through organized programs (which were, for the most part, privately financed). By 1968, the estimated enrollment in all organized, publicly and privately financed programs was 773,000 (10). In 1969—the first year in which as much as \$15 million in federal funds was actually being spent in local family planning projects-the estimated caseload increased to 1.1 million (11). Fragmentary reports from some agencies indicate that the increase has continued, leading to a projected service level during FY 1971 of 1.6 to 1.8 million patients. This would constitute about 30 percent of the 5 million fertile, low-income women who are estimated to be exposed to the risk of pregnancy, who are not pregnant or seeking a pregnancy, and who comprise the prospective national caseload for subsidized services. Analysis of census data on the characteristics of poor and nearpoor women of childbearing age indicates that, contrary to prevailing biases, in 1966 an estimated 70 percent of the 5 million were white, 63 percent lived in cities, and only 14 percent were recipients of public assistance.

In 1969, organized family planning services of some sort were provided in 1436 counties by 1177 local health departments, 505 public and voluntary hospitals, 146 Planned Parenthood affiliates, and 155 other agencies. Most of these programs are very small, serve very few patients, and appear to have few or no staff members who are specialists in family planning. No orga-

nized services could be identified in 1636 counties, where more than 1.1 million women in need of service live. Almost 1000 local health departments that provide some personal health services did not report that they provided family planning services in 1969; nor did 4100 nonprofit hospitals with maternity services, including hospitals that deliver about two-thirds of the births to low-income mothers. In 1970, about 400 local projects received grants from the Department of Health, Education, and Welfare (HEW) and the Office of Economic Opportunity (OEO) (11).

While some progress has been made toward the development of program planning methods, reporting systems, technical assistance, training, and operational research capability, the public and private infrastructure available to provide these key support services continues to be inadequate and underfinanced. A basic and urgent necessity is the rapid development of experienced, full-time cadres for the management and development of family planning programs in both public and private sectors.

Increase in Public Funding

The current cost of providing medical family planning services, including an average of two visits per year, supplies, and recruitment and educational activities, is about \$60 per patient per year. Since the number of potential patients in low-income groups is approximately 5 million, an estimated \$300 million would be required for an adequate national program. The combined HEW-OEO budgets for family planning service projects in FY 1971 total \$55.5 million. The newly enacted legislation authorized an additional \$40 million in FY 1971, but the Administration requested (and Congress approved) a supplemental appropriation of only \$6 million for service projects. Since the new legislation authorizes an additional \$110 million for services in FY 1973, federal funding could, theoretically, reach \$165.5 million by that time-more than half of the \$300 million required. This could only materialize, however, if existing HEW and OEO family planning funds are continued at the same level and if the full authorizations of Public Law 91-572 are requested and appropriated. The Administration's proposed budget for FY 1972 has requested only 60 percent of these authorizations for services and related training activities. Furthermore, there is considerable uncertainty over the future of the OEO family planning program; whether or not the funds that have been available through OEO for family planning projects will continue to be available if and when those projects are transferred to HEW is also problematic. The future of the OEO program needs to be clarified and the future availability of all current family planning funds guaranteed.

As of 1970, only a handful of states had appropriated state funds for family planning services—and these funds were relatively small. Since many local projects are experiencing considerable difficulty in finding the local funds required to match federal grants, major emphasis must be placed on encouraging states to appropriate their own funds to complement the federal effort. At the same time, governmental and civic leaders should encourage private philanthropy to expand significantly its support of the field, in order to facilitate the development of an adequate infrastructure for a national program.

Higher Priority for Family Planning

Apart from funding constraints, the major problems facing the field of family planning today stem from the low priority that has traditionally been assigned it in health, welfare, and related programs and by the relevant professions. Since 1968, some progress has been made; agencies have been established in HEW to administer both the services and the research programs, and the Office of Population Affairs has been given administrative authority over these programs. However, the current staffing of these agencies is clearly inadequate for a major national program. The Office of Population Affairs, headed by the deputy assistant secretary for population affairs, was established in 1970. It has four professional staff positions. The National Center for Family Planning Services was established in October 1969 to administer the HEW grant program for family planning service projects. During FY 1971, it had a professional staff of 41 and was able to place at least two full-time family planning specialists in each of the ten federal regional offices. These specialists will assist local programs. The Center for Population Research, established in 1968 in the National Institute of Child Health

Table 3. Proposed 5-year budget for population research by all American agencies. [From (16)]

Component	Dollars (millions) per year					
Component	1970	1971	1972	1973	1974	
Research projects		***************************************				
Development of contraceptives	89.2	133.7	164.5	169.5	169.5	
Medical effects of contraceptives now in use	8.8	11.0	13.3	14.8	15.8	
Population research in the social sciences	24.5	35.8	45.9	53.6	57.2	
Operational research	6.3	7.3	10.8	14.3	19.8	
Research training	20.0	25.0	26.0	28.0	30.0	
Population research centers						
Core support	13.4	16.0	20.0	18.5	17.0	
Construction	15.0	10.0	5.0	10.0	10.0	
Scientific and technical information	1.0	1.5	2.0	2.5	3.0	
Total	178.2	240.3	287.5	311.2	322.3	

and Human Development, administers the research program and is allotted 21 professional positions. The OEO Family Planning Program has seven professional positions in the headquarters office, but there are no full-time family planning specialists in OEO regional offices. Neither HEW's welfare administration (Social and Rehabilitation Service) nor its education arm (Office of Education) has more than one or two family planning specialists on its staff. Many individuals believe that the priority problem will not be solved until all family planning and population programs are administered by a single accountable agency, as was proposed in the original version of Public Law 91-572

At the state level, full-time family planning specialists are employed in the health or welfare departments of only a few states; where they have been appointed, they are typically one professional. In no state has there yet been established an adequate cadre for directing the development of a large-scale service network and for assisting local communities.

A national survey by City University of New York in 1970 showed that, despite the mandate of the 1967 Social Security amendments, state welfare departments have thus far done very little to provide family planning services to recipients of public assistance (24, p. 19). Providing the 25 percent local matching funds required under Title IV-A (Aid to Families with Dependent Children Social Services) appears to be a significant problem in many states. In the last version of the new Social Security bill, which passed the Senate before adjournment in 1970, the requirement for local matching for family planning was eliminated; instead, the full cost would be borne by the federal government.

Finally, the responsibility for current programs in family planning serv-

ices and population research is lodged in at least nine different congressional committees, making it difficult for Congress—and the public—to develop an adequate overview of the field. To remedy this, the establishment of standing congressional committees on family planning and population has been proposed, in order to provide a means of informing Congress and the public on the needs and opportunities in this field.

These, then, are some of the major steps that appear to be necessary if the United States is to become a society free of unwanted pregnancy. They share one common characteristic: each program element requires that our society devote more time, attention, energy, and funds to solving the problems of voluntary fertility control than it has heretofore; each suggests ways in which the prevention of unwanted pregnancy can become an objective of conscious national policy. The need for a comprehensive national program becomes even more urgent with the accumulating evidence of a rapid decline in the number of children young Americans want. Last January a survey of a cross section of young Americans aged 15 to 21 showed that 58 percent said they want two children or fewer (25, p. 26); only 5 years ago, a national study showed that 34 percent of married adults desired two children or fewer (9, table 3). While the two samples are not comparable, the recent poll nonetheless reflects a very remarkable change in attitude over a short period. Together with other data on the changing patterns of childbearing, it suggests strongly that tomorrow's parents are adopting fertility values very different from those of the post-World War II generation. Whether or not American youngsters will be able achieve their fertility objectives, however, will depend in no small measure on whether or not American society begins now to modify its priorities along some of the lines suggested here

In conclusion, an extremely important distinction should be made. The program described here has nothing in common with compulsory sterilization of welfare recipients or any other punitive program aimed at the poor or minority groups. It is the very antithesis of the kind of program suggested in January by Vice President Agnew, who called for "hard social judgments" to tell welfare mothers of three or four, "We will not be able to allow you to have any more chidren" (26). The program set forth here is built on voluntarism; it calls for public policies and programs to help give couples the opportunity to carry out their own fertility aspirations, not to tell them how many children they may or can have. The punitive program suggested by Agnew would be built on coercion; it would require policies and programs that are inhumane, unconstitutionaland unnecessary. The major constraint on the use of effective family planning by welfare recipients is the failure of our public health and social service institutions to devote real time, attention, and funds to the provision of family planning services. In those few areas where local agencies have developed energetic, imaginative, and dignified programs, the response among welfare clients has been considerable. The program outlined here would seek to modify national priorities in such a way that energetic, imaginative, and dignified programs become the norm in our health and social service institutions, not the rare exceptions that, unfortunately, they now are.

References and Notes

- C. F. Westoff and N. B. Ryder, in Fertility and Family Planning: A World View, S. J. Behrman, L. Corsa, Jr., R. Freedman, Eds. (University of Michigan Press, Ann Arbor, 1969).
- L. Bumpass and C. F. Westoff, Science 169, 1177 (1970).
- 3. The demographic effect of the elimination of unwanted pregnancy would be reduced to some extent in a "perfect contraceptive society" (2) by an increase in births to sterile or subfecund couples who say they want more children than they are able to have. This assumes that the means of remedying sterility or subfecundity will become better known as medical knowledge improves; the means of reducing unwanted pregnancy (through effective contraception backed up by abortion) are, of course, much better known and can be more quickly implemented.
- 4. B. Berelson, Stud. Fam. Plann. No. 38 (February 1969), p. 1
- ary 1969), p. 1.

 5. In the mid-1960's, the Social Security Administration formulated two definitions of low-income status—the "poverty" level and the "near-poverty" level [M. Orshansky, Soc. Security Bull. (January 1965), p. 3; ibid. (July 1965), p. 3]. Both levels were schedules of income thresholds based on family size; for

convenience, these schedules have been approximated by reference to the single income threshold for a nonfarm family of four. In this article, therefore, "near-poor" refers to those families falling below the near-poverty level (centered in 1966 on an income of \$4345 for a nonfarm family of four), while "poor" refers to those families that fall below the poverty level (centered in 1966 on an income of \$3335 for a nonfarm family of four). The term "low-income" is used to include both poor and near-poor. In addition to these stan-dards, there is the concept of "medical indigency," the term used to describe those families and individuals who cannot afford private medical care. Officially formulated medical indigency standards establish eligibility for publicly financed medical care and vary widely from state to state. In most states, the levels are quite low and are based on a concept of paying mainly for treatment of major illnesses. In the absence of a national standard of medical indigency, and particularly of one that would accurately define those who are deterred by lack of income from purchasing an elective, preventive health service such as family planning, there appears to be little choice but to adopt the Social Security Administration's near-poverty level to define medical indigency, although many health workers regard it as too low to identify realistically those who cannot afford private medical care.
6. H. Forssman and I. Thuwe, Acta Psychiat.

Scand. 42, 71 (1966). Scana. 44, 11 (1966).
 P. K. Whelpton, A. A. Campbell, J. E. Patterson, Fertility and Family Planning in the United States (Princeton University Press, Princeton, N.J., 1966).

- R. Freedman, P. K. Whelpton, A. A. Campbell, Family Planning, Sterility and Population Growth (McGraw-Hill, New York, 1959).
 N. B. Ryder and C. F. Westoff, Population Research (The Center for Population Research). Interest of Child Meether and Child Meethe
- National Institute of Child Health and Human Development, Washington, D.C., 1969). National
- 10. U.S. Office of Economic Opportunity, Need for Subsidized Family Planning Services:

 United States, Each State and County, 1968
 (Government Printing Office, Washington,
- D.C., 1969).
 J. Dryfoos, F. S. Jaffe, D. R. Weintraub, J. P. Cobb, C. J. Bernsohn Perspect. 3, 29 (April 1971). Bernsohn, Fam. Plann.
- N. B. Ryder and C. F. Westoff, Demography
 435 (1969).
- 13. A. A. Campbell, J. Marriage Fam. 30, 236 (May 1968).
- 14. Derived from M. Orshansky [Soc. Security Bull. (March 1968), table 4, p. 3].

 15. O. Harkavy and J. Maier, Fam. Plann, Per-
- spect. 3, 15 (July 1971).
 "Population research: a prospectus" (report to the Assistant Secretary for Health and Scientific Affairs, Department of Health, Education, and Welfare, 25 October 1969) [in U.S. House of Representatives, Committee on Interstate and Foreign Commerce, Hearings on Family Planning Services (91st Congr. 2nd sess., 1970), p. 175].

 17. C. F. Muller, Fam. Plann. Perspect. 2, 12 (October 1970).

- (October 1970).

 18, J. I. Rosoff, *ibid*. 3, 50 (July 1971).

 19. W. Schramm, *Rep. Popul./Fam. Plann. No.* 7 (April 1971), p. 1.

 20. *Popul. Bull.* 26, 3 (1971).
- 21. J. I. Goodlad, School Curriculum Reform in

- the United States (Fund for the Advancement of Education, New York, 1964).
- 22. U.S. Department of Health, Education, and Welfare, Mon. Vital Stat. Rep. (Suppl.) 18,
- 23. H. F. Pilpel and N. F. Wechsler, Fam. Plann. Perspect. 3, 37 (July 1971).
- Perspect. 3, 37 (July 1971).
 24. U.S. Department of Health, Education, and Welfare, Services to AFDC Families—First Annual Report (Government Printing Office, Washington, D.C., 1970).
 25. Life, 8 January 1971, p. 22.
 26. New York Times, 15 January 1971, p. 15.
 27. L. A. Westoff and C. F. Westoff, From Now to Zero (Little, Brown, Boston, 1971), p. 69.
 28. C. F. Westoff and N. B. Ryder, Reproduction in the United States: 1965, in press.
 29. Estimates of potential users of contraception

- 29. Estimates of potential users of contraception among the nonpoor are based on the procedures and assumptions employed by Campbell (13, p. 240). He deducts from the total in the age group those women who are not exposed to risk of pregnancy, who are sterile, and who are pregnant or seeking pregnancy. For the poor and near-poor, Campbell arrives at an estimate of 4.6 million. The Dryfoos-Polgar-Varky formula, which is basically similar to Campbell's but differs on some assumptions, estimates that 5.3 million women among the poor and near-poor need sub-sidized family planning services. The figure
- used in the table for poor and near-poor averages out the two estimates.

 30 "Excess fertility," following the concept employed in the 1965 National Fertility Study, is the medium estimate of births that were unwanted at conception by either one or both

NEWS AND COMMENT

Cancer Politics: NIH Backers Mount Late Defense in House

The tussle to wrest control of cancer research away from the National Institutes of Health has moved from the Senate to the lobbies and committee rooms of the House. In July, a bill to set up the National Cancer Institute as an agency virtually independent of the NIH swept through the Senate by a 79 to 1 vote, and seemed assured of an equally decisive victory in the House.

The tide was abruptly stemmed last month when Representative Paul G. Rogers (D-Fla.), chairman of the House Subcommittee on Public Health and the Environment, introduced a counterbill cosponsored by a majority of his subcommittee. Whatever compromise emerges in the next few weeks between the Rogers bill and that passed by the Senate may radically affect the long-term future of biomedical research, insofar as the progress of science is subject to administrative influences.

Few issues have so united the biomedical community as the proposal to

remove the National Cancer Institute from NIH and establish a NASA-like agency charged with conquering cancer in the same way the moon was conquered. No major scientific body, apart from the American Cancer Society, supports the proposal, and numerous organizations from the National Academy of Sciences downward have spoken out against it. Opening hearings on cancer legislation last month, Rogers displayed a 3-inch stack of letters he had received from scientists and scientific organizations protesting the bill passed by the Senate. The mobilization of scientific opinion came too late to influence the course of events in the Senate, and it may be too small to prevail in the House against the ill-assorted but powerful alliance backing the Senate-passed bill.

The first public surfacing of the proposal for a separate cancer agency was a report produced last November by the National Panel of Consultants on the Conquest of Cancer, a group appointed by the then chairman of the Senate health subcommittee, Ralph W. Yarborough (D-Tex.). Stimulus for setting up the panel came from the New York millionairess and philanthropist Mary Lasker, the surviving, fully active member of the remarkable quartet that orchestrated the growth of the NIH's budget from \$2.5 million in 1945 to nearly \$1.5 billion by the late 1960's. Her chief partners in this enterprise were the late Representative John E. Fogarty of Rhode Island and former Senator Lister Hill of Alabama, chairmen of the appropriations subcommittees in the House and Senate that deal with the NIH budget. The fourth member of the team was James Shannon, director of the NIH from 1955 until his retirement in 1968.

Although Mrs. Lasker and Shannon worked in concert to increase congressional appropriations for health research each year, they frequently disagreed over the direction of research, Mrs. Lasker and her allies tending to emphasize applied over basic research and the need to translate research results into methods of treating patients. In particular, as a member of the National Advisory Cancer Council, which reviews the grant programs of the National Cancer Institute (NCI), Mrs. Lasker used to argue for larger budgets for cancer research than Shannon thought could usefully be spent.