Programa Graduado de Demografía
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POPULATION GROWTH - A Community Health Problem in Puerto Rico

The Situation

Puerto Rico is an island located in the Caribbean Sea approximately 1,100 miles southeast of Miami, Florida. It is 100 miles long and 34 miles wide (an area of 3400 sq.mi.) harboring a population of approximately 2,300,000 inhabitants, which represents a density of population of 735 persons per square mile. It ranks third in the overpopulated areas of the world, being outranked only by Java and Japan.

The Problem

The above-mentioned situation is the result of the problem of population growth in Puerto Rico. The following descriptive statistics are evidence of the existence of the problem:

YEAR	MIDYEAR POP.	DEATH RATE	BIRTH RATE
1900	971,234	36.9	20.5
1905	1,050,218	20.1	30.7
1910	1,121,913	23.8	33.6
1915	1,215,543	20.7	37.2
1920	1,311,621	22.8	38.4
1925	1,429,735	23.4	37.1
1930	1,551,837	18.6	35.2
1935	1,710,326	18.0	39.5
1940	1,877,791	18.4	38.5
1945	2,048,515	14.1	42.3
1950	2,207,000	9.9	38.7
1955	2,264,000	7.2	35.0
1958	2,317,000	7.0	32.7

As clearly seen above the marked decrease in death rate with no significant change in the birth rate picture has resulted in a widening of the demographic gap to such an extent that we are faced at present with a very serious public health problem of population growth.

Total Births by Age of Mother and Fertility Rate (1) per 1000 Pop.
Puerto Rico: Years, 1958, 1954, 1950, 1946

Age of Mother	1958		1954		1950		1946	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Total	75697	96.9	78008	107.3	85455	123.2	88723	133.4
15 yrs.	89	0.6	72	0.5	46	0.3	36	0.3
15-19 "	11551	104.3	11131	95.7	11028	98.9	10248	93.5
20-24 "	25030	291.1	25177	254.5	28360	280.0	30384	296.1
25-29 "	17280	202.7	18176	220.3	21070	258.7	22022	277.2
30-34 "	10826	133.1	11796	160.3	12854	196.0	13916	233.1
35-39 "	7728	103.9	8560	132.0	9397	143.7	9516	158.0
40-44 "	2648	41.5	2630	48.0	2310	52.1	2204	51.2
45-49 "	524	9.7	443	10.4	408	11.5	373	10.7
50-54 "	17	0.4	20	0.6	**	**	24	0.5
55 plus	4	0.1	3	0.1	**	**	*	*

(1) Number of births per thousand women in the age groups.
* Included in 50 yrs. or more.
** Included in 45 yrs. or more.

Epidemiological Analysis

There are several factors involved in the cause of population growth in Puerto Rico:

1. Cultural pattern.

Puerto Rico was a colony of Spain until the year 1898 when it became an American territory as war booty of the Spanish-American War. Its culture has been, therefore, entirely Spanish throughout its history. As in other Spanish cultures there is dominance of the male and submission of the female. This added to the extreme shyness our women as far as pudor is concerned, has contributed significantly to the failure of a birth control program. Our women find it embarrassing to go to the health facilities available in search of contraceptives and family-planning advise.

2. Male fear of sterility.

Puerto Rican men, as other men of Spanish ancestry, are highly conscious of their virility and waste no effort in manifesting it in different ways. "A boy becomes a "man" when he procreates." One way of proving his virility is by having children, and a married man without children is laughed at. Although men ordinarily have sexual experiences before marriage, these randevouz are usually with women of ill-repute. Only by marrying and having children they give manifest proof of their manhood. "I was anxious to have my first child to see if I was sterile or not, because one has to avoid children with other women before marriage."

3. Large families versus small families.

Although there is increased interest in reducing the family size, there is a general feeling that a man with many children will have security in his old age because his off-spring will fulfill his basic human needs, a kind of social security. Another factor encouraging large families is the one concerned with jealousy. In Puerto Rico we have the double standard of sexual behavior. Men are extremely jealous of their wives, and these, in turn, are very unsure of their husbands. Many people feel that having many children will tie down their mates and will insure fidelity.

4. Religion

As in other Catholic countries, the Church in Puerto Rico officially opposes birth control. However, most people do not regard Church opposition as a reason for not controlling family size. In Dr. Hatt's survey, 87% of those interviewed express their right to control family size if they wished to do so. Other studies done in Puerto Rico showed that specifically religious reasons for not practicing birth control are those least frequently cited. Nevertheless, it is a contributing factor to the problem of population growth to a certain extent.

5. Male authority

Some men object to their wives" use of contraceptives because they feel it interferes with their authority which in a Spanish culture is bestowed on the male. The male may have extramarital affairs, but his wife is forbidden to do so. It is the man who determines when, how and how frequently a couple is going to have sexual relations. So, he considers that birth control is under his realm. On the other hand, he himself objects to use contraceptives because he associates them with prostitutes. He considers that condoms belong to the "red light district" and that they should not be used with his wife.

There are many other factors like fear of infidelity, fear of cancer, (contraceptives are often thought of as a cause of cancer), and interference with sexual pleasure that have contributed to the failure of the various attempts to control population growth by means of contraception.

6. Improved health conditions.

There has been a marked improvement in the general health conditions in Puerto Rico as a result of effective public health measures. These have reduced the morbidity a and mortality rates dramatically.

Studies Carried Out

Several studies have been made in Puerto Rico in relation with fertility and population growth. The main ones are:

1. Backgrounds of Human Fertility in Puerto Rico, published by the University Press, Princeton, 1952, by Dr. Paul K. Hatt.
2. Family and Fertility in Puerto Rico, published in the American Sociological Review, in October 1952, Vol. 17, by Dr. J. Mayone Stykos.
3. Cultural Checks on Birth Control Used in Puerto Rico, (The Interrelations of Demographic, Economic, and Social Problems in Selected Underdeveloped Areas). Proceedings of a Round Table at the 1953 Annual Conference of the Milbank Memorial Fund, 1954, pp. 55-65.

Levels of Prevention; Control Measures

It is in the lower socio-economic group of the population where we must apply control measures; where ignorance, illiteracy, superstition and social apathy are predominant.

1. Health promotion measures

Through education and increased recreational facilities and activities we can promote the mental health of the adult population and render them more cognizant of the seriousness of the problem. At the same time, better housing and improved nutrition will contribute to the

elevation of their physical and mental health and will render the population more receptive to educational campaign.

2. Protective measures.

There are several protective measures against population growth, but the most effective and feasible one is that of birth control. This may be achieved through several methods, viz.:

a. Rhythm-

This is not a practical measure because it is rather difficult for a person of low educational level to determine ovulation time, and it is precisely to the ignorant group at which we must direct our protective measures.

b. Diaphragms-

These are more effective and easier to manipulate. One the physician takes the measurements (diaphragm fitting) the nurse instructs the patient how to use it.

c. Condoms-

These are cheaper and effective, but the success of their use depends upon an effective educational campaign in the male population.

d. Contraceptive jellies-

These are cheaper and effective and easily applied. There has been few objections to their use.

e. Oral contraceptives-

These are still on experimental stage, and very expensive as yet.

f. Tube Ligation -

This is considered too radical and is bound to arouse strong opposition because of its moral and spiritual implications.

3. Early diagnosis - case finding

This can be achieved through prenatal clinics, post-partum clinics, hospitals, civic organizations, voluntary agencies and patients' own volition. All of these are good sources of case finding. There is a wealth of case finding facilities in the public health units and hospital obstetrical and gynecological wards.

4. Treatment

The effectiveness of the treatment depends, not only in the number of women or families reached, but in the education involved in the process of instituting birth control. The earlier the education of the population is accomplished, the more effective the control program is. It is in high schools with an adolescent population that our educational campaign must start; adapted of course to the age group. However, all age groups should be included. One must bear in mind that education has to be a continuous process in order to prevent relapses in a situation like ours.

Contraception must be done systematically, continuously and with simultaneous education. Motivation of the individual is essential in the control plan.

Environment

The immediate environment surrounding families in their social and sexual activities is controlled to a certain extent by proper housing facilities with

adequate sleeping quarters. Families that are clustered together as a result of lack of space are more exposed to conception. Recreational activities including sports contribute to the proper channeling of human drives and help in the control of the environment.

Practicability of Possible Plans for Control

A. Dissemination of knowledge of the situation:

Although almost every Puerto Rican knows about population growth in the island, the lower class is not aware of the seriousness of the problem nor of its public health implications. It is vital that this group be reached, not only in terms of the welfare of the community, but in terms of the individual's welfare.

B. Cost of control versus cost of no control:

It can be clearly seen that it is much cheaper to control population growth than it is to maintain a growing population; not only from the financial point of view, but from the social and health points of view.

C. Facilities, personnel, supplies and transportation:

There are enough health facilities (78 Public Health Units, 33 Health Centers, Municipal Hospitals,etc.) and interested government and voluntary agencies to provide locale, equipment, supplies, personnel and transportation to make control plans feasible.

D. Public reaction:

Almost everybody is conscious of the need of reducing family size and controlling population growth in Puerto Rico. In recent years, with the advent of industrialization, the awareness of the problem has increased because both partners are in the labor force and they cannot afford to take care of a large family. Social mobilization has increased tremendously, and there has been a

great deal of movement of people from one community to another as well as to the continental United States. These factors obviously tend to impose a limit to the size of the family. As family income increases and families acquire utilities and facilities in their homes (refrigerators, television sets,etc.), so does the motivation to refrain from having too many children. There is, therefore, favorable ground for a positive public reaction to our control program.

It is my opinion that due to an increasing awareness of the need for the control program severe criticism would arise from the public were we not to establish such.

E. Time required to produce significant changes:

Although education is a gradual process and it takes relatively a long time to produce significant changes, in our case it is a matter of intensifying and extending the educational campaign. We have seen already favorable changes with previous attempts to solve the problem, and it is a question of motivating and mobilizing all resources available. I consider that within a period of five to ten years significant changes should be observed.

F. Permanency of improvement:

Once control of population growth is achieved, it is most likely to be permanent. That does not mean that we, as public health officers, should ever forget the importance of maintaining control. I consider it a public health program that should never be neglected.

G. Contribution to the solution of other problems:

With control of population growth other major problems will be solved. Malnutrition, one of the most serious problems in Puerto Rico, would be greatly helped if not solved completely. Maternal and infant mortality and morbidity would be reduced. The problem of tuberculosis would also be helped. In my opinion,

control will contribute to the solution of all other problems, and I cannot think of any that could be created.

H. Satisfactory evaluation:

Results of the control program can be evaluated satisfactorily through reports of vital statistics. Birth and death registrations added to census figures can give us enough information regarding the results of our endeavours. Periodic results from all agencies involved in the rendering of services, together with periodic visits to the field, are good evaluation tools.

Factors Determining Priority

1. Although there are no legal requirements for the rendering of a control program, there is legislation to the effect in Puerto Rico whereby the Department of Health is authorized to establish a program of birth control based on medical reasons. This includes tube ligation.

2. The density of population and the rate of population growth is such that it has the connotations of an epidemic and even of a disaster. It is indeed disasterous and alarming to see an increasing population in a tiny island 3400 sq. miles in area in spite of legislation and in spite of all efforts made to the present time. I consider it one of the most important, if not the most important, health problem in Puerto Rico.

3. In a balanced health program it should be considered there always to be a population control program. It is populations that a public health program is aimed at, and when those populations grow in proportions that threaten the effectiveness of the overall health program, it is most essential to take control measures.

4. Every public health unit, health center, government hospital or any other health agency (voluntary or otherwise) should pool its technical and human [illegible]

resources in an organized program of population growth control. It is not a problem that pertains only to economists or social workers; it is a public health problem of concern to everybody. The success of such a program is doubtlessly going to have an essential bearing in the solution of other problems. For this reason it should be given priority.

Implementing The Control Program

I. The objectives of the control program for population growth are:

1. To provide care to the potential mother (from puberty to menopause) and prepare her for future pregnancies, from the physical, emotional and social aspects.

2. To educate families and render them aware of the importance of the spacing of pregnancies and family planning.

3. By means of the above two objectives we aim to control population growth.

All community resources, including private and voluntary agencies will be utilized.

The Maternal and Child Health Bureau will be responsible for the establishment of policies, standards and procedures in regard to program content. It will also be responsible for the periodic evaluation of the program. But it will be the responsibility of the district health officers to carry out the services. The M.C.H. Bureau will serve in the capacity of consultant to the local personnel and will offer technical advise whenever such is requested by the health officers and allied professional personnel.

Steps Toward Community Approval and Cooperation

A. The Public

1. Population growth control will be attained mainly through the promotion of

the health of our mothers. Contraceptives will be used as a method of prevention of conditions that render pregnancy and obstetrical risk, that threatens the lives of our mothers and shortens their life span.

The Prematural Program will focus on the spacing of pregnancies as a vital component of the MCH Program and will make it possible to provide continuous and complete maternity care to our mothers throughout the maternity cycle from puberty to menopause, especially during the non-pregnant state where real preventive medicine can be achieved. The care of the potential mother is directed to prepare her for future pregnancies from the physical, mental, emotional and social point of view with the ulterior motive of preventing conception in an undermined body and soul.

2. The MCH Bureau, in cooperation with the Bureau of Health Education and other health and community resources will prepare pamphlets, charts and other visual aids which together with conferences and other teaching procedures will educate the public as to the objectives and purposes of the program.

B. The Agency

1. The MCH staff which has organized this control plan will meet with other disciplines of the health department (Nursing, Medical Social Work, Nutrition, Mental Health, Health Education) and after an agreement is reached the plan will be presented to the Secretary of Health for approval.

2. No legal authorization is required, inasmuch as there is already a law in vigor that authorizes the department to establish such a program.

3. All disciplines and divisions of the department of health will be included in the planning and organization of the program. Coordination with them will be insured before operations are started.

4. Priority is to be given to the program in all general community activities. Every opportunity will be utilized to insure good communication to the public. It is vital that the agency become aware of the need of this priority.

5. Necessary funds needed for the establishment of the program will be appropriated. These will provide for salaries of professional and non-professional personnel, supplies and equipment, transportation and other contractual services.

C. Other Health Agencies

1. The health planning committee of each sanitary district will participate in the organizing activities of the program; with this the support will be insured. The The Mayor of each municipality will be a participant of this meeting as well as the other key members of the community.

2. All health professions will also participate. Members of each profession will be invited to share in the organizational activities. Local medical societies as well as nursing groups have a very strong influence in the community and their cooperation is essential for the success of the program.

3. The Planned Parenthood Committee as well as the Sociedad Pro-Bienestar de la Familia will be included in all of the activities. Close cooperation with them is necessary. Other voluntary agencies of the community will also be [illegible] included in all plans.

Putting the Plan Into Action

A. Organization

I. Job to be done

A Pre-Maternal-Gynecological Program is to be carried out in every public health unit, sub-unit, health center, and district hospital in Puerto Rico. This program will not only pursue the objective of promoting the health of our mothers

and children, but will ultimately result in the control of population growth in the island. The MCH Bureau will be responsible for the establishment of policies, standards and procedures, and will act in the capacity of consultant, while the local health officers will be responsible for the carrying out of the program.

One weekly session at least will be held in each public health unit, sub-unit, health center or hospital for the purpose of taking histories, performing physical examinations, doing the required laboratory work, providing contraceptive counselling and advise, and treating condition encountered in the physical examination. Contraceptive material will be provided to patients in such clinics as a method of prevention of any condition that does not warrant a pregnancy lest it results in a threat to the physical and emotional health and lives of the mothers and children.

Monthly reports will be sent by each clinical facility to the MCH Bureau in the printed forms issued for that purpose. The Bureau will provide consultation services to the local health personnel whenever requested.

Evaluation of the program will be carried out by the central office.

2. Program Director

A medical director will be appointed who will act as coordinator, supervisor, educator and administrator of the program. He will be responsible to the MCH Bureau for all the program activities.

3. Work Units and Work Team

There will be a physician in charge of each clinic. A staff nurse will be assigned to the clinic and the medical social worker, the nutritionist and the health educator attached to the unit will devote part of their time to the program.

B. Control of Finance

The control of finance at the present will be at the central office of the MCH

Bureau. When decentralization is accomplished the financial control will be in the hands of the District Health Directors.

C. Personnel Management

1. Job analysis; job specifications

A. Director of the program

Required specifications: He must be a graduate of a recognized school of medicine, duly licensed to practice medicine in the Commonwealth of Puerto Rico and a board member or a board candidate in Obstetrics. Experience: He must have at least three years of experience in the practice of Public Health. Desirable qualifications: good human relations, leadership and ability to work in groups.

B. Clinicians should be graduates of a recognized school of medicine and be licensed to practice medicine by the Board of Medical Examiners of Puerto Rico. Some experience in the field of Obstetrics and in Public Health Practice. The same desirable qualities as those for the director of the program.

C. Nurses - those specifications of a regular staff public health nurse.

2. Salary Scales

The medical director should have the basic salary of a Physician V (at the level of medical consultant) - $700 monthly or 8400 per year. The clinicians should be appointed on a fee-basis ($12 per clinic session.)

3. Recruitment

Local physicians in the community can be recruited through motivation in regards to the need for the program and the priority given to it. Personal interviews held by the director with local doctors are valuable. In these interviews the director can explain in detail the objectives and the needs of the program.

4. Orientation and Training

Clinicians (fee-basis physicians), nurses and other health personnel will receive in-service training as necessarily deemed so by the evaluating body. It will be done in the field at a local level by moving the central team to the clinical facilities or it can be done at a central level in the Demonstration Center.

An original short orientation course will be offered at the Nurse-Midwife Training Center for physicians since here we have a demonstration clinic fully equipped and staffed. Besides the in-service training, authorities and consultants both from Puerto Rico and from abroad with vast experience in the field will be brought in as needed.

D. Housing Space

An appropriate, adequate space will be provided in the health facilities to carry out the clinic session. One morning or one afternoon will be reserved for the performance of the clinic. Besides, a space for the medical interview and nursing interviews will be made available.

E. Equipment and Supplies

The MCH Bureau will provide the necessary equipment and supplies to run the services, including contraceptive materials, electric cautery, drugs and medicines needed for office gynecology treatment, sheets, etc.

F. Transportation

Funds will be provided by the central office for transportation (allowances per personally owned automobiles - 8 cents a mile) for the central consulting staff who travel to the field.

G. Procedures

1. Purpose - The purpose of the program is to provide care to all potential mothers regardless of creed, race, economic or social status, and it aims to

prepare them for future pregnancies from the physical, emotional, social and spiritual aspects.

2. Existing related procedures : Similar procedures to those of the prenatal and postnatal services will be followed especially in regards to the number of patients to be seen in clinics to medical and nursing interviews, educational activities, etc.

3. Flow of work: Five new patients will be admitted and fifteen revisits will be taken care of in each session. A complete history and physical examination will be done on each new patient and a thorough interview will be made and all patients will be thoroughly interviewed by the nurse, as a result of which recommendations by the nurse to the doctor will be made. Upon admission complete laboratory work will be done on each patient. Additional laboratory work as recommended by the physician in charge will be done according to the facilities available. X-rays of the chest will be done routinely on each admission. Appointments for revisits will be given by the physician according to the patient's condition. Referrals to other services will also be made by the physician by means of printed official forms. Educational activities including conferences, films, group discussions, etc. will be carried out by the entire health team regularly in the clinic. Parent classes will include advise in regard to spacing of pregnancies and family planning. Post clinic conferences will be held by the staff.

4. Filing methods: Files will be kept in order at all times. Patients in the active status should be kept in a separate file form those in the inactive status. The discharge of patients will be done for the following reasons: death, moving from the community, pregnancy, sterilization, and those that cannot be traced. A case number will be assigned to every patient and a separate index file will be

kept with the necessary (key) information on each patient.

5. Records: There will be a record form and a record card issued by the bureau for these services. The record form will include a complete medical history, physical examination, recommendations by the physician and follow-up sheet for the recordings of the revisits.

6. Each authority concerned in the development of these services will impart its approval to the program.

7. Test control procedures: After a reasonable period of time the control procedures will be tested by the central office and allied disciplines.

8. Operation manual: An operation manual will be distributed by the M.C.H. Bureau to all clinical facilities rendering these services. It will serve as a guide for the performance of the services and will help the local personnel to conform to the policies and standards established. It will serve as a tool to give uniformity to the services.

H. Public relations

All groups and organizations know to exist in the community will be participating in the program. Social and business clubs and organizations will always be considered.

Groups and organizations in the community will be classified as follows:

1. Top level (for prestige, political, professional and financial support): Government officials, Medical Society, influential citizens, and business and industry.

2. Middle level (for influencing opinions of large key citizen groups: Unions.

3. Lower level (for neighborhood or individual contacts): Labor locals, veterans organization, fraternal organizations, opinionleaders, etc.

4. Schools: High schools.

The health officer has a vitally important public relations position; he must be practical in his procedure. He should be a member of the Medical Society and of the Public Health Committee.

4. Evaluation

I. Periodic evaluation of the program will be done by the M.C.H. Bureau and allied disciplines through reports, field visits and statistical studies. The Bureau of Vital Statistics will play a major role in the evaluating procedures.

II. Final evaluation of accomplishment will be done when there is enough evidence that the demographic gap has been filled and population growth has been controlled.

III. Research

Research studies will be made in order to develop improved methods of control. At present the development of oral contraceptives promises to be a good field of research and as time passes on a lot more will be known regarding methods of population growth control.

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