CURRENCY EQUIVALENTS

Currency Unit = Sucre (S/)

    = $/ 95 (1985)
    = $/ 110 (June 1986)

WEIGHTS AND MEASURES

Metric System

MAIN ACRONYMS AND TERMS USED IN THE REPORT

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FISCAL YEAR

January 1 - December 31
Main Acronyms and Terms Used in the Report

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<th>Full Form</th>
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<tbody>
<tr>
<td>AFEME</td>
<td>Asociacion Ecuatoriana de Facultades de Medicina (Ecuadorean Association of Medical Schools)</td>
</tr>
<tr>
<td>APROFE</td>
<td>Asociacion Pro-Bienestar de la Familia Ecuatoriana (Association for the Welfare of the Ecuadorean Family)</td>
</tr>
<tr>
<td>CRAS</td>
<td>Centro de Estudios y Asesoria en Salud (Center for Studies and Consulting in Health)</td>
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<tr>
<td>CELADE</td>
<td>Centro Latinoamericano de Demografia (Latin American Demographic Center)</td>
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<tr>
<td>CEMOPLAF</td>
<td>Centro Medico de Orientacion y Planificacion Familiar (Medical Center for Family Planning)</td>
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<tr>
<td>CEPAL</td>
<td>Comision Economica para America Latina y el Caribe (Economic Commission for Latin America and the Caribbean)</td>
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<tr>
<td>CEPAR</td>
<td>Centro de Estudios de Poblacion y Paternidad Responsable (Center for the Study of Population and Responsible Parenthood)</td>
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<tr>
<td>CONACYT</td>
<td>Consejo Nacional de Ciencia y Tecnologia (National Council on Science and Technology)</td>
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<td>CONADE</td>
<td>Consejo Nacional de Desarrollo (National Development Council)</td>
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<tr>
<td>CONEC</td>
<td>Consejo Nacional de Estatisticas y Censos (National Council of Statistics and Census)</td>
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<tr>
<td>CPS</td>
<td>Contraceptive Prevalence Survey</td>
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<td>FPIA</td>
<td>Family Planning International Assistance</td>
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<td>IDB</td>
<td>Inter-American Development Bank</td>
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<td>IEC</td>
<td>Information, Education and Communication</td>
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<td>IEOS</td>
<td>Instituto Ecuatoriano de Obras Sanitarias (Ecuadorean Institute of Sanitary Works)</td>
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<tr>
<td>IESS</td>
<td>Instituto Ecuatoriano de Seguridad Social (Ecuadorean Social Security Institute)</td>
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<tr>
<td>IESS/MS</td>
<td>Medical-Social Directorate of IESS</td>
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<td>IESS/SSC</td>
<td>Seguro Social Campesino of IESS (Rural Social Security Directorate of IESS)</td>
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<tr>
<td>IIFM</td>
<td>Instituto de Investigaciones Facultad de Ciencias Medicas (Medical Sciences School Research Institute)</td>
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<td>Acronym</td>
<td>Full Name</td>
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<tr>
<td>INEC</td>
<td>Instituto Nacional de Estadisticas y Censos (National Institute of Statistics and Census)</td>
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<tr>
<td>ININMS</td>
<td>Instituto Nacional de Investigaciones Nutricionales y Medico Sociales (Institute of Nutrition Research and Social Medicine)</td>
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<tr>
<td>IPPF</td>
<td>International Planned Parenthood Federation</td>
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<tr>
<td>JBG</td>
<td>Junta de Beneficencia de Guayaquil (Guayaquil Welfare Board)</td>
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<tr>
<td>MCH</td>
<td>Maternal and Child Health</td>
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<td>MOE</td>
<td>Ministry of Education</td>
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<td>MOF</td>
<td>Ministry of Finance</td>
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<td>MOPH</td>
<td>Ministry of Public Health</td>
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<td>NGO</td>
<td>Non Governmental Organizations</td>
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<td>NHC</td>
<td>Consejo Nacional de Salud (National Health Council)</td>
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<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
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<tr>
<td>PAAMI</td>
<td>Programa de Asistencia Alimentaria Materno Infantil (Maternal and Infant Food Supplement Program)</td>
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<tr>
<td>PAHO</td>
<td>Pan-American Health Organization</td>
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<td>PHC</td>
<td>Primary Health Care</td>
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<td>PREMI</td>
<td>Programa de Reduccion de la Mortalidad Infantil (Infant Mortality Reduction Program)</td>
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<tr>
<td>SNEM</td>
<td>Servicio Nacional de Erradicacion de la Malaria (National Service for Malaria Eradication)</td>
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<tr>
<td>SOLCA</td>
<td>Sociedad de Lucha contra el Cancer (Cancer Institute)</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Program</td>
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<td>UNFPA</td>
<td>United Nations Fund for Population Activities</td>
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<td>UNICEF</td>
<td>United Nations International Children Emergency Fund</td>
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<td>USAID</td>
<td>United States Agency for International Development</td>
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<tr>
<td>WFP</td>
<td>World Food Program</td>
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<td>WFS</td>
<td>World Fertility Survey</td>
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ECUADOR
Population, Health and Nutrition Sector Review

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Executive Summary

1. During Ecuador's petroleum boom (1972-82) per capita product grew by more than seven percent per annum but it grew much more slowly during the next three years. In 1983 it stood at US $1,420 (WDR). The dramatic fall in oil prices in early 1986 will cause a severe loss of income and require major efforts to overcome foreign exchange constraints. The earlier rapid growth had permitted expansion of public sector delivery of population, health and nutrition services. The country developed a national network of health care facilities, increased the output of medical graduates and nurse auxiliaries, established a Ministry of Public Health, created a program to reach disadvantaged farm workers as part of its Social Security system, and legislated compulsory one-year rural service for medical, dental and nursing school graduates. More importantly, it registered a decrease in infant, child and adult mortality, in birth rates, and it increased life expectancy. Fertility rates started their decline as the use of contraceptives increased. Unfortunately, health conditions have worsened during the recent economic recession and rural, indigenous and low-income populations have been particularly hard hit. The February 1986 drop in oil prices will necessitate a review of public investment and does not augur well for a quick reversal of the deteriorating trends.

Population, Health and Nutrition Status

2. Ecuador's population grew at the rate of 3.0% per annum between 1974 and 1982. As of 1985, the average annual growth rate is estimated at 2.8%. The birth rate has dropped only slightly over the past two decades from 46 to 37 births per 1,000 population and general mortality has been cut by nearly half over the same time period reaching 8 per 1,000 in 1982. The 1982 reported contraceptive prevalence rate of 40% is clearly overstated in light of the high birth rate. The total fertility rate was 5.2 births per woman in 1982, well above the TFR rate of 4.8 for lower-middle income countries and of 3.9 for Latin America. Population growth is expected to continue at the rate of 2.8% per annum until 1990 and drop to 2.5% by 2000, ranking Ecuador among the world's high-growth countries through the end of this century. The total population is estimated at 9.4 million for 1985 and projected to reach roughly 14 million by 2000. A high level of fertility has serious consequences in terms of health status, number of schools and housing units to be built, new jobs to be created and additional food to be produced.

3. Life expectancy at birth is estimated to have increased by 16 years over the past three decades, from 47 years (1950-55) to 63 years (1980-85). Infant mortality is high at 76 deaths per thousand live births and reaches 200 deaths in poor rural areas. About four out of ten deaths in the country occur among children under five years of age. Ecuador's maternal mortality rate of 190 per 100,000 live births is more than double the mean rate for South America. Average mortality rates mask the wide variations among urban, peri-urban and rural areas and among ethnic groups. Primary causes of death and disease in infants and children are poor environmental
conditions, infectious and communicable diseases, low immunization rates and malnutrition. The current extent and severity of malnutrition is not known but is believed to be widespread. The country's high infant and child mortality rates and high birth rate reflect the lack of access to basic health services, and to safe water and sanitary waste disposal which is severely limited for about one third of the 9.4 million Ecuadorians.

Government Policies

4. Ecuador is in the process of developing an explicit and comprehensive population policy to regulate the high population growth rate. Its Constitution acknowledges the right of the parents to have the number of children they can support and educate. Child spacing is already included in MOPH maternal and child health programs and represents current population policy. As for nutrition, there is no explicit policy nor any inter-sectoral body responsible for articulating one.

5. The health policy set by the Ministry of Public Health for the period 1985-88 assigns priority to: (a) expand health service coverage to the rural and peri-urban population; (b) improve the efficiency of the health system through regionalization of services and decentralization of administrative authority; (c) provide safe drinking water and waste disposal systems to most of the population; and (d) finish the physical infrastructure development plans through the expansion, remodeling and construction of hospitals, health centers and health posts. The last two policies are investment-intensive and their implementation as proposed is doubtful during the current economic adjustment period.

Sector Resources and Their Utilization

6. Population. The public sector accounts for about 40% of the family planning services delivered, the private sector for 50%, and private voluntary organizations provide the remaining 10%. Services provided in the private sector are about evenly split between pharmacies and physicians. The contraceptive prevalence rate for all methods allegedly rose from 34% in 1979 to 40% in 1982. The validity of this rate is not born out by the official birth rate statistic, and the CPR is overstated because it combines modern and natural contraceptive methods. Of all married women who were not practicing contraception in 1982, 65% indicated a desire for family planning. These women are almost entirely from the poorest and the rural part of the Ecuadorian population. They have no access to the urban-based private sector and are the responsibility of the public sector which is only moderately active in the promotion of safe contraceptive practices.

7. Health. The two most important providers in terms of available capacity, national mandate, budget and population coverage are MOPH and IESS. MOPH is theoretically responsible for providing preventive services to the total population and curative services to about 75% of the population but it reaches only about half of its assigned target population. IESS through its medical social services program (IESS/MS) covers 8.5% of the population, and through its program for farm workers (IESS/SSC) reaches an
additional 4.5%. IESS/MS only covers the worker and does not protect the spouse and children of the insured. IESS/SSC enrolls communities and covers the whole family. The National Health Council should coordinate, integrate and evaluate all health activities in Ecuador but it has been an ineffective mechanism mainly because of its advisory status.

8. The ratio of all hospital beds per 1,000 population was an acceptable 1.3 in 1983 but 60% of the hospital beds are concentrated in the three major cities. The number of hospital discharges per 1,000 population in 1984 was a low 36 for MOPH and an acceptable 69 for IESS. Hospital occupancy rates were an acceptable 71% for short-stay MOPH hospitals, 58% for MOPH hospital/health centers, and 85% for IESS hospitals. These national averages hide the gross inequity in the distribution and utilization of services. Both MOPH and IESS have ambitious expansion plans underway which have been stalled by the economic crisis. The investment cost of the planned hospital program is estimated at US$ 250 million over the next five years and would require a 10% increase in the annual recurrent cost budgets of MOPH and IESS. Health care providers do not coordinate their investment programs which results in a duplication of facilities and excess capacity in some cities. The number of beds proposed in the expansion plans are not needed, and it is not realistic to expect a substantial increase in public sector budgets for capital and for operating funds. Priority should be given to primary health care and more efficient utilization of existing infrastructure.

9. Urban facilities of all providers tend to be well utilized. MOPH hospitals, health centers and health posts in rural areas are underutilized reflecting low demand for services by the intended target population. Lack of demand is caused by a number of factors. Rural facilities are staffed by recent medical, dental and nursing graduates serving one year of compulsory service, and by nursing auxiliaries with limited training. The annually changing professional staff receives inadequate orientation and supervision, is paid little, and shows low motivation for the temporary assignments. Transportation difficulties, especially in the rainy season, discourteous treatment by the staff, and shortages of supplies and drugs discourage patients from utilizing the services offered in the centers. Staff does not engage in community outreach activities by taking the services to the client. The Hispanic staff - mostly from urban areas - is not culturally acceptable to the indigenous population which prefers using traditional healers. Extension of primary health care activities must be accompanied by an improvement in the quality of services provided.

10. Ecuador has a very favorable ratio of one physician per 920 population but 70% of private and public sector physicians practice in the two most urbanized provinces. Dentists, graduate nurses and midwives are in short supply and are concentrated in the three largest cities. Auxiliary nurses are the backbone of the service delivery system and are generally efficient in hospital settings but lack adequate training in public health. Health promoters are few and their training and use have not been actively encouraged. Main human resource issues are the potential oversupply and the
quality of training of physicians, the maldistribution of all types of professional staff, and the lack of indigenous community health workers.

Financing Health Care.

11. Total public and private expenditures on health were estimated at US$35 per capita in 1984. This represented a modest 3.4% of GDP, a ratio which has remained substantially unchanged during the past decades and which is lower than in most Latin American countries. Household expenditures accounted for one third, MOPH for 29% and IESS for 23% of health expenditures. Only about 37% of health care financing comes from the national budget to finance services provided by MOPH and the Ministry of Defense. The second highest financing source are out-of-pocket expenses by the population (33%) followed by contributions to the medical services of the social security system (22%).

12. In constant terms, the MOPH budget decreased by 3% between 1980 and 1984, and its share in the total government budget dropped to 6.4% in 1984 from 6.8% in 1980 and 7.2% in 1982. The 3.4% of salaries which is legally allocated to finance the medical services of IESS does not cover the cost of providing these services. External financial assistance amounts to less than 2% of sectoral resources but plays an important role because it is concentrated on priority programs and technical assistance.

13. Health expenditures in Ecuador are from one third to one half below regional standards or corresponding ratios for countries at comparable levels of per capita income. Yet, in view of the country's current economic adjustment phase, it would be unrealistic to expect a significant and rapid increase in sectoral resources over the coming years. Other avenues of financing must be explored and aggressively pursued. First, better use should be made of what is already there, i.e., existing facilities and staff can be used more efficiently, duplication of services eliminated, waste and pilferage controlled, employer contributions to IESS timely collected, and drugs prescribed more judiciously. Second, investments in buildings and equipment, especially tertiary care facilities, should be severely curtailed in favor of sharing of services by all providers. Third, the bulk of health expenditures are ordered by the physician and are spent in the hospital. Savings can be realized on hospital care through reduced lengths of stay and by controlling the use of resources by physicians. Lastly, introduction and/or strengthening by all providers of cost sharing by the user of curative hospital-based services. Thus, the health care system itself should be able to generate additional financial resources through better management, increased efficiency, and a reorientation of its priorities.

Institutional Capacity of the PHN Sector

14. A number of structural deficiencies limit sector and institutional development. The most important ones are: (a) the advisory nature of the National Health Council limits its effectiveness in sector-wide priority setting and resource allocation decisions; (b) lack of professional planning and control expertise at the level of the National Development Council
(CONADE) minimizes its potential to provide sector guidance and coordination; (c) failure by MOPH to strengthen provincial levels and to delegate authority to operating units; (d) need to strengthen the regionalization of IESS/MS service delivery; and (e) the presence within IESS at the same organizational level of two directorates both responsible for health activities.

15. A management audit of the sector reveals the following weaknesses: (a) independent investment planning by the major providers and policy decisions driven by budgets and political factors; (b) overlapping service areas and client populations, especially between MOPH and IESS/SSC; (c) logistics systems failing to provide drugs, spare parts and maintenance services regularly; (d) the uncertainty about its annual budget does not allow MOPH to use the budget as a planning and control tool; (e) no link between the investment budget and the recurrent cost budget; (f) shortage of trained managers at the top and middle levels of the sector; (g) instability and discontinuity in sector and institution leadership; and (h) the sector does not exercise effective management control and does not have an adequate information system to support planning and control actions.

Sector Issues

16. The health sector in Ecuador faces six major issues.

(1) Limited access to basic health services, to family planning services and to nutrition services: about one third of the population has limited or no access to basic health care; demand for family planning services is not satisfied resulting in unwanted fertility and unnecessarily high infant and maternal mortality levels; and malnutrition is apparently widespread.

(2) No well designed population program: the interrelationship between high levels of fertility and the country's socioeconomic development requires an explicitly designed population program which coordinates and integrates the activities of the many providers and establishes demographic goals.

(3) A stalled hospital building program: the petroleum boom and the generous borrowings of the 1970s led to the start of ambitious hospital expansion programs which are now slowed down for lack of capital. Not all the planned new beds are needed and plans must be coordinated to eliminate duplication.

(4) Health care financing: Ecuador spent only US$ 35 per capita or 3.4% of its GDP on health in 1984, MOPH's share of the national budget is only 6.4% and only slightly more than one third of all health expenditures are financed from public revenues. These ratios are significantly lower than those in other middle income countries. Yet, in spite of limited financial resources, about 80 to 90% of expenses are incurred for curative, hospital-based care leaving very little for primary health care.

(5) Structural deficiencies: the lack of stable long term policies and implementation strategies, the inability to coordinate and/or integrate the actions of the main health care providers, and the lack of a national
authority to set priorities and allocate scarce resources preclude the cost-effective development of the sector.

(6) Management weaknesses: the lack of professional managers and the application of reasonable management practices reduce the capacity of the institutions to execute policies and programs. This shortcoming is evidenced by a general lack of planning and control systems, weak logistical support systems, an absence of cost accounting and timely reporting of relevant information, and a decreased ability to implement funded programs.

**Sector Development Strategy**

17. The rapid expansion of the health system in the 1970's, the economic recession in the first half of this decade, and the analysis of sector issues suggest that a development strategy should focus on (a) improving equity in access to care; (b) increasing efficiency of service delivery; and (c) assuring quality of care.

18. Three major actions are recommended to implement the development strategy: (a) extension of primary health care services, especially in rural and peri-urban areas; (b) increase the activities in fertility regulation; and (c) the review and consolidation of sector investments in hospitals. Implementation of these action recommendations can start immediately. The first action is of an ongoing nature, but the major part of the implementation can be achieved within a five year period. The second action is also of an ongoing nature and implementation of some of the recommendations can be carried out immediately. The third action can be completed in less than a year, and its results would form the basis of an affordable long term investment program.

**Extension of Primary Health Care Services**

19. The extension of basic health services to the rural and peri-urban poor would require curtailing the proposed US$ 250 million hospital construction program. An intervention to narrow and/or to eliminate the gaps in access to primary health services must include the following activities:

- increase operating expenditures available for PHC through a small increase in total public sector expenditures for health, introduce alternatives for financing curative services, and rationalize the use of levels of services impeding the use of tertiary care facilities for primary care services;

- strengthen the implementation capability of MOPH to cover a higher percentage of its assigned population; and use the untapped potential and the fast growth of IBSS/SSC to provide family planning, health and nutrition services in rural areas;

- determine the financial feasibility of expanding the beneficiaries
of IESS/MS to include household members and offer family-based preventive and curative services;

- use the results of the nutrition survey to formulate nutrition policy and to design specific and targeted interventions to reduce malnutrition; and

- provide a mechanism to coordinate the actions of MOPH, IESS, Social Welfare and the Ministry of Education in PHC, and obtain agreement from donor agencies to use this coordinating mechanism.

The foregoing activities should form the basis for a comprehensive PHC strategy to reach total population coverage by 1996 with minimum but adequate and affordable population, health and nutrition activities. This PHC strategy would improve equity by increasing access to services, and efficiency by better utilization of existing resources.

20. A cost-effective increase in the coverage and quality of PHC will require five major changes in the way care is delivered:

- policy and procedural guidelines must push the PHC system to become more dynamic and interactive, with the physician and the auxiliary nurse aggressively reaching out and working with the community to solve health problems. Cultural and language barriers make it even more imperative for PHC to reach out and be community oriented, and therefore the training and use of indigenous health workers, either auxiliary nurses or promoters, must be accelerated;

- more functions should be delegated to paramedical personnel so that they can treat uncomplicated cases of common disease and fewer patients would be referred or go directly to more costly higher levels of care;

- the almost complete reliance on inexperienced and often unmotivated medical school graduates fulfilling a one year rural service requirement should be decreased in favor of more full-time rural general practitioners. A more permanent rural medical staff would provide continuity of care, decrease the flow of referrals and self referrals to specialized hospitals and better supervise medical school graduates and paramedical staff;

- the provision of family planning services should be cast in a broader demographic context and it should include a social marketing effort which would provide guidelines on the preferred choice of contraceptive techniques and services, the appropriate pricing strategy, the most effective delivery system and public information program;

- health education deserves increased emphasis in an effort to maintain health, prevent disease and ensure early treatment. Educational messages must be a coordinated activity by all providers.
21. Extension of primary health services represents the logical and most cost-effective way of increasing equity by making care more accessible. It stresses efficiency by giving priority to prevention and first-level, low technology treatment, and provides an entry point to the health care system. Allocating additional resources at the primary care level provides a greater impact on the health of the population than an equivalent allocation to specialized medical care.

**Increase the Activities in Fertility Regulation**

22. Ecuador should design a population program which deals with mortality, fertility, migration and population distribution. It should integrate and encourage currently ongoing activities in fertility regulation. Such an action program would include the following components:

- assign the population unit within CONADE the responsibility for the design of a population program;

- strengthen MOPH to coordinate, regulate and supervise the activities of the public sector (MOPH, IESS), the private nonprofit organizations (APROFE, CEMEPLAF), and the for profit private sector (physicians and pharmacies);

- extend primary health care services as recommeded earlier in order to increase contraceptive practice through a combination of actions: (i) an expansion of IESS/MS benefits to all household members would allow the provision of family based care and would make family planning services available through IESS hospitals and dispensaries; (ii) the projected expansion of the rural IESS/SSC program to reach 10% of the population by 1988 would provide family planning services to this presently underserved rural population; (iii) MOPH covers only half of its assigned population and a strengthening of its service delivery capability in rural and peri-urban areas would increase the provision of family planning through expanded MCH programs; (iv) the recommended community outreach activities and the training and use of indigenous health workers would provide the unserved dispersed rural population with family planning; and (v) support of NGO actions through integrated planning, contracting for service provision, especially in peri-urban areas, and sharing of operational data for evaluation purposes; and

- design a set of studies to (i) test and recommend the most appropriate IEC activities; (ii) monitor the coverage extension of service delivery by all providers; (iii) provide public resources to private delivery systems; (iv) regulate pricing of contraceptive supplies in the private sector; and (v) evaluate the fertility reduction impact.

22. CONADE has postulated three total fertility rate (TFR) hypotheses for the year 2,000, viz., 3.6, 4.0, and 4.3. Under the first hypothesis
(TFR=3.6), Ecuador's birth rate would need to decline to 28.7 births per 1,000 population which would result in a population of 13.7 million. The second (TFR=4.0) and the third (TFR=4.3) hypotheses would, respectively, correspond to birth rates of 30.9 and 32.6 births per 1,000 and would give a total population of 14 million or 14.3 million. To achieve these population size targets, the contraceptive prevalence rates under the three hypotheses would need to be 48%, 52% or 57% accepting the overestimated 1982 CPR of 40% as a basis. The amount by which the 1982 CPR is overestimated would reduce the target rates correspondingly. Implementation of the action program recommended in the previous paragraph could achieve a TFR of 3.6 or a total population size of 13.7 in the year 2,000.

**Review and Consolidation of Sector Investments**

23. Planned capital expenditures over the next five years are estimated at US$ 250 million and would require a 10% increase in the annual operating budget of MOPH and IBSS. Many existing beds lack the staff required to be fully operational. Provision of the necessary staff and supporting services for existing beds deserves priority over new bed construction. The planned increase in hospital beds should be reviewed critically especially in light of its impact on the increase in annual recurrent cost. Increases in expenditures should give priority to using the existing infrastructure more efficiently and to finance the extension of primary health care.

24. Given the size of the planned investment, the recurrent cost implications, and the many providers making independent decisions, Ecuador should draw up and implement a national sector-wide capital expenditures plan, set standards, and evaluate and decide upon investments for facilities and high cost medical equipment based on health needs. It could assign this task to an existing structure such as the National Health Council although its past and short record shows structural and functional weaknesses. If the decision is made to use the Council as a vehicle then it should be reformed and its operational capacity strengthened. This could be done by a change in the Presidential decree which created it. A national investment plan would define the number of new beds needed to keep up with population growth, replace obsolete beds, and correct regional imbalances. A capital resources allocation process must link investment planning with financing of operating costs.

25. While the recommendations in the previous paragraphs are being carried out, the following interim decisions should be made: (a) no new projects should be started; (b) an accurate inventory of all started investment projects should be made indicating original real total cost, real sunk cost, timing and real cost estimate for completion; and (c) the inventory should be reviewed and projects identified: (i) for which capital and operating funds would be available; (ii) which are technically justified; (iii) which can be staffed, supplied and maintained; and (iv) which are in areas where other facilities cannot meet the demand or do not exist.
Sector Studies

26. There is a need for additional analysis and policy definition to prepare for specific, targeted and cost effective sector development actions in five areas: health care financing, health services utilization, pharmaceuticals, manpower training, and plant and equipment maintenance. The five study topics would support the health sector development goals of access, efficiency and quality.
I. Introduction

A. Objectives and Structure of the Ecuador Population, Health and Nutrition Sector Review

1.01 A literature review showed that a comprehensive analysis of the Ecuadorean health sector is not available and that the interrelationships between health, population and nutrition have not been studied in the Ecuadorean context. The Government's interest in Bank assistance to the health sector provides the opportunity for a comprehensive sector review. The objectives of the review are to: (a) provide an analytic description of the sector; (b) define the major sector issues; and (c) formulate a potential sector development strategy.

1.02 The report first reviews the population, health and nutrition status of the Ecuadorean population and the national policies which guide sector development. It then describes the physical, human and financial resources available to the sector and analyzes the utilization of these resources. One chapter reviews the institutional capacity of the health sector to organize and manage its resources. Six major sector issues are defined deductively and a sector development strategy is suggested consisting of three recommended actions.

B. Sources and Quality of Data

1.03 The National Council of Statistics and Census (CONCE) and its technical arm, the National Institute of Statistics and Census (INEC) are responsible for coordinating all public data collection and tabulation and are the major source of information on population and vital statistics. INEC has conducted four population censuses in 1950, 1962, 1974, and 1982. The next census is planned for 1990. A World Fertility Survey (WFS) was conducted in 1979 and a Contraceptive Prevalence Survey (CPS) in 1982. Vital registration is coordinated by INEC, but several other agencies help collect data. Information on births and deaths is provided through forms completed in Civil Registration and MOPH facilities and underreporting is common. In general, incomplete coverage, inaccuracies in data collection, and slow data processing hamper the entire system of vital registration. This affects availability, validity, and reliability of data and is, in part, responsible for a substantial delay in releasing statistical reports.

C. Socio-economic Overview of Ecuador

1.04 Population. Ecuador is one of the smallest countries in South America with a surface area of 270,670 km² and population estimated at
approximately 9.4 million in 1985. About half of the population is rural and can be grouped into three broad geographic areas, according to ethnic origin, type of economic activity and ecological conditions. The northeastern group, mostly comprised of Indian-mestizo populations, have good health and nutrition status. Residents of the Sierra and high inter-Andean valleys endure the worst health and nutritional conditions. The coastal area of latifundia and agroindustry, with low lands and a tropical climate, shows great diversity in economic status of landowners, small farmers, and agricultural workers. Tropical diseases are prevalent in the coastal area.

1.05 Economic Situation. Ecuador's GNP per capita of US$1,420 (1983) is slightly more than the average $1,310 for middle-income countries. The annual growth rate of GDP was 7.7%; since 1983 it has grown at only 1.8% yearly. External public debt has burgeoned from US$217 million in 1970 to US$6,239 million in 1983, or from 13.2% to 63% of GDP. This compares to an average for all middle-income countries of 34.2% of external public debt as proportion of GNP in 1983.

1.06 Ecuador's economic situation is affected by the price of oil because oil is the major source of exports and public receipts. The dramatic fall in oil prices in February 1986 will subject the economy to a severe loss of income and will require major efforts to overcome foreign exchange constraints. The drop in oil prices will also necessitate a critical review and adjustment of the public sector investment program.

1.07 Water Supply. Water supply and sewage systems are operated by municipalities and quality of service is generally poor but varies widely. Only 60% of urban households, or less than 30% of the population, have access to safe water through house connections. The remaining 40% of the urban population and 21% of the rural population are supplied with water through public standpipes. Most of the drinking water provided by the different systems is not chlorinated. Finally, 79% of the rural population, i.e., 36% of the total population, depends on water supplies from uncontrolled sources such as rainfall collectors, wells, streams, and ponds.

1.08 Waste Disposal. Public sewers for waste water and excreta serve only 28% of the population; 16% of the population have latrines or septic tanks, and 56% have no installations at all. Solid waste collection systems operate in urban centers, but waste is not treated before disposal.

1.09 Housing. In 1983, there were 1,920,000 households with an average of 4.7 persons per household. According to a 1974 survey, 60% of the population was living in inadequate housing, i.e., 39% in houses or apartments, 33% in one-room houses of precarious construction, and 28% in huts or temporary shelters. The proliferation of makeshift housing may not be as severe in Ecuador as in neighboring countries such as Peru and Colombia, because housing has been upgraded in Quito and Cuenca. Guayaquil, on the other hand, still houses 800,000 people in several slum areas.
II. Population, Health and Nutrition Status and Government Policies

2.01 This chapter reviews the population, health and nutrition status of the Ecuadorians and contrasts it with the policies and existing or intended programs of the Government. Macroeconomic effects of high fertility are highlighted. The mortality and morbidity profiles of the country are presented and evaluated. Finally, the type and extent of malnutrition and the major nutritional problems are examined.

A. Population Status

2.02 Population Size and Spatial Distribution. The 1985 population is estimated to be 9.4 million. Between 1974 and 1982 the average annual growth rate was 3.0%, slightly inferior to the peak rate of 3.2% reached in the 1960s. In 1985, the average annual growth rate is estimated at 2.8%. Population growth is expected to continue at a rate of 2.8% per annum until 1990 and drop to 2.5% by 2000, ranking Ecuador among the world’s high-growth countries through the end of this century, when the population is anticipated to be approximately 14 million.

2.03 Today the population is almost equally divided between the Andean highlands, site of the capital city Quito, and the Pacific coastal lowlands, the most important agricultural region and the locale for Guayaquil, the largest city. The Andes divide the country into three ecological zones: the eastern plains and Amazon basin, the Andean highlands, and the Pacific coastal lowlands. In the 1960s, population growth, combined with substantial population movement, resulted in changes in the regional distribution of the population. Fifty-eight percent of the population lived in the Sierra in 1950; that share declined to 47% at the time of the 1982 census. In 1950, 28.5% of the total population resided in urban areas and in 1982 it was 49%. Two cities (Guayaquil and Quito) have over one million people and four others (Cuenca, Machala, Portoviejo, and Ambato) have over 100,000 inhabitants.

Fertility

2.04 The crude birth rate for 1982 is estimated at 37 per 1,000 population, a small reduction from 46 per 1,000 population in 1962. Only Bolivia among South American countries has a higher birth rate. The total fertility rate (TFR) decreased more than 25% over the last two decades, from 6.9 births per woman (1960-65) to 5.0 (1980-85). Variations as great as 3.5 children per woman can be noted among different socioeconomic groups. Ecuador’s TFR is above the average of 4.6 births per woman for all middle-income countries in 1993. Despite fertility declines, however, population momentum, or the tendency for growth to continue rapidly long after fertility begins to fall, remains high. CONADE projections assume that TFR will remain over 4 births per woman until the end of this century.
Mortality

2.05 Life expectancy is estimated to have increased by 16 years over the past 30 years, from 47 years for 1950-55 to 63 years for 1980-85. The crude death rate has been cut by nearly half over the last two decades, reaching 8 per 1,000 in 1982. Also during the 1962-83 period, infant mortality was reduced by 44% to 76 deaths per 1,000 live births.

Age Structure

2.06 The age structure of the population is youthful but gradually aging as a function of fertility decline. In 1962, 45% of the population was under 15 years, and 3.2% was 65 years or older. Two decades later, the proportion of the population aged 15 or younger had dropped to 41.6%, and the proportion aged 65 or more had risen to 4.0%. These trends, along with declining mortality, suggest an increasing need for health and social services intended for older people. Such trends in age structure yield ratios of the economically dependent to economically active population, 94 per 100 in 1974, and 84 per 100 in 1982. The population of working age constitutes over half of the total, i.e., 54% or roughly 4.3 million in 1982.

Consequences of Population Growth.

2.07 CONADE and INEC have prepared alternate sets of projections for the year 1980-2000, which vary only according to fertility assumptions. Three sets of projections are discussed which hypothesize high fertility (assuming a TFR of 4.3 in the year 2000), expected fertility (anticipating a drop in the TFR to 4 by 2000) and low fertility (assuming a TFR of 3.6 in 2000). The impact of migration is assumed to remain negligible, i.e., net migration equals zero, and life expectancy is assumed to increase gradually to 66 years by 2000. The total population projected for 2000 according to the high, expected, and low fertility scenarios are 14.2 million, 13.9 million, and 13.6 million, respectively.

2.08 Projected population growth has the following implications for the development of various sectors:

Schools: Estimates of the school-age population for 1985 are 1.4 million in primary school (ages 6-11) and 1.3 million in secondary school (ages 12-17). Table 1.1 shows that by 2000, between 2.2 million and 1.9 million children will be in the primary-school age group, and 1.8 to 1.5 million children in the secondary-school age group.
Table 1.1: Projected Total and School-Aged Populations According to Different Fertility Assumptions, 1985 and 2000

<table>
<thead>
<tr>
<th>Population Group</th>
<th>1985 (TFR=5.0)*</th>
<th>HIGH (TFR=4.3)</th>
<th>EXPECTED (TFR=4.0)</th>
<th>LOW (TFR=3.6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>9.4</td>
<td>14.2</td>
<td>13.9</td>
<td>13.6</td>
</tr>
<tr>
<td>Primary School (6-11 yrs)</td>
<td>1.4</td>
<td>2.2</td>
<td>2.1</td>
<td>1.9</td>
</tr>
<tr>
<td>Secondary School (12-17 yrs)</td>
<td>1.3</td>
<td>1.8</td>
<td>1.8</td>
<td>1.5</td>
</tr>
</tbody>
</table>

*Estimated TFR for 1980-85 period.


Associated increases in the number of teachers and schools must be anticipated. Expenses for primary and secondary schools can be expected to rise to approximately US$103.3 million (expected hypothesis) in 2000 from US$61.0 million in 1980.

2.09 Urban growth will continue to place strains on housing, employment creation, and agricultural production.

**Housing:** Currently, 51% of the total population resides in urban areas. Within a decade, this proportion is expected to increase to 58%, or in absolute numbers, from 4.8 to 8.1 million. To accommodate such urban growth, over 300,000 housing units will be necessary in Guayaquil and over 215,000 in Quito by 2000, in addition to the housing that was available as of 1980.

**Employment:** Half of the total working-age population is economically active. In order to maintain an economic participation rate of only 50% for the total population, an average of 124,000 additional jobs would need to be created every year.

**Agricultural Production and Consumption:** Table 1.2 compares expected increases in consumption and production of cereals and potatoes by 2000, with 1980 levels. These projections correspond to the three fertility hypotheses. For potatoes and cereals, it is assumed that per capita consumption increases at 1% over 1980 levels and production increases by 3% annually, the average annual rate of increase over the 1975-80 period. In projecting the demand for imported wheat in 2000, it is assumed that national production will increase by 2% annually, through new scientific advances which are already proving successful. Consumption is assumed to increase at a higher annual rate of 2.8%, the average annual rate of increase from 1970 to 1980.
Table 1.2. Projected Levels of Agricultural Production/Consumption According to Different Fertility Assumptions, 1980 and 2000

<table>
<thead>
<tr>
<th>COMMODITY</th>
<th>1980 (TFR=5.0)*</th>
<th>HIGH (TFR=4.3)</th>
<th>EXPECTED (TFR=4.0)</th>
<th>LOW (TFR=3.6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cereals (oats, barley, and corn)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production</td>
<td>678</td>
<td>1,111</td>
<td>1,111</td>
<td>1,111</td>
</tr>
<tr>
<td>Consumption</td>
<td>869</td>
<td>1,537</td>
<td>1,510</td>
<td>1,484</td>
</tr>
<tr>
<td>Deficit</td>
<td>190</td>
<td>426</td>
<td>400</td>
<td>373</td>
</tr>
<tr>
<td>Potatoes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production</td>
<td>323</td>
<td>584</td>
<td>584</td>
<td>584</td>
</tr>
<tr>
<td>Consumption</td>
<td>323</td>
<td>701</td>
<td>689</td>
<td>677</td>
</tr>
<tr>
<td>Deficit</td>
<td>-</td>
<td>117</td>
<td>105</td>
<td>93</td>
</tr>
<tr>
<td>Wheat Importation</td>
<td>190</td>
<td>592</td>
<td>586</td>
<td>580</td>
</tr>
</tbody>
</table>

*Estimate for 1980-85 period.


B. Population Policies

2.10 The 1978 Constitution supports responsible parenthood and appropriate education for the welfare of the family. Government agrees with the health rationale for child spacing and includes family planning in maternal and child health programs. However, MCH programs do not cover a substantial part of the population and, consequently, family planning services are not readily available to many women in union who would like to have them. According to CPS results, of all women in union and not practicing contraception at the time of the survey in 1982, 65% reported a desire for family planning services.

2.11 The Government which took office in August 1984 has commissioned studies to explore policies addressing different components of change, i.e., fertility, mortality, and migration. CONADE has established a population unit within the human resources division to analyze population data and to make recommendations for population policies within the broad context of socioeconomic development objectives. CONADE, in cooperation with INEC, CELADE, and UNFPA, has just completed an extensive "Socio-demographic Diagnostic Study of Ecuador, 1950-82"; a synthesis of this document is to be prepared analyzing possible demographic consequences of specific policies and programs with suggestions for further research. The purpose of this diagnostic study is to explore methodologies for incorporating demographic...
variables into national development plans. Additional studies underway include population projections drawing on newly-available census and survey data, and a review of private sector programs for family planning services.

C. Health Status

2.12 Overall health status in Ecuador ranks among the lowest in South America and compares unfavorably to countries of similar per capita income. Poor health conditions and high fertility rates are obstacles to the socioeconomic development of the country. Health conditions may have worsened since 1979, mainly due to the deteriorating economic situation. Assessment of health status in Ecuador requires careful interpretation of mean rates of mortality, morbidity, and fertility, because nowhere in Latin America do local ethnic and socioeconomic groups vary as much. There is considerable controversy over mortality indicators.

Mortality

2.13 Infant Mortality. The relatively high infant mortality rate (IMR) of 76 per 1,000 live births is partly due to the limited coverage of public health programs. Estimates of infant mortality vary widely. MOPH officials believe that the most recent official rate of 64 for 1981 reflects underregistration, especially in rural areas. Cross-sectional studies conducted in urban areas showed IMR variations from 5 to 108 per 1,000 live births, according to socioeconomic status. Results of recent studies and sample surveys in small rural communities indicate IMRs ranging from 90 to 200 deaths per 1,000 live births. Diarrhea and acute respiratory infections account for roughly one-third of the infant deaths, followed by neonatal causes.

2.14 Child Mortality. Child mortality was estimated at 12 per 1,000 children aged 1-4 years in 1979, and by 1984, this rate had decreased to 9 per 1,000 as a result of immunization campaigns and control of diarrheal diseases. Nevertheless, the current estimate of child mortality is more than ten times higher than in developed countries. Child mortality could be further reduced by improving nutrition, expanding programs of immunization, oral rehydration therapy, and controlling acute respiratory infections.

2.15 Adult Mortality. Acute communicable diseases and tropical diseases are no longer significant causes of death for adults. Motor vehicle accidents, coronary heart disease, cerebrovascular disease, cancer and tuberculosis are the official causes of adult mortality, a pattern similar to that of industrialized countries. The available statistics on causes of death, however, should be taken only as general indicators. Only 30% of all deaths are medically certified of which almost half are classified as symptoms or ill-defined causes.
2.16 Maternal Mortality. Ecuador's maternal mortality rate (MMR) of 190 per 100,000 live births is among the worst in Latin America; it is more than double the mean rate for South America and 20 times the MMR of the United States indicating a need for better child spacing. Maternal mortality rates are especially high among the 15-20 and 40-44 year age groups. Urban women have access to health services and receive professional prenatal and obstetrical care, while in most rural areas pregnancies are not monitored, and deliveries are left to traditional midwives. In 1983, about 42% of pregnancies were not monitored and about 56% of deliveries were unattended or attended by untrained midwives.

2.17 A ten-year retrospective study based on INEC data showed that hospital admissions for abortion doubled between 1969 and 1979. The ratio of abortions to live births has increased from 1:22 to 1:13, or from 3.8% to 6.6%. Data suggest that a high proportion of abortions are induced, indicating inadequate contraceptive practices. Data collected for different geographic regions attest to higher abortion rates in urban areas (e.g., 105 abortions per 1,000 live births in Pichincha in 1976, and 100 per 1,000 in Guayas in 1974) than in rural areas, where rates varied from 15 to 27 per 1,000 live births.

Morbidity

2.18 Tropical Diseases. Most tropical diseases, once highly prevalent, have been controlled by active programs in the sixties and seventies (yaws, yellow fever, plague). However, increasing population density in the coastal and jungle areas where the ecology is favorable to spreading of vector borne diseases, requires costly surveillance and control measures. Schistosomiasis is unknown in Ecuador.

2.19 Three tropical diseases are presently a matter for concern. Quiescent foci of Chagas disease have been traced in 18 provinces, although with low prevalence, and so far, no clear evidence of cardiac or visceral lesions has been discovered. This potentially highly damaging disease is under surveillance since housing and climatic conditions are propitious to further spreading. Small hypoendemic foci of onchocerciasis (river blindness) are expanding and becoming hyperendemic; ocular complications and blindness have been identified, and the disease poses a definite threat in well defined areas of the coast. Cutaneous leishmaniasis is also expanding as the sand fly vector breeds in deforestation areas of the coast and jungle.

2.20 By far the most serious tropical disease problem is malaria. Until 1980, the National Service for Malaria Eradication (SNEM) controlled the disease through active DDT spraying and screening programs. In 1982, insufficient control, and managerial and logistical weaknesses were compounded by floodings, by resistance of primary vectors to DDT, and by increasing resistance of the parasite to chloroquine. A critical situation has developed: the number of cases rose tenfold, from 8,000 cases in 1980 to 80,000 in 1984, and infested areas expanded fourfold. More importantly, the
malignant Falciparum breed, is taking over from the more benign Vivax. MOPH recently intensified control measures with substantial support from USAID by combining house spraying, fogging, larval control, reduction of breeding sites, biological control of mosquito and chemotherapy.

2.21 **Infectious and Communicable Diseases.** Diseases such as diphtheria, whooping cough, tetanus and polio are on the decline, even though vaccination programs cover only 40% of the target groups with complete immunization. Mass vaccination campaigns are currently being organized and may result in higher vaccination rates.

2.22 **Among the adult population, poverty-related diseases such as tuberculosis, associated with malnutrition and crowding, or gastric cancer, associated with poor conservation of food, are highly prevalent. So are hepatitis, salmonellosis, typhoid, amebiasis, and other water borne diseases. High incidence of taeniasis (tapeworm), trichinosis, and ascariasis (roundworm) and persistence of plague are indicators of poor control of environmental conditions. Finally, the incidence of rabies, which has always been high in Ecuador, has increased in recent years.**

2.23 **General Morbidity.** Common diseases among the adult population reflect the pathology profile of a middle-income country. Chronic diseases such as hypertension, coronary and cerebrovascular diseases, mental disorders, alcoholism and occupational diseases are added to infectious and parasitic diseases. Incapacitating defects such as orthopedics, sensory (eye, ear) deficiencies, and dental deterioration, are not corrected and result in a high level of residual incapacity which affects the quality of human resources. In addition, an important back-log of corrective care is building up for the future.

D. **Health Policies**

2.24 MOPH sets policy and includes programmatic goals in development plans. For the period 1985-88, the highest priority is to improve the health status of the population, especially among socioeconomic groups with per capita incomes below the national average, through expansion of health service coverage in rural and peri-urban areas. A second priority is to implement the physical infrastructure development plans through the expansion, remodeling and construction of hospitals, health centers, and health posts. The third priority is to improve the quality of the environment, especially by providing safe drinking water and waste disposal systems to most of the population. Fourth, efficiency of the health system would be improved through technical planning at the central and local levels, regionalization of services and decentralization of administrative authority, better utilization of human, financial, and material resources, and improved coordination, both within the health sector and among other sectors.
2.25 Strategies identified by the MOPH to improve the health status of the population, include:

(i) improve maternal health (including fertility regulation and detection of cervico-uterine cancer) and the health of infants and children under age 15;

(ii) control immunopreventable diseases through an expanded immunization program, directed especially at infants, and at combating tetanus among pregnant women and the newborn;

(iii) improve nutritional status, particularly among mothers and infants;

(iv) improve dental health, especially among preschool and school-aged children;

(v) reduce diarrheal diseases, particularly as a cause of death among young children;

(vi) reduce the incidence of communicable diseases, especially malaria and Chagas disease, through intensified curative and preventive programs; and

(vii) make efforts to address the mental health needs of the population.

E. Nutrition

2.26 Malnutrition is widespread but its extent and severity are not known. A comprehensive, nationwide study is presently underway and is the joint responsibility of CONADE and MOPH with support from the Government, USAID, PAHO and private sources. The objective of the study is to measure the extent of malnutrition, identify and quantify the causes and contributing factors in the mosaic of local conditions in order to arrive at a precise diagnosis to provide the necessary information for sound planning. A total budget of US$748,000 has been secured from the different contributors. The primary sample consists of 8,892 children from 6,840 families in 270 geographic clusters. The final design of the study has been completed; preparation and training of staff is in progress; field work will take place in early 1986, and results are expected to be tabulated by the end of 1986.

Nutrition Status

2.27 The 1984 assessment by MOPH and CONADE, is based on old data complemented by partial studies carried out more recently. The only nationwide food and nutrition survey was carried out in 1959 by the National
Nutrition Institute with support from the US State Department. Three major problems were identified: severe protein caloric malnutrition, goiter and anemias.

2.28 **Protein Caloric Malnutrition.** Following up on their 1959 study, the Nutrition Institute monitored preschool children in 1965 and 1968 and found that 40% suffered from some degree of malnutrition. Two million Ecuadoreans, predominantly pregnant or lactating women and preschool children, were estimated to be undernourished in 1973. Fragmentary data obtained from small sample surveys confirm the existence of severe malnutrition. However, a precise assessment of overall prevalence, causes or type (acute, chronic or combined) of malnutrition could not be made because of the diversity of ecology, ethnic, and social environments.

2.29 **Goiter.** Ecuador is one of the countries of the world most affected by endemic goiter. The high incidence of iodine deficiency, especially in mountain areas, in combination with protein and vitamin deficiencies and consumption of goitrogenic foods could explain such high prevalence. Chronic thyroid deficiency produces retardation in physical and neurological growth, cretinism, deaf mutes, and slight to moderate IQ deficiency. In 1968 the GOR made iodization of salt compulsory; iodized salt has alleviated the most severe consequences of iodine deficiency but has not reduced its prevalence which remains high, especially in the northern and central highlands. A 1983 MOPH study of school children in areas above 1,500 meters still showed a prevalence of 35.6%.

2.30 **Anemias.** Anemia is the tenth most frequent cause of death in the total population. The 1959 Nutritional Survey found that 40% of the population under 15 years of age suffered from anemia. This general indicator has been followed-up in recent years by several sample studies in different geographic areas which showed prevalences of 50% among school children, 24% among pregnant women, and 20% among women in reproductive ages. These findings underline a serious situation, but they do not provide information on the multiple possible causes of anemia.

**Food Production**

2.31 **Over the past decade overall food production has grown at a slower pace than consumption.** The availability of staple foods, e.g., legumes, tubers, wheat and corn has decreased in real terms, while availability of vegetable oil, meat and fish has increased. Land dedicated to the production of food crops has decreased, and land allotted to cattle raising and agroindustrial products has expanded. Food imports have increased, but there is still a deficit in the food basket.

**Food Consumption**

2.32 **In addition to a variety of small studies, a nationwide Household Budget Survey was conducted of 13,592 households in urban (1976) and rural areas (1978-79).** The survey provided basic information on broad differences
in urban–rural and highland–coastal consumption patterns. More recent data collected in 1980, measured an average daily per capita consumption of 1,755 calories and 44 grams of proteins, thereby suggesting a 24% caloric deficit and 25% protein deficit.

Government Nutrition Programs

2.33 In 1979, with support from OECD and WFP, MOPH launched the Maternal and Infant Food Supplement Program (PAAMI), a food supplementation program for pregnant and lactating women and children under five. The program provides a protein–caloric rich mix of powdered milk and cereals (Leche-Avena), rice and soya. The program has been implemented in all provinces, but coverage is still low. In 1983, only 18.6% of pregnant women and 24.2% of nursing mothers, and 23.6% of children under 5 received food supplements. The program has serious limitations. Established as a vertical program, it is not integrated with MCH care; intercurrent pathology—not related to nutrition—was thought to be unimportant and food to be a solution. In fact, experience has shown that intercurrent diseases affect the benefits of additional food. The program does not provide nutrition education. The results of the program are presently being evaluated.

2.34 The Ministry of Education and CONADE have developed a school snack program. Primary school teachers are provided with raw products and cash to purchase food locally and to prepare mid–morning snacks. The program reached 100,000 children in 1984. The coverage of the program and its impact on physical development are being evaluated. MOE plans also to evaluate the impact on mental development, absenteeism, drop-out rates, and performance.

2.35 In support of these two programs, CONADE is carrying out two research projects: (a) a study on food for children, with support from IDB, on the production, storage, distribution and preparation of milk derivatives, soya cookies, dried fruits and other nutrients readily acceptable by children, and (b) the development of a Nutrition Surveillance Module as a basis for a nationwide monitoring system based on weight and height of school children as an indicator of the socioeconomic status of communities.

Non Governmental Nutrition Programs

2.36 The World Food Program (WFP) supports the government's maternal and child feeding program, and estimates that it reaches half a million beneficiaries. WFP has organized a school breakfast program which serves about 50,000 school children. USAID participates in the PAAMI program through the provision of soya flour, and it finances part of the ongoing nationwide nutrition survey. The Catholic Relief Service is active in 14 provinces and its food programs reach about 11,000 children up to the age of 12 (Child Food), about 13,000 children aged 6 to 12 (School Food) and about 2,500 adults and their dependents (Food for Work). The Medical Assistance
Program helps in the production of food for flood victims in the Los Rios province, and the Norwegian Lutheran Mission of South America operates a food delivery program for flood victims. Finally, the Plan Internacional Ecuador has financed consultants in nutrition to prepare the Guayaquil Plan in primary health care.

F. Nutrition Policies

2.37 There is no official nutrition policy. Nutrition matters fall under the jurisdiction of the MOPH or the Ministry of Agriculture. A nutrition institute exists within the Ministry of Labor and Social Welfare which has organized programs to deal with endemic goiter through salt iodization. The results of the nationwide nutrition study currently underway should be used to formulate a nutrition policy, and to design specific and targeted interventions to reduce widespread malnutrition.

G. Summary of Population, Health and Nutrition Status and Government Policies

2.38 Ecuador’s population of 9.4 million grows at a high 2.8% per year and is expected to double by 2010. Its high level of fertility slows social and economic development because of its impact on health status, number of schools and housing units to be built, new jobs to be created and additional food to be produced. Yet, the country has no explicit population policy with demographic goals. Health status is generally poor. The infant mortality rate is a high 76 deaths per 1,000 live births; four out of ten deaths occur among children under five years of age; and maternal mortality is double the rate for South America. Malnutrition is believed to be widespread. The Government’s health policy correctly emphasizes expansion of basic health services to the rural and peri-urban poor and improvement of environmental health conditions. This officially stated policy does not appear to be implemented aggressively and scarce resources are mainly directed to urban, curative, hospital-based care.

III. Health Sector Resources and Their Utilization

3.01 The health sector uses physical, human and financial resources to carry out its policies and programs designed to improve the population, health and nutrition status examined earlier. This chapter inventories the physical and human resources available and analyzes how they are utilized. (Financial resources are treated separately in Chapter IV.) The structure and responsibility of the main providers of services, physical infrastructure, manpower availability by type, and drug consumption are presented and evaluated.
A. Population Resources and their Utilization

3.02 Family planning services are available in the private sector from physicians and pharmacies to those who are able to purchase them. MOPH provides services in cities and a few rural areas to those who cannot afford to purchase from the private sector. Of all married women who were not practicing contraception in 1982, 65% indicated a desire for family planning. These women are almost entirely from the poorest and rural part of Ecuador. Public services need to augment those in the private sector. Results of the 1982 Contraceptive Prevalence Survey (CPS) indicate that 40% of the women of child bearing age are practicing contraception. This figure seems overstated and is not supported by the official birth rate statistic of 37.

Public Sector Services

3.03 The public sector accounts for about 40% of the family planning services delivered, the private sector for 50%, and private voluntary organizations provide the remaining 10%. In the public sector, family planning services are provided through MOPH, IESS, and the Ministry of Defense. In recent years the Government has been spending about US$6.3 million annually on population and family programs, which translates into 75 cents per capita and US$15 per contraceptive user. The World Development Report (1984) provides comparative data for 40 countries including Ecuador. Costs per user are far above those of Colombia (US$4) but comparable to those of Mexico. The GOE receives assistance from UNFPA and USAID for population programs.

3.04 MOPH and IESS Family Planning Services. MOPH is an important source of maternal and child health services, and considers its maternal and child health program as the Priority Program of the Ministry. The program receives assistance from UNICEF and support from UNFPA and WHO/PAHO in the provinces of Guayas and Chimborazo. The priority accorded to women of childbearing age in health services offers an appropriate program base within which MOPH can offer family planning services. However, as of 1982, MOPH was providing services to only 36% of all women then practicing family planning. IESS/MS played only a secondary role, providing 3.5% of services delivered. An expansion of IESS/MS services to cover dependents would make this organization a strong delivery mechanism for family planning services. IESS/SSC has been involved in some family planning activities through an agreement with USAID and their actions could be strengthened.

3.05 MOPH should play a more prominent role in meeting the unmet need for family planning services. The principal mechanism would be to extend its services in conjunction with further expansion of the important maternal and child health program. Pilot operations in two provinces with support of UNICEF and UNFPA provide a good basis for doing so. IESS, which can afford to be less sensitive than MOPH to the political aspects of family planning, could be more active in fertility reduction.
3.06 Ministry of Defense Services. The Armed Forces (FFAA) has 36 clinics where family planning services are provided, including provision of contraceptives and detection of cervico-uterine cancer. The average cost per patient at a FFAA clinic is about US$2. The FFAA currently receives financial support from USAID and The Pathfinder Fund.

Private Nonprofit Organizations

3.07 Private and voluntary organizations have worked chiefly in cities. Their effectiveness has been somewhat eclipsed in recent years by the success of the private for-profit sector and MOPH. The PVOs may have an important future role to play by extending services in low-income peri-urban areas. Two private, voluntary organizations provide subsidized services: the Asociacion Pro-Bienestar de la Familia Ecuatoriana (APROFE) and the Centro Medico de Orientacion y Planificacion Familiar (CENOPPLAF). Together, these organizations accounted for 9% of services delivered in 1982. A third organization, the Centro de Estudios de Poblacion y Paternidad Responsable (CERPAR) prepares and distributes publications on population and family planning and organizes training sessions for physicians and legislators.

3.08 APROFE. IPPF funds most of APROFE's activities, including nine clinics in Guayaquil, Quito, Cuenca and other cities, and community-based projects in seven provinces. Through a grant from the Association for Voluntary Sterilization, APROFE performs voluntary female sterilizations, with as many as 4,000 a year in the Guayaquil area alone. Two additional clinics are being planned for the Guayaquil area. In 1984 APROFE reported 45,300 new acceptors and high continuation rates, with an average of 57% of women continuing to practice contraception after 12 months and 40% after 24 months. USAID funds an APROFE resident representative in Quito.

3.09 CENOPPLAF. CENOPPLAF began operations in 1975 under a grant from Family Planning International Assistance (FPIA). The association provides family planning services through its clinics and community programs in major cities. It expected to serve 11,000 new and 8,750 continuing users in 1984. Forty-eight percent of current project expenses are covered by charging nominal fees for services. CENOPPLAF also performs educational activities and provides consultations to other organizations when requested.

Pharmacies and Physicians

3.10 Pharmacies accounted for roughly 27% of services delivered in 1982, and private physicians for 25%. Thus, the for-profit sector accounts for slightly more than half of all family planning services used by Ecuadoreans. Little information exists about full-cost private sector family planning services. Before the 1982 fertility survey results were available, most observers thought the contribution of the private sector was much smaller and attributed more importance to private nonprofit organizations. The fertility survey asked married women of reproductive age (who reported that they were not using contraceptives at the time of the survey) where they would get contraceptives, if they decided to use them.
Over half responded that they would go to a pharmacy, 31% mentioned MOPH, and 8% mentioned APROFE. These findings emphasize the likely continued importance of private sector sources of family planning services.

B. Health Care Resources and their Utilization

Institutional Providers

3.11 Health care services in the public sector are delivered by the following governmental entities: the Ministry of Public Health (MOPH), the Ecuadorian Social Security Institute (IESS), the Armed Forces Health Service (FFAA), the Ministry of the Interior, the National Institute of the Child and the Family (INNFA), and the Ministry of Social Welfare through its network of creches and its national program for the aged. The two most important providers in terms of available capacity, national mandate, budget and population coverage are MOPH and IESS; the former is theoretically responsible for about 75% of the population, and the latter serves 8.5% of the population through its regular medical program and an additional 4.5% through its rural program, or a total of 13% of the population.

3.12 The private sector can be divided into nonprofit and proprietary. The former includes the Charity Board of Guayaquil (JBG), the National Red Cross, the Cancer Association (SOLCA), the Child Protection Society and a variety of denominational institutions. The urban-based proprietary sector consists of private hospitals and physician offices. Transnational companies provide medical care to their employees and a number of cooperatives and insurance companies offer actuarially based protection against certain health risks. Traditional medicine is part of the socio-cultural structure and plays an important role in the alleviation of pain and suffering.

The Ministry of Public Health

3.13 The legislature established MOPH in 1967, and five years later administrative decisions organized it in its present form (Organizational Chart in Annex). In 1972, the Institute of Sanitary Works (IESO) was created as part of MOPH with responsibilities for the construction and equipping of health facilities, and water supply systems, and for the preparation of water, sewage and storm drainage projects. The first National Health Plan drafted in 1973 included a diagnosis of the health status, a definition of levels of care, and the formulation of coverage goals. It served as the basis for the first Five-Year Health Plan (1974-77) which was not funded. The second Five-Year Plan (1980-84) defined health programs by level of care and by type of institution without the participation of the implementing local or regional levels.

3.14 MOPH Service Delivery Structure. Service delivery follows the traditional pyramidal structure with five levels of increasing complexity.
The two least complex levels are the health post and the health center responsible for preventive, promotive and curative ambulatory care to populations of 1,500 and 5,000 inhabitants, respectively. The next three levels provide inpatient and outpatient health care services, viz, the hospital/health center with 15-25 beds, the base hospital, usually located in the capital city of the province, and the specialized hospitals in the major cities. The latter is the apex of the structure and also undertakes teaching and research activities. According to health planning concepts, patients should be treated at the lowest level of complexity as required by their health needs and referred by health professionals to higher levels. As in most countries, the Ecuadorian population does not follow the blueprint and patients enter the system at all five levels according to their perceived needs, availability of transport, geographic proximity, and ability to pay for travel and lost time. Referrals among levels are not documented but are believed to be minimal.

3.15 Environmental Health. The Institute for Sanitary Works (IBOS) within the MOPH structure is responsible for planning, coordination and supervision of water and sewerage works. However, insufficient coordination with CONADE and provincial or municipal authorities has limited IBOS' planning and coordinating role. IBOS is supposed to prepare, construct and supervise water systems at the request of municipalities. In practice, however, it is involved in only a small fraction of water systems, and municipalities assume responsibility for planning and construction of their own systems. IBOS is also responsible for the planning and supervision of construction and maintenance of MOPH health facilities. Here again, IBOS' record is not favorable, and its inefficiency has resulted in building delays and lack of maintenance.

The Social Security Institute

3.16 Medical Social Services Program (MESS/MS). Created in 1936, it provides hospital and outpatient medical care to public sector and private sector employees (Organizational Chart in Annex). The total population covered is only 8.5% and ranks Ecuador in 16th place among Latin American countries. Most agricultural wage earners, temporary workers, and the unemployed are legally excluded from MESS coverage. The self-employed may join voluntarily. The spouse and children of the insured are not protected, and maternity benefits are only provided to insured females. The latter's children up to the age of one receive medical care, excluding pharmaceuticals. The insured is covered against practically all social risks and social security has consistently generated a surplus. However, there are still significant and mostly unjustified differences in contribution and benefits among several groups of insured. A decision was made in 1985 to divide the country into eight operating regions to decentralize administration and to speed up decision making.
Table 3.1: Health Facilities and Eligible Population by Provider Organization, Ecuador, 1983

<table>
<thead>
<tr>
<th>Organization</th>
<th>Eligible Population (*1000)</th>
<th>% of Population</th>
<th>Number of Hospitals</th>
<th>% Occupancy</th>
<th>Hospital Beds Per 1,000 Population</th>
<th>Health Centers Subcenters/Dispensaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Public Health (MOPH)</td>
<td>6,714.2</td>
<td>75.0</td>
<td>126</td>
<td>63.7</td>
<td>8,285</td>
<td>52.5  1.2</td>
</tr>
<tr>
<td>Social Security (IESS)</td>
<td>1,163.8</td>
<td>13.0</td>
<td>16</td>
<td>85.0</td>
<td>1,589</td>
<td>10.0  1.4</td>
</tr>
<tr>
<td>Charity Board of Guayaquil (JBG)</td>
<td>N/A</td>
<td>N/A</td>
<td>4</td>
<td>84.4</td>
<td>2,323</td>
<td>14.7  N/A</td>
</tr>
<tr>
<td>Ministry of Defense (FFAA)</td>
<td>223.8</td>
<td>2.5</td>
<td>12</td>
<td>—</td>
<td>750</td>
<td>4.7  3.3</td>
</tr>
<tr>
<td>Other Gov't (a)</td>
<td>—</td>
<td>—</td>
<td>2</td>
<td>—</td>
<td>86</td>
<td>0.5  —</td>
</tr>
<tr>
<td>Private Sector</td>
<td>850.5</td>
<td>9.5</td>
<td>202 (b)</td>
<td>—</td>
<td>2,789</td>
<td>17.6  3.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>8,952.3</td>
<td>100.0</td>
<td>362</td>
<td>77.7</td>
<td>15,822</td>
<td>100.0  1.8</td>
</tr>
</tbody>
</table>

| (a) Includes an Interior Ministry Hospital (50 beds) and a Municipio Hospital (36 beds). |
| (b) Includes SALGA (2 hospitals with 70 beds), Child Protection Society (one 167-bed hospital), and investor-owned hospitals (199 with 2,552 beds). |
| (c) 53 urban health centers, 170 urban and 631 rural health subcenters, and 15 dispensaries (234 health post are excluded). |
| (d) Includes 49 IESS/MS and 312 IESS/SSC dispensaries. |

SOURCES: MOPH

3.17 **IESS/MS Service Delivery Structure.** Outpatient care is delivered in 49 dispensaries of three types (A, B, and C) which differ in degree of complexity, types of services offered, population served, and number and qualifications of staff. Dispensary C is the most specialized clinic and is located in provincial capitals. Hospital care is provided in 16 local, provincial or regional hospitals, and only the three regional hospitals have more than 100 beds. The 13 other hospitals have 50 beds or less and duplicate in most instances similar size MOPH hospitals in the same cities. Patients enter the system at any level, which results in congestion and overcrowding at the two sophisticated regional hospitals and at C dispensaries and underutilization of the lower levels of the system. Patients are IESS beneficiaries and get time off to receive medical care and, therefore, they tend to seek care at the highest levels of complexity.

3.18 **Social Security for Farm Workers (Seguro Social Campesino, or IESS/SSC).** IESS/SSC started as a pilot project in 1968 but was legally created in 1981 as a vertical program within IESS when Congress mandated IESS to provide services to marginal groups (Organizational Chart in Annex). Of the total population, 4.5% are protected by this program or 6.1% of the rural population. Benefits received are more limited than for the IESS/MS beneficiary, but the spouse and dependents of the insured are eligible for services, and enrollment is community-based. IESS/SSC has its
own budget with contributions fixed by law and the number of insured has quadrupled in the period 1981-84. The program enrolls organized rural communities, provides medical care through a network of 312 dispensaries and offers limited income maintenance benefits. Presently it is organized into four geographic regions, and it will expand to eight regions in 1986 to parallel the IESS/MS regional structure. IESS/SSC does not report to the IESS medical director.

3.19 IESS/SSC Delivery Structure. SSC maintains 312 dispensaries which are staffed by an auxiliary nurse and a visiting physician. The design of dispensaries is standard with 96 m² of space. Patients requiring referral for diagnostic tests and treatment are sent to IESS hospitals. Under a recently signed agreement between the MOPH and IESS, SSC affiliates may receive services at MOPH facilities on a referral basis. This would now allow MOPH to bill for services which they are often already providing free of charge.

The National Institute for the Child and the Family (INNFA)

3.20 Organizationally, it is under the Office of the President of the Republic and the country's First Lady is chairperson of the Board. Its budget is part of the President's Office budget, and it receives assistance from international donors for specific activities. Programs sponsored include orphanages, community welfare centers, free drugs for children, generic drugs in popular pharmacies, and arts and crafts centers for mothers. A recent addition is the PREMI program which is a national effort to reduce infant mortality. The program is patterned after UNICEF's GOBI approach which emphasizes four activities: growth monitoring, oral rehydration, breastfeeding, and immunizations. UNICEF and USAID make financial contributions to the operation of the program.

The Charity Board of Guayaquil (JBG)

3.21 The Charity Board of Guayaquil (JBG) was created in 1887 as a philanthropic institution to provide education and medical care to the needy. Sixty percent of its budget is derived from lottery income. It is a quasi-public institution maintaining a degree of autonomy in the acquisition, use and disposition of its resources. Most of the users of its services, provided through four hospitals, live in Guayaquil, but patients come from other nearby provinces for some specialized care. The JBG has an agreement with IESS for the provision of open heart surgery and with Universities for the use of its facilities for teaching purposes. A large part of the MOPH target population in Guayaquil is served by JBG.

The Armed Forces Health Service (FFAA)

3.22 The Armed Forces Health Service (FFAA) provides comprehensive health care to the members of the military forces, to their spouses, children and dependent parents, which accounts for about 2.5% of the population. It operates 12 hospitals with a total of 750 beds and an undisclosed number of dispensaries. Its newest and largest hospital in Quito is a high technology facility.
The Cancer Society (SOLCA)

3.23 The Cancer Society (SOLCA) is a national, nonprofit organization to fight cancer. It is governed by a national Board of 42 members and managed by an executive committee which supervises about 300 paid staff. Three-quarters of its income derives from a 0.25% tax on all bank transactions. Services provided include cancer education and screening, and treatment in its two hospitals with a total of 70 beds. Its programs are mainly treatment oriented, and too little effort is spent on prevention.

The proprietary private sector

3.24 The proprietary private sector is governed by the laws of supply and demand. The government has very little authority over the behavior of the private hospitals and the individual practitioners. It authorizes the "permit" for the construction of private hospitals, and there is no system for accrediting these institutions or the physicians working in them. The Law of the Medical Federation and the Medical Ethics Code govern the structure, the norms and standards of the medical profession and protect medical practice as a profession.

Traditional Medicine

3.25 In Ecuador, traditional healers are as diverse as the ethnic cultures that created them. The practice of traditional medicine (indigenous medicine, non-formal health care, popular medicine) varies from purely religious or magic interventions to use of therapeutic agents, (plant, animal and mineral products) and the manipulation of codes and symbols to alter disease states. It is part of century-old cultural patterns and is deeply rooted in the social structure of the rural and periurban communities. The immediate family constitutes the first level of care. If a medical problem cannot be resolved at that level, the patient will be referred to the scientific medicine sector or to the second level of traditional medicine made up by neighbors, relatives, the storekeeper, or the local pharmacist. The third level consists of the curandero (medicine man) and the partera (traditional midwife). The hierarchical structure of the curanderos is based on experience and knowledge; they are specialized according to their practices: generalists, spiritualists, specialists in herbal medicine or snake bites, etc. It is difficult to estimate the coverage provided by the non-formal sector. Anthropological surveys show that the sector may account for as many as 50% of first patient contacts in the country and that in some regions there is one curandero for every 70 inhabitants, thereby making it an important provider of health services. The role of healers, their relationship to the community, and mode of payment vary widely. There is also large variation in the willingness of healers to collaborate with the modern health system. Traditional medicine as a form of primary care has attracted the interest of researchers and public health officials interested in the linkage between the modern and traditional systems. Experience in other countries with a sizeable traditional medicine system has shown the health and economic benefits from coordinating or integrating the two systems.
The National Health Council

3.26 The process aimed at linking the components of the health sector and of building a national health system, as stipulated in the National Development Plan, is the responsibility of the National Health Council established in 1980. The Council’s functions may be summarized as follows: (a) to provide the Minister of Health with advice on national health policy; (b) to participate in the formulation, execution and evaluation of the health plan; (c) to prepare studies that will enable decisions on the organization and operation of the national health system. The Council is composed of representatives of 11 institutions that make up the sector, and has an Executive Secretary. Its budget is provided in equal parts by MOPH and IESS.

3.27 The National Health Council is not effective: its chairman, the Minister of Public Health, has the authority to call the meetings and to set the agenda, but frequent changes in minister, shifts in national priorities as perceived by each new minister and flexible policy implementation strategies deprive the Council of effective health sector leadership. In the first year of the current administration, the Council has met twice to discuss procedural matters. There is growing awareness by the Ministries of Finance, Planning, Social Welfare, and Public Health of the need to coordinate investments in hospital infrastructure and other capital expenditures. However, there is no independent formal structure with authority to achieve that purpose.

National Development Council (CONADE)

3.28 To achieve the health goals contained in the National Development Plan, the Plan emphasizes the linkage of the health sector to other sectors. The National Development Council (CONADE) is the lead agency for economic and social planning, for the general coordination of the various sectors and institutions and, for the coordination of the use of resources. The Chairman of the Council is the Vice President of the Republic. CONADE’s coordinating role in the health sector is severely handicapped by its lack of professional staff required to meld the individual components into an integrated health plan and by its lack of financial control over IESS which is funded by wage contributions.

C. Hospital Beds

3.29 Current Infrastructure. In 1983 MOPH operated 8,285 beds in 126 hospitals which represents 52.5% of Ecuador's total bed complement (Table 3.1). The MOPH has an overall bed-to-population ratio of 1.2 beds per 1,000 population with a range from 2.0 in Pichincha province to 0.6 in Guayas province. It must be noted that the MOPH figures refer to existing beds of which only 88% are operational. IESS operates 16 hospitals with a total of 1,589 beds or a ratio of 1.4 beds per 1,000 insured. About three-quarters of the IESS beds are located in Quito, Guayaquil and Cuenca. The Guayaquil Charity Board has 2,323 beds or 14.7% distributed in four facilities: a
general acute hospital (756 beds), a pediatric hospital (230 beds), a
maternity hospital (250 beds), and a psychiatric institution (1,087 beds).
The Armed Forces have 750 beds or 4.7% of the total bed complement, and
other governmental units control 86 beds. The public sector owns and
manages two-thirds of the country's hospital infrastructure. The
investor-owned private sector operates 199 hospitals with a total of 2,552
beds, and the average size of a private hospital is 13 beds which compares
to 66 beds for a MOPH hospital and 99 for IESS. The ratio of all beds in
1983 -- short stay and long stay or chronic -- was an acceptable 1.8 beds
per 1,000 population.

3.30 Future Expansion. Both MOPH and IESS have major expansion plans
underway which have been delayed by the economic crisis. MOPH 1984
construction plans for new facilities and for expansion and remodeling of
existing facilities amounted to US$9.3 million. MOPH has 36 hospital
construction projects of different sizes in various stages of execution,
ranging from the blueprint stage to 80% completion. Sunk cost is estimated
at US$28 million and about US$38 million is required to complete the works
(1984 prices). The Minister has stopped construction of new buildings, and
only construction for remodeling and reequipment of existing facilities is
presently authorized. Over the next five years, IESS plans to increase its
bed complement by 3,285. Approximately 3,000 beds would be beds in new
facilities and 285 would be expansion beds. A rough cost estimate of this
proposed investment is approximately US$200 million. Some of the 16
projected hospitals are in the planning stage, others are under
construction, and two are completed and awaiting equipment. Execution of
its construction plans would raise the IESS bed/insured ratio to a very high
4.1 per 1,000 (using 1984 number of insured as a denominator) and the
national bed/population ratio to 2.1. In addition, some hospitals are being
planned or built in communities with unused MOPH hospital capacity. The
current Director General has proposed to reduce the number of new beds from
3,285 to 1,900, and also indicated willingness to purchase beds from MOPH in
lieu of new construction.

Hospital Utilization

3.31 MOPH reported 36 hospital discharges per 1,000 population in
1984. This is a very low figure and indicates large unmet needs for
hospital care. Patients stay in the hospital 5.5 days on the average, which
is an acceptable figure. The occupancy rate in short-stay hospitals is 71%,
and 58% in hospital/health centers. Given the small size of MOPH facilities
and their location these rates are in the normal range. Table 3.2 presents
various measures of hospital utilization by provider.

3.32 IESS/MS had 69 discharges per 1,000 insured in 1984; each patient
stayed an average of 9.1 days, and its 16 hospitals had an average 85%
ockupancy rate. IESS/SSC, which does not have inpatient facilities,
referred about 5,500 patients to IESS/MS for hospital treatment in 1984.
IESS statistics reflect below-average hospital admissions and above-average
lengths of stay, which result in a higher number of patient days and a
higher occupancy rate. A reduction in the average length of stay would
decrease the occupancy rate and allow more admissions. However, rising
hospital admission rates would continue to exert pressure on the three regional hospitals which already have occupancy rates of 90%.

Table 3.2: Measures of Hospital Utilization by Provider, 1984

<table>
<thead>
<tr>
<th>Organization</th>
<th>Staffed Short-Stay Beds</th>
<th>Average Length of Stay (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Ministry of Public Health (MOPH)</td>
<td>5,941</td>
<td>67.8</td>
</tr>
<tr>
<td>Social Security (IBSS)</td>
<td>1,589</td>
<td>18.1</td>
</tr>
<tr>
<td>Charity Board of Guayaquil (JBG)</td>
<td>1,236</td>
<td>14.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>8,766*</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* Does not include FFAA, SOLCA, and private hospitals.

SOURCE: MOPH

JBG, Guayaquil Charity Board, accounts for 14% of short-stay public hospital beds. In 1984, its general acute, pediatric and obstetric hospitals had occupancy rates of 77%, 87% and 96%, respectively, and average lengths of stay of 16, 17 and 3 days, respectively. The high occupancy rates in the general acute and the pediatric hospital reflect very long patient stays. A greater number of patients could be admitted to these two hospitals through more efficient management procedures. The maternity hospital has an excessively high occupancy rate with a reasonable average length of stay, indicating a shortage of obstetric/gynecologic beds.

D. Ambulatory Care

Availability. MOPH provides ambulatory health care services in the emergency and outpatient departments of its 126 hospitals and through its network of 53 urban health centers, 170 urban and 163 rural health subcenters and 234 health posts. Emergency rooms and outpatient departments of the 16 IESS/MS hospitals, and 49 dispensaries provide ambulatory care to their insured population. IBSS/SSC provides service through 312 dispensaries. Private practice physicians and traditional medicine practitioners provide probably the largest share of the ambulatory care services.
3.35 **Utilization.** The 1983 MOPH data show 0.8 physician contacts per person per year for its service population. This low figure can be partly explained by the limited coverage and the low quality service provided by MOPH in addition to use of traditional healers by the Indian population. IESS/MS reported 3.6 physician visits per beneficiary in 1984 which is an acceptable average for the type of clientele served. Information on services provided by private sector physicians is not available, but the volume of services must be considerable. Almost half of the physicians are in private practice, and most public sector physicians see private patients. Information on the traditional medicine sector is also fragmentary. It is generally accepted that the non-formal sector is an important source of health care which may account for half of the consultations for disease. Thus, the officially reported ambulatory care statistics by MOPH and IESS only represent a small part of all outpatient care provided in Ecuador.

3.36 **Utilization of Dental Services.** Available dental services are in high demand. Services are not equipped or staffed adequately to perform time consuming preventive applications, obturations or restorative treatments and routinely resort to extractions resulting in extensive dental loss. The supply of dental services is inadequate, and those services that are offered do not provide services that improve the dental status of the population.

E. **Human Resources**

**Availability**

3.37 **Physicians.** Ecuador had about 10,300 physicians in 1985, or one medical doctor for 920 people, a ratio slightly above the corresponding ratios of neighboring countries and countries in the same income group. Medical underemployment and unemployment are now occurring in urban areas. The annual increase of physicians cannot be absorbed by the major public health care providers—MOPH and IESS—for budgetary reasons, or by the private sector for lack of fee-paying clients. As a result, medical manpower in the cities is abundant, inexpensive, and health services have developed physician-intensive staffing patterns.

3.38 A policy of unrestricted entry into Ecuador’s medical schools, combined with more medical schools, has greatly increased the number of physicians in the last decade. Ecuador now has seven medical schools. The number of annual graduates of medical schools increased from 600 in 1972 to 1,000 in 1975 and has remained stable at around 1,300 since 1981. The rapid increases in enrollment may affect the quality of medical education negatively.

3.39 About 70% of private and public sector physicians practice in the two most urbanized provinces, Pichincha (Quito) and Guayas (Guayaquil), where 42% of the population resides. The urban concentration of physicians
is the same in MOPH and IESS and in the private sector. The similarity in concentration can be partly explained by the fact that many professionals work for the private and the public sectors simultaneously. At the same time, positions for general practitioners, pediatricians and obstetricians remain unfilled in some provincial and many local hospitals. The distribution of health manpower among the three major providers is presented in Table 3.3.

Table 3.3: Health Manpower Distribution, 1984

<table>
<thead>
<tr>
<th>Personnel Type</th>
<th>IESS</th>
<th></th>
<th>MOPH</th>
<th></th>
<th>JBG</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>Per 1,000</td>
<td></td>
<td>Per 1,000</td>
<td></td>
</tr>
<tr>
<td>Physicians</td>
<td>1,036</td>
<td>1.3</td>
<td>1,799</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>Dentists</td>
<td>151</td>
<td>0.2</td>
<td>233</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>Other professionals</td>
<td></td>
<td></td>
<td>163</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>Resident Physicians</td>
<td>315</td>
<td>0.4</td>
<td>1,274</td>
<td>(c) 0.2</td>
<td></td>
</tr>
<tr>
<td>Other residents</td>
<td></td>
<td></td>
<td>781</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Interns</td>
<td>173</td>
<td>0.2</td>
<td>1,200</td>
<td>0.2</td>
<td></td>
</tr>
<tr>
<td>Nurses</td>
<td>529</td>
<td>0.7</td>
<td>570</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Midwives</td>
<td></td>
<td></td>
<td>110</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>Technicians</td>
<td>474</td>
<td>0.6</td>
<td>1,765</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>Auxiliary Nurses</td>
<td>1,333</td>
<td>1.7</td>
<td>4,468</td>
<td>0.6</td>
<td></td>
</tr>
<tr>
<td>Auxiliary Technicians</td>
<td></td>
<td></td>
<td>1,367</td>
<td>0.2</td>
<td></td>
</tr>
<tr>
<td>Ancillary Personnel</td>
<td>1,756</td>
<td>2.2</td>
<td>3,557</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>Admin. Personnel</td>
<td>640</td>
<td>0.8</td>
<td>1,977</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>6,858</td>
<td>8.7</td>
<td>19,264</td>
<td>2.8</td>
<td>3,255(a)</td>
</tr>
</tbody>
</table>

(a) JBG has 268 physicians, many of whom are employed part-time; 326 nursing auxiliaries; 30 social workers; and a core staff of 120 professionals at central level. The total estimate of JBG health manpower for 1984 is 3,255.
(b) Excluding the rural health program (IESS/SSC).
(c) Compulsory rural medical program

3.40 Dentists. The current ratio of one dentist per 3,300 persons is too low to meet the dental needs of the population; and most dentists practice in urban areas. For example, the city of Cuenca has one dentist for 1,900 people, but in the rural part of the province (Azay), there is only one dentist for 8,500 people.

3.41 Nurses. From 1972 to 1980, the annual output of graduate nurses increased only from 232 to 300. The nursing career is comparatively unattractive, and there is an acute shortage of graduate nurses, with a ratio of one nurse per 6.6 physicians. Ideally there should be more nurses than physicians. Midwives are also in short supply and only 817 were active in 1984. The low annual output of 70 new midwives is likely to continue the shortage.
3.42 **Auxiliary Nurses.** Auxiliary nurses are the backbone of the service delivery system and there was one auxiliary nurse per 750 people in 1984. Many of them work in health centers, health posts and IESS dispensaries. MOPH has developed an active training program for auxiliary nurses to compensate for the shortage of graduate nurses. More than 4,000 auxiliaries have been trained, and approximately 2,000 are presently working for MOPH.

3.43 Nursing personnel, graduate or auxiliary, are generally efficient in hospital settings but have little training in public health and community work. About 10% of the graduate nurses complete one additional year of study to obtain a master's degree and specialize in management, intensive care or other clinical specialties, and nursing education.

3.44 **Medical technologists.** Medical technologists are also in short supply. Like graduate nurses, they are trained for three years at university level after completing secondary education. Approximately 280 graduate each year in radiology, laboratory, rehabilitation, and speech therapy. Demand for their skills is still limited. Providers do not perceive the need for their skills, they use lower cost personnel, or their tasks are performed by nurses and physicians.

3.45 **Health Promoters.** The training of community health workers known as "promoters" was initiated 25 years ago, but received its main support six years ago with the emphasis on primary health care. Nonetheless, MOPH had only 313 promoters in 1983. A limited number of health promoters have also been trained by religious missions, e.g., 145 by the Evangelical Mission. It is estimated that approximately 150 promoters are employed by NGOs in rural areas. The promoters report to the community through municipal authorities and are paid US$30-40 monthly. The MOPH is presently experimenting with utilization of promoters in peri-urban areas. Generally, the training and use of health promoters is not aggressively pursued.

3.46 **Training Programs.** Health care providers (MOPH, IBSS, and JBG) conduct training programs for their staff. In 1976, NOPH established a Directorate of Human Resources which was replaced in 1981 by a Training Institute responsible for planning, coordination, and supervision of all training and continuing education activities in MOPH. Physicians, dentists, and graduate nurses are required to do a rural service and MOPH has the opportunity to complement the training provided by the University. Therefore, MOPH could influence manpower training. After an active period, budgetary restrictions have limited the Institute's activities which now offers ad-hoc courses and supervises the orientation of rural residents and the training of nursing auxiliaries. The Institute did not have the expected impact on the sector's manpower training and utilization. IBSS and JBG conduct programs for continuing medical and nursing education.

**Human Resources Utilization**

3.47 Most physicians share their time between public and private practice. Of the 8,500 physicians practicing in 1982, 41% were principally
3.48 MOPH has a limited permanent medical staff and compensates for understaffing by using temporary manpower (recent graduates in rural service, medical interns and residents). There is one permanent staff physician for every 1.4 temporary physicians. Permanent staff usually consists of managers, surgeons, obstetricians and other hospital-based specialists located in urban areas. This system has the advantages of providing inexpensive staffing of rural facilities, medical practice training, and potential settlement of new graduates in rural areas. There are serious drawbacks: low motivation for temporary assignments, low pay, inadequate orientation and supervision, and shortage of equipment, transportation, and drugs. MOPH is aware of these limitations but has not shifted resources to make improvements. Ecuador's rural system is more dependent on temporary personnel than any other country in Latin America. Extension of MOPH coverage and improvement of the quality of care must take account of this situation.

3.49 IESS relies on a balanced and relatively well-paid permanent career staff which identifies with the institution. IESS/MS' permanent staff consists of 1,675 professionals (physicians, dentists, bacteriologists), 529 nurses, 474 technicians, and a broad base of 3,089 auxiliary nurses and ancillary personnel.

3.50 IESS/SSC has a core staff of 120 professional and administrative people at the central level. IESS/SSC has eight supervision teams at the regional level, each consisting of one physician and two nurse supervisors. It employs 30 social workers and 326 auxiliary nurses at the field level. It also signs part-time contracts with local physicians for the equivalent of approximately 60 full-time slots. Presently, 136 physicians are under contract with SSC. This system proves to be flexible and allows for control of quality of care.

3.51 JBG's manpower policy is derived from its philanthropic origins and its private non-profit status. A core of 268 physicians have staff appointments; about 1,000 physicians "ad honorem" offer their services free of charge and enjoy some scientific and professional privileges through their association with JBG.

F. Pharmaceuticals

3.52 Production. One hundred and seven pharmaceutical laboratories are registered in the country. Local laboratories import ingredients and compound simple drugs; more complex drugs are imported in bulk and are packaged locally according to MOPH regulations. In 1984 there were 1,876 brand products registered in the country, under some 3,200 forms. Health care providers procure their drugs through the regular market or through special procurement agreements with the laboratories. Production of vaccines is the responsibility of MOPH's Biological Institute Izquieta Perez
in Guayaquil which covers the needs in DPT, BCG and part of the canine antirabies vaccine. All other vaccines, such as polio, measles, rabies vaccines and antitoxins are imported.

3.53 **Pricing.** Drug prices are controlled by MOPH but are quite high at the retail level. A comparison was made of official prices with prices in UNICEF catalogues and with generic drugs supplied by a commercial wholesale distributor in the U.S.A., to which a 52% markup was added to cover importing and distribution costs. For 16 basic drugs, local retail prices ranged from 8 (Lidocaine) or 9 (Aspirin) to 212 (Piperazine) times the cost of direct procurement. This suggests the need for more effective public intervention in the procurement of essential drugs, and for more aggressive price control.

3.54 **Distribution.** There are 1,885 commercial drug expenditures registered in 1985: 1,727 pharmacies in urban areas and only 138 small retail pharmacies in rural areas. The distribution of pharmaceuticals is relatively simple. Pharmaceutical laboratories supply the retail pharmacies directly thus avoiding costly intermediaries and wholesalers. MOPH's Directorate of Sanitary Control supervises pharmacies and enforces agreed upon retail prices. The Government supplements the commercial network in both urban and rural areas with "Popular Drug Stores" selling generics under a project described in para. 3.59.

3.55 **Consumption.** Following a universal trend, consumption of pharmaceuticals has dramatically increased in Ecuador since 1960. The increase in consumption is stimulated by active commercial advertising for self-prescribed over-the-counter drugs, e.g., aspirin, pain killers, syrups, decongestants, etc. and for the questionably consumption of self-prescribed health aids, e.g., vitamins, fortifiers, and infant formulas. A pharmaceutical industry source reports sales of US$116 million in 1983 through private vendors or US$13 per capita.

3.56 **Medicines are free for hospitalized patients in MOPH, IBSS, and JBG facilities.** Drugs prescribed for ambulatory MOPH patients must be purchased commercially. In 1985, the average prescription cost US$7.00 in the public sector and US$12.00 in the private sector, well beyond the purchase capacity of workers earning a US$85 minimum monthly wage. Drugs for special programs, such as tuberculosis control, leprosy, leishmaniasis, are free, but MOPH's clinics regularly run out of stock.

3.57 **Drug expenditures in the public sector.** MOPH's drug expenditures have increased steadily over the last five years to reach US$2.8 million in 1984 and a budgeted US$3.4 million for 1985. Using MOPH's theoretical coverage of 75% of the population, its per capita drug expenditure for 1985 would be US$0.47. However, considering MOPH's realistic coverage of 38% of the population, the actual per capita expenditure would be US$1.18. IBSS's expenditures on drugs amounted to US$7.9 million in 1984 and were budgeted at US$11.9 million for 1985. The allocation for drugs per insured would be US$9.60 or 8 times the per capita expenditures of MOPH.
3.58 **Government's projects in pharmaceuticals.** The GOE is preparing a large-scale project publicized as "Free Drugs for Children Under Five", also known as "MEGRAME 5" which, together with the PREMI program, constitutes the two-pronged Presidential strategy to improve the health status of children. Approximately US$15.0 million, to be obtained from new taxes on cigarettes and beer, have been earmarked for MEGRAME 5. US$2.4 million would be invested in installing and equipping 300 drug stores all over the country, and US$3.8 million would provide an initial stock of drugs. The annual recurrent costs of the program are expected to be US$3.6 million for personnel and maintenance and US$8.0 million for drugs. Annual recurrent cost would be US$5.90 per child under 5 years of age. It is not clear what impact this program would have on infant and child health, considering that (a) other service programs such as immunization and MCH offer free drugs; (b) providers such as MOPH and IHSS provide free inpatient drugs; and (c) Popular Drug Stores offer drugs at reduced prices.

3.59 As a component of MEGRAME 5, MOPH may formulate a drug formulary and promote the use of generic drugs in all MOPH facilities. Each type of facility would be provided with a small drug outlet or Popular Drug Store. Dispensaries would have 11 drugs under 20 forms at reduced prices, sub-centers would have 23, and health centers would sell 32. Finally, hospitals would provide free medicines for inpatients (a benefit already established by law but seldom available in practice) and would have 109 drugs under 194 forms for outpatients at reduced prices. If properly implemented and supervised, this component may increase the availability of drugs.

G. **Research**

3.60 Research in the population, health and nutrition sectors is modestly funded, but research activities have increased over the last ten years. Research activities play an important coordinating role and constitute an instrument of integration in an otherwise fragmented sector. A 1984 study on health research, coordinated by the National Council on Science and Technology (CONACYT) and carried out by AFEME, CRAS, and IIFM reviewed the characteristics of research projects and over 200 individual researchers in the areas of biomedical research, sociomedical research and research in medical education. Ten major groups or institutes are dedicated full time to research activities, eight in the public sector and two in the private sector. Socio-medical research, in particular, has carried out interesting analyses on important aspects of population, health and nutrition programs.

H. **Summary of Health Sector Resources and Their Utilization**

3.61 The private sector provides about 60% of family planning services but serves mainly the urban population and those able to pay. The resources of the public sector (MOPH and IHSS) are not utilized efficiently to meet
the expressed and unmet demand for contraception, especially in rural areas. The two most important providers of health services are MOPH and IESS. MOPH is responsible for service provision to 75% of the population but reaches only half of that. IESS serves only 13% of the population mainly because it does not cover the spouse and the children of the insured. MOPH has a satisfactory infrastructure of health facilities. The hospitals, health centers and health posts in rural areas are underutilized for a lack of qualified staff, supplies and drugs, absence of outreach activities, and competition from traditional medicine. Its urban facilities show better utilization. Ecuador has a potential oversupply of physicians and a shortage of dentists, graduate nurses and health promoters. Human and physical resources are poorly distributed geographically, and are underutilized in rural areas.

IV. Financing of Services

4.01 Financial resources available for implementing sector policies and programs are analyzed in this chapter. The level of expenditures over time and their sources, the share of each major service provider, the investment and operating expenditures of the Ministry of Public Health are reviewed and evaluated. An analysis of external financial assistance and an examination of future sector financing conclude the analysis of Ecuador's financing of services.

A. Sector Expenditures

4.02 Health Care Expenditures. Total public and private expenditures on health were estimated at S/25.3 billion in 1984, i.e., approximately US$320 million or US$35 per capita. This represented a modest 3.4% of GDP, a ratio which has remained substantially unchanged during the past decade. In the late 1970s, the most recent date for which comparable information is available, 16 Latin American countries expended an average of 2.5% of GDP for medical care through ministries of health and social security systems by comparison with 2% of GDP for Ecuador. A 1981 IMF staff study reports that only six of 96 countries reviewed spent a lower share of GDP on health, social security and welfare. Thus, Ecuador has been spending consistently less for health care than other countries of comparable per capita income.

4.03 In constant prices, total annual health expenditures increased by only 9% between 1976 and 1984, but annual changes were very irregular: in four of the eight years, there was a decrease, and in 1979 expenditures increased 41% (Table 4.1). The expenditures include household outlays, which represent about a third of the total, as well as public outlays. Table 4.2 below shows the distribution of total health expenditures by provider and by target population. Expenditures between the two main providers of public health services are unbalanced. MOPH, which is legally responsible for the basic health needs of about 75% of the population, spends approximately 29% of the total, while IESS, whose beneficiaries
constitute only 13% of the population, absorbs about 23% of total health expenditures.

Table 4.1: Evolution of Total Health Expenditure (Sucres Million, 1976 - 1984)

<table>
<thead>
<tr>
<th>Year</th>
<th>Current Prices</th>
<th>Constant Prices (1975 = 100)</th>
<th>Yearly % Change</th>
<th>Change With 1976</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>5,403</td>
<td>4,786</td>
<td>---</td>
<td>100</td>
</tr>
<tr>
<td>1977</td>
<td>6,165</td>
<td>4,646</td>
<td>-2.9</td>
<td>97</td>
</tr>
<tr>
<td>1978</td>
<td>7,354</td>
<td>5,135</td>
<td>10.5</td>
<td>107</td>
</tr>
<tr>
<td>1979</td>
<td>12,013</td>
<td>7,224</td>
<td>40.7</td>
<td>151</td>
</tr>
<tr>
<td>1980</td>
<td>13,180</td>
<td>6,633</td>
<td>-8.2</td>
<td>139</td>
</tr>
<tr>
<td>1981</td>
<td>16,083</td>
<td>7,079</td>
<td>6.7</td>
<td>148</td>
</tr>
<tr>
<td>1982</td>
<td>19,817</td>
<td>7,422</td>
<td>4.8</td>
<td>155</td>
</tr>
<tr>
<td>1983</td>
<td>23,023</td>
<td>6,141</td>
<td>-17.2</td>
<td>128</td>
</tr>
<tr>
<td>1984</td>
<td>25,277</td>
<td>5,227</td>
<td>-14.9</td>
<td>109</td>
</tr>
</tbody>
</table>

SOURCE: PAHO/Quito, 1985


<table>
<thead>
<tr>
<th>Provider</th>
<th>Expenditure (million sucres)</th>
<th>% Expenditure</th>
<th>% of Pop. Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOPH</td>
<td>7,287</td>
<td>29</td>
<td>75</td>
</tr>
<tr>
<td>Social Security Inst.</td>
<td>5,760</td>
<td>23</td>
<td>13</td>
</tr>
<tr>
<td>Medical-Social Program</td>
<td>5,286</td>
<td>21</td>
<td>9</td>
</tr>
<tr>
<td>Campesino Program</td>
<td>547</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Armed Forces</td>
<td>2,300</td>
<td>9</td>
<td>2.3</td>
</tr>
<tr>
<td>Guayaquil Charity Board (JBG)</td>
<td>1,328</td>
<td>5</td>
<td>(1)</td>
</tr>
<tr>
<td>Private Sector</td>
<td>8,602</td>
<td>34</td>
<td>9.5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>25,277</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

(1) JBG's target population included in MOPH percentage. JBG serves mainly urban Guayaquil and provides only hospital-based care. SOURCES: MOPH, IESS, JBG and mission estimates.

Sources of Health Care Funds

4.04 Only about 37% of health care financing comes from the national budget to finance services provided by MOPH and the Ministry of Defense. A comparably figure is 42% for the US, 75% for Canada and 84% for the U.K.
The second highest financing source is out-of-pocket expenses by the population (33%) followed by contributions to the medical services of the social security system (22%). Table 4.3 below summarizes the sources of health care resources.

Table 4.3: Sources of Health-Care Resources, 1984

<table>
<thead>
<tr>
<th>Sources</th>
<th>Billion Sucres</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Govt Budget</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOPH</td>
<td>7.3</td>
<td>28.2</td>
</tr>
<tr>
<td>Armed Forces</td>
<td>2.3</td>
<td>8.8</td>
</tr>
<tr>
<td>External Loans and Grants</td>
<td>0.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Sales of Services</td>
<td>0.1</td>
<td>0.4</td>
</tr>
<tr>
<td>IESS Salary Tax</td>
<td>5.8</td>
<td>22.4</td>
</tr>
<tr>
<td>Lottery, JBG</td>
<td>1.3</td>
<td>5.0</td>
</tr>
<tr>
<td>Household expenses</td>
<td>8.6</td>
<td>33.2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>25.9</td>
<td>100.0</td>
</tr>
</tbody>
</table>

SOURCE: CONADE, MSP, IESS, and mission estimates.

Expenditures by Provider Institutions

Ministry of Public Health (MOPH)

4.05 The official MOPH budget incorporates direct allocations for central administration, provincial administration and provincial health services. It further includes funds for several non-ministry entities involved with health-related activities. In 1984, funds under direct operational control of MOPH comprised 75% of total. Of the balance, 15% (including three-quarters of the capital budget) was allocated to the Ecuadorean Institute of Sanitary Works (IBOS), which is formally part of MOPH and is responsible for the construction, equipping and maintenance of health care facilities, and of water supply and waste disposal systems. The remaining 10% was allocated to the national institutes for malaria control, hygiene, and cancer, and to the Charity Board of Guayaquil.

4.06 The MOPH budget more than doubled in current terms between 1980 and 1984, reaching the level of S/7,287 million or US$92 million (Table 4.4). In constant terms, it decreased by 6% from 1983 to 1984 even though the government budget increased by 6%. The share for MOPH in the total government budget dropped to 6.4% in 1984 from a high of 7.2% in 1982.

4.07 MOPH Recurrent Expenses. Operating expenditures absorbed about 82% of the MOPH budget in 1984 and amounted to 2% less than the 1980 level in constant terms. About 77% of recurrent cost pays for health services at the provincial level and 14% is used for subsidizing the operating cost of decentralized institutes (mainly the National Malaria Eradication Service and the National Hygiene Institute) and the Charity Board of Guayaquil, leaving 9% for activities directly managed by the central level. This
percentage distribution has remained quite stable over the last five years. Salaries represent about 90% of recurrent expenditure.

Table 4.4: Ministry of Public Health, and Total Government Budgets, 1980-1985 (Sucres Millions)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Government Budget</th>
<th>MOPH Budget</th>
<th>MOPH/ Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>45,300</td>
<td>100</td>
<td>3,071</td>
</tr>
<tr>
<td>1981</td>
<td>60,281</td>
<td>116</td>
<td>4,182</td>
</tr>
<tr>
<td>1982</td>
<td>65,603</td>
<td>107</td>
<td>4,706</td>
</tr>
<tr>
<td>1983</td>
<td>83,752</td>
<td>97</td>
<td>5,978</td>
</tr>
<tr>
<td>1984</td>
<td>114,157 *</td>
<td>103</td>
<td>7,287</td>
</tr>
</tbody>
</table>

* Provisional estimates


4.08 An analysis of the distribution of 1983 MOPH funds allocated to provincial health authorities, and a comparison with the population distribution shows a relatively equitable - albeit low - appropriation of funds to provinces. The presence of specialized hospitals in the major cities, which attract patients from other provinces, affects this distribution in three provinces, as would be expected. Pichincha (Quito) received 22.2% of the budget and had 16.9% of the population. The situation reverses in Guayas (Guayaquil) because of the presence of the Guayaquil Charity Board and its three acute care hospitals. The third discrepancy is Azucar which has the third largest city (Cuenca) and receives a higher share of the budget than its percentage of the population. In other provinces, percent population and percent MOPH health expenditures correlate quite closely.

4.09 MOPH Investment Expenses. The percent of the MOPH budget for investments in health facilities and water and waste disposal systems declined from a high of 25.5% in 1981 to 18% in 1984 as a result of the recent economic recession. The construction and equipping of the country's major teaching hospital in Quito, the Eugenio Espejo Hospital, is currently absorbing an important and inequitable share of MOPH capital resources at the expense of investments at the primary care level.

Ecuadorean Social Security Institute (IESS)

4.10 IESS. The IESS is financed through wage contributions from workers and employers, plus state contributions and investment yields. Contributions to health-maternity benefits represent approximately 3.4% of the wage bill; total joint contributions to the social security system, including the pension fund, show wide variations ranging from 1% for farm workers to 30% for public teachers; on the average, they amount to about 20% of salaries, and there are no ceilings on individual contributions. The combined insured/employer wage contribution average of 20% is the sixth
highest in Latin America, but the country ranks sixteenth in total population coverage. The five countries with higher contribution percentages have universal coverage (or are close to it), more mature pension programs, and older populations with higher life expectancies. The beneficiaries of the rural Campesino program (IESS/SSC) contribute 1% of the minimum wage, and IESS/MS insured and all employers also contribute 1% of the payroll to IESS/SSC making it in effect a program largely financed by urban wage taxes. Worker and employer payments go directly to IESS. They are not reviewed or subjected to increase or diminution by authority of any ministry or dependency of the executive branch of GOE. IESS, therefore, has a stable and secure source of revenue through the power to tax wages.

4.11 IESS/MS is estimated to cost more than the 3.4% of salaries which is legally allocated to its financing. Health-maternity benefits are limited (they do not cover dependents), albeit very generous by any standard: the insured enjoys unusual benefits such as dental prothesis, part of the cost of contact lenses, and in some instances, the cost of travel and treatment abroad. The extension of health-maternity coverage to the family of the insured has been the subject of proposed legislation since 1944, but so far it has not been implemented. Financial implications of an extension of services should be carefully analyzed before deciding to do so. In 1984, IESS/SSC costed an estimated S/1,334 or US$17 per insured annually, versus S/6,653 or US$84 per insured for IESS/MS affiliates. It should be noted that IESS/SSC benefits are much more limited than the regular IESS/MS benefits.

4.12 IESS payments for pensions exceed contributions and even the actuarially determined retirement benefits and if this trend continues, a deficit should occur before the end of the decade. The state is obligated to contribute 40% of the cost of pensions. Although there are no studies of the impact of social security on income distribution in Ecuador, it appears that such impact is regressive. IESS also offers beneficiaries signature loans at interest rates as low as 4% depending on salary levels. Many such signatories are in default and will be required to repay at the higher rate of 15%. Even this level constitutes a negative real rate of interest of about 7%. The insured enjoys other exceptional benefits such as three extra monthly pension payments and benefits adjusted above inflation. The overall age of retirement is the fourth lowest in the region and some of the countries with lower retirement age have significantly shorter life expectancy than Ecuador.

4.13 Inequalities in benefit and entitlement conditions are sizeable and the most influential groups enjoy the best; for example, communication workers can retire with 10 years less of work (at any age) than those insured in the general system; teachers received 25% more than the average pension; and military pensions are 56% over the general pension. Inefficiencies in operating the system cause administrative expenditures to be a high percentage of current expenditures. The number of employees per 1,000 insured has steadily climbed to 13.9, and is one of the highest in the region. IESS has the largest computer facility in the country, at a very high cost, however those facilities are underutilized.
4.14 IESS surpluses have often helped offset deficits of public enterprises or the central government; in 1979, its current revenue surplus equalled 2% of GDP. By 1983, however, current contributions were barely adequate to fund the current level of medical expenditure, and its actuarial deficit (i.e., the excess of the present value of future obligations over expected future revenues) had reached alarming levels. Moreover, since 1981, the practice of financing hospital construction and new equipment by borrowing from the pension fund has further undermined the soundness of the system, although in principle IESS is expected to maintain separate accounts for health care and pension funds.

4.15 IESS has successfully secured government support by using its surplus for purposes consistent with government policy; it invests in government bonds and securities at below market returns and has recently agreed to finance a considerable share of the government’s important housing program. The State systematically delays its contributions to IESS (in particular for obligations incurred by the Military and Police), and eventually pays with devalued currency and with negative interest rates. In the 1970s, the State failed two years in a row to pay its contributions, and then paid only part of them; by the end of 1983, the cumulative outstanding debt to IESS was estimated at US$500 million. As in the past, the institution has been very cooperative in renegotiating government’s obligations.

4.16 Evasion of contributions to IESS by private employers is also significant. This behavior has been encouraged in recent years by high inflation rates which caused maximum interest rates paid for overdue contributions to be consistently below market rates. Stricter collection measures have been enforced in recent years. For example, in 1982-84, almost 12,000 trials were held and S/4.4 billion were collected in fines and arrears.

Charity Board of Guayaquil (JBG)

4.17 Health expenditures by JBG amounted to S/1.3 billion in 1984 (US$17 million). They represented about 5% of total health outlays, a ratio which has remained unchanged since the mid-1970s. Overall, health expenditure of the JBG increased in constant terms between 1976 and 1983, but the trend has been very irregular. The MOPH allocation for the JBG (S/166 million in 1984) covers only 13% of JBG’s expenses; 60% of its budget is financed by proceeds from the national lottery and the balance comes from revenues generated by rents or sales of their properties and real estate. Three quarters of JBG’s outlays are absorbed by its health program, and the remainder is spent on other social charitable programs. Some parts of the country criticize JBG for using nationally collected funds (via the national lottery) almost exclusively for local services in Guayaquil.
Armed Forces

4.18 In 1984, Armed Forces expenditure on health reached S/2.3 billion, or US$29 million; they have represented, on the average, about 3% of total health outlays to cover an estimated 2.5% of the population. The Armed Forces use their own medical facilities but purchase certain specialized services from IESS.

Household Health Expenditures

4.19 A 1975 survey showed that, in urban areas, households spent on the average 3.8% of their incomes for health services; the survey also showed a high income elasticity for this expenditure. More recent surveys in peri-urban areas of Quito and Guayaquil confirmed these data and the fact that, at the lower income levels, health care remains largely financially inaccessible. Private health expenditures have averaged approximately 33% of total health expenditures since 1976. In 1984, private expenditures were estimated at US$109 million (34% of total), or about US$12 per capita.

B. Sector Financing

4.20 External Financial Assistance. Although external support amounted in 1984 to less than 2% of sectoral resources, it plays an important role, because it is concentrated in priority programs and technical assistance. Actual levels of external support are difficult to estimate, as it is largely channelled through intersectoral, multi-year programs; moreover, although most support is channelled through MOPH, private organizations are particularly active in the population field. During the 1979–83 period, assistance to the health sector exceeded US$22.1 million, with a share of more than 60% from UN Agencies, 34% from bilateral sources (mainly USAID), and about 6% from other sources. In 1982, UNDP counted 51 projects with a value of approximately US$17 million in the population, health and nutrition area.

4.21 In 1982, on-going external assistance totaled US$8.1 million, including US$1.1 million for population activities. Multilateral assistance represented US$3.7 million (US$0.2 million for population) of which 35% came from PAHO/WHO, the World Food Program (38%), UNFPA (19% for health and 5% for population), and UNICEF (3%). Bilateral assistance in the health sector amounted to US$3.4 million and came mainly from USAID (85%) and Canada (approximately 15%), with a marginal contribution from France. In the population field, USAID was the only bilateral source of support with US$0.9 million. Table 4.5 presents the expected disbursement of external grants and credits for the period 1984–86.
4.22 Commercial banks and supplier credits for the purchase of medical and hospital equipment were the major external financing sources in health in 1985. The Inter-American Development Bank is also a major external financing institution having provided loans for construction of hospitals and rural health facilities.

4.23 Cost Recovery. The level of cost sharing by the service user varies in Ecuador's three-tiered health care system. The first tier is the private for profit subsector - modern and traditional - where all expenses are paid by the user to the provider. The second tier is the social security subsector where most of the expenses are financed by the user through preset payroll deductions, and by employer contributions. The third tier consists of a minimum level of services provided by MOPH to the remainder of the population which is mostly poor, rural or periurban, and medically indigent with low demand for and low utilization of services. Inpatient care is free. Outpatient care is also free except for medicines which tend to be the largest expense item of a patient visit. Cost recovery at the first tier is 100%, and cost sharing could be applied at the second tier to contain utilization of selected services and procedures. Cost recovery for services provided at the third tier could only be modest, and a user fee policy should follow a needs-based analysis of the type of services for which cost could be shared, and of its impact on health status.

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Table 4.5: Expected Disbursement of External Grants and Credits, 1984-86 (US$ Thousands)

<table>
<thead>
<tr>
<th>SOURCE OF FINANCING</th>
<th>1984</th>
<th>1985</th>
<th>1986</th>
</tr>
</thead>
<tbody>
<tr>
<td>USAID, Total</td>
<td>5,157</td>
<td>6,155</td>
<td>7,518</td>
</tr>
<tr>
<td>Population and Family Planning</td>
<td>1,617</td>
<td>1,675</td>
<td>1,438</td>
</tr>
<tr>
<td>Health Policy Analyses, Inst. Dev.</td>
<td>277</td>
<td>190</td>
<td>200</td>
</tr>
<tr>
<td>Int. Rural Health Deliv. Systems</td>
<td>3,273</td>
<td>1,700</td>
<td>2,000</td>
</tr>
<tr>
<td>Malaria Control</td>
<td>0</td>
<td>2,560</td>
<td>2,170</td>
</tr>
<tr>
<td>Operational Policy Grants</td>
<td>0</td>
<td>30</td>
<td>200</td>
</tr>
<tr>
<td>Inter American Development Bank</td>
<td>n.d.</td>
<td>5,850</td>
<td>n.d.</td>
</tr>
<tr>
<td>UNFPA, MCH Rural Health Program</td>
<td>0</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>UNICEF, MCH Rural Health Program</td>
<td>550</td>
<td>550</td>
<td>550</td>
</tr>
<tr>
<td>First Wisconsin Bank, Supplier Credit</td>
<td>11,400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spanish Bank Consortium</td>
<td>4,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>German Bank Consortium</td>
<td>4,400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplier Credit to SOLCA Cancer Institute</td>
<td>1,400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italian Bank Consortium</td>
<td>1,700</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals, as programmed</td>
<td>5,707</td>
<td>36,455</td>
<td>8,568</td>
</tr>
</tbody>
</table>

SOURCES: CONADE and interviews with USAID.
4.24 Resource Mobilization. MOPH shares with other government entities the difficulty of mobilizing counterpart funds to contribute to the operation of projects completed with external assistance. In 1984, a global review by the Central Bank of externally assisted projects showed that, at best, 55% of the investment program would be executed as scheduled; the conclusion applied to social sectors as well. The Inter-American Development Bank and USAID, which in recent years provided 60% and 4%, respectively, of all external health sector credits to the country, experience delays in their lending programs for lack of counterpart funds. In the first half of 1984, the rate of utilization of available resources calculated by the Central Bank was on average 23.3% for the various ministries and state-owned enterprises; for MOPH, the rate was only 13.1%. These low rates are partly due to inflated political budgets which are subsequently not funded. This suggests that additional resources for infrastructure would be much less useful than specialized assistance in operation and management, which could speed up the successful execution of already funded projects. So far, no attempt seems to have been made to assist MOPH in overall programming and execution of its activities.

4.25 Future Sector Financing. The level of financial resources that can be mobilized to achieve sector goals will result from the combination of four factors: a more efficient use of current resources; the growth of the country’s total product; the share of this product, and of total public expenditure, that can be committed to population, health and nutrition; and the external resources that can be obtained to support the sector’s development.

4.26 Ecuador spends significantly less on health care services than other middle income countries. Yet, in view of the country’s present economic situation, it would be unrealistic to expect a significant and rapid increase in sectoral resources over the coming years. In the short run, a better use should be made of what is already there. First, existing facilities and staff can be used more efficiently, duplication of services eliminated, waste and pilferage controlled, employer contributions to IESS timely collected, and more judicious prescription of drugs encouraged. Second, investments in buildings and equipment, especially tertiary care facilities, should be severely curtailed in favor of sharing of services by all providers. Third, the bulk of health expenditures are ordered by the physician and are spent in the hospital. Savings can be realized on hospital care through reduced lengths of stay and by controlling the use of resources by physicians. Lastly, cost sharing by the user of curative hospital-based services could be introduced and/or strengthened by all providers. Thus, the health care system itself should be able to generate additional financial resources through better management, increased efficiency, and a reorientation of its priorities.

4.27 Informal mechanisms exist to contain growth of public expenditure in all sectors, including health, and they have been used more frequently in recent years, to respond to deteriorating economic conditions. These include the "normal" delays in approving the new budget, until which time expenses may not exceed previous year’s ceiling; the need to request
specific allocations from MOF to execute any authorized program; the existing ceilings on all institutions' budgets; the tendency to reject all budget proposals which do not fit historical trends; and the cumbersome procurement procedures.

V. Institutional Capacity of the PHN Sector

5.01 The purpose of this chapter is to present an analysis of the strengths and weaknesses of the institutional capability of the sector to achieve its objectives in an efficient manner. The first part discusses and analyzes organizational design and organizational culture. Management issues are recognized as an important constraint in achieving sector development objectives and are dealt with in the second part of the chapter through a management audit of fundamental management tasks.

5.02 About a dozen major and minor actors participate in the PHN sector in Ecuador. The three principal sector entities in regards to national mandate, budget, service capacity, present coverage and specially potential future coverage are: (a) the Ministry of Public Health (MOPH); (b) the National Medical-Social Directorate of the Ecuadorian Social Security Institute (IESS/MS); and (c) the Campesino Social Security program of the same Institute (IESS/SSC). The institutional capacity analysis will focus on these three actors.

A. Organizational Analysis

Organizational Design

5.03 Structural properties of the three institutional providers are described in paras. 3.13-3.19. In MOPH the locus of decision-making rests with the Minister and the central level administration. The provincial levels are responsible for staying within allocated budgets, providing timely information and managing material and human resources. However, little authority has been delegated to this level to carry out the assigned functions: numbers and types of personnel slots are set centrally, rural physicians are appointed centrally, budgets are approved and arbitrarily increased or decreased centrally. There is much talk about decentralization—as there has been for a decade—but the Ministry continues to move in the direction of greater centralization.

5.04 IESS/MS is responsible to the Director General and the Administrative Director. Policy decisions, investment decisions and numerous operational decisions are made by the IESS High Council, although, theoretically they should be made at the central or regional levels of IESS/MS. This results in a number of decisions being made on political rather than technical grounds. The regional level has a dual authority structure: administratively IESS/MS personnel reports to the Regional
Director who, in turn, reports to the central Administrative Director, and professionally they report to the regional medical director, but in practice, to the central medical director who is under the authority of the Administrative Director. This conflict situation may be expanded with the recent division of the country into eight regions. Upon completion of the regionalization plan, more authority would be delegated to the regions which would have more responsibility for support services such as logistics and personnel. The effect of these changes on the efficiency and effectiveness of service delivery could be very positive. However, regionalization, to be effective, requires more than the geographic division of a country and should be implemented gradually with careful attention paid to management support systems.

5.05 IESS/SSC and IESS/MS are on the same organizational level, but the former enjoys a greater degree of autonomy. SSC operates as a vertical program and executive authority rests with a three member National Commission of SSC consisting of the Director General of IESS, the Director of the SSC program and a member of the IESS High Council. Noteworthy is the absence of the Director of IESS/MS on this Commission. As in the case of the IESS/MS, the High Council approves the budget, establishes policies, and authorizes acquisitions for SSC usurping the authority of the National Commission of SSC. The effect of the recent regionalization on SSC or even the extent to which SSC is bound by the IESS regionalization decree is not clear. SSC plans to increase the number of its regions to conform to the IESS/MS structure but there has been as yet no apparent move to decentralize management functions presently executed at the central level.

5.06 Intra-Sector Coordination. The three main actors operate independently of one another with only nominal inter-institutional coordination. The lack of effective coordination is most acutely felt at the planning and policy level, particularly in the areas of capital expenditure planning and population served. Some coordination occurs at the operating level as a result mostly of professional personal relationships. There is a limited sharing of clinical services among the three entities fostered by a recently signed shared services agreement between MOPH and IESS. Shared services relate to the provision of medical and dental services, and drugs to the client populations of the three providers: (a) in geographic areas where the other entity lacks a facility; (b) for emergency medical care; and (c) where the other entity lacks the necessary diagnostic and treatment services. In addition, IESS/MS provides hospitalization services to IESS/SSC patients, because the latter program does not and should not have inpatient facilities.

5.07 Two coordinating bodies exist which could coordinate national health, population and nutrition activities, viz., the National Health Council (NHC) and the National Development Council (CONADE). The strengths and weaknesses of these two potential coordinating mechanisms were discussed in paras. 3.26 - 3.28.
Organizational Culture

5.08 MOPH is a large, sprawling bureaucracy which is in a state of constant organizational flux with frequent changes in leadership and structure while at the same time being set in an unchanging pattern of operations. The organization does not purvey a sense of mission or purpose to its dedicated staff which may be in part attributable to the absence of a single and readily identifiable clientele. There is a pervasive attitude within the Ministry that other health sector entities are attempting to encroach upon its domain (which they do) and the Ministry jealously defends its constitutional mandate as the lead entity responsible for the Republic's health. This attitude influences MOPH's reluctance to enter into coordinated activities which might compromise or erode its authority.

5.09 IESS is a powerful entity within the Ecuadorean system and is immune from the financial and governmental constraints which confront MOPH. It exhibits a sense of independence and autonomy of action. IESS/MS is an independent and self-contained delivery system exclusively dedicated to meet the needs of its client population. The strong identification and commitment to its clientele tends to dampen enthusiasm on the operational level for shared service agreements and other forms of cooperation with MOPH and IESS/SSC.

5.10 IESS/SSC has an 11-year legacy of working with rural cultivators and exhibits an exuberance and a sense of challenge. It has a legally defined mandate to expand coverage of its client group and the organization is growth oriented. Its served population has doubled in each of the last two years. It is an evolving and developing organization which is still groping for an appropriate structure. IESS/SSC leadership has a strong identification with, and dedication to, its client group. There is an underlying sense of commitment approaching missionary zeal.

B. Management Audit

5.11 The following paragraphs describe and analyze the strengths and weaknesses of the management of the three service delivery entities. For analytical purposes, the concept of management has been disaggregated into nine discrete measurable management tasks: planning systems, client population, provision of services, logistics of materials and maintenance, financing and budgeting, personnel, leadership, and control systems. The ninth functional management area, viz., organizational design, was analyzed in paras. 5.3 - 5.7.

Planning Systems

5.12 Health sector planning is fragmented, particular in regards to investments in hospital infrastructure and other capital expenditures. Only nominal coordination occurs between MOPH, IESS/NS and IESS/SSC. The Annual Operating Plan prepared by CONADE is a compilation of individually submitted
plans, rather than an integrated planning document in which priorities are set for the sector taking into consideration the plans of all the actors in the sector. The integrity of the individual plans is compromised by: (a) a lack of resources required to attain the plans’ stated objectives, a more critical issue for MOPH which lacks the financial autonomy enjoyed by the IESS entities, and (b) an inability to execute planned hospital infrastructure and other capital expenditure projects within the established time frames.

5.13 MOPH. Responsibility for planning is shared between the central level Directorate of Planning and the provinces. Planning activities at the provincial level are based on the previous year’s program to determine what will be undertaken during the current year. The central level reviews and incorporates the provincial plans into the Ministry’s annual plan. A principal constraint to effective MOPH planning is the budgetary uncertainty under which the Ministry operates because: (a) the extended time frame for budget approval (final budget approval may occur five to six months into the current year), and (b) shortfalls in expected revenues which require operating budget adjustments during the year. This situation is further exacerbated by a lack of skills at the provincial level for projecting costs on projected service levels, and of an adequate evaluation phase in the planning cycle.

5.14 IESS. Policies are made and strategies are defined by the High Council. Planning responsibility for the whole organization is assigned to the Division of Planning which was established in 1983 in the office of the General Director. This Division is still in the process of organizing itself, has limited staff, is physically isolated from headquarters, and does not have any input in the annual plans of IESS/MS or IESS/SSC. The potential for discharging its responsibilities effectively is problematic. IESS/MS planning consists of comparing reported performance of a unit in terms of output measures with established performance norms, and using this evaluation to define actions which together constitute the annual plan. Investment planning decisions tend to be politically determined and far exceed the financial and physical ability to execute the volume of annually planned projects. IESS/SSC maintains its own division of planning and focuses on an explicitly defined target population with coverage goals established by law. Its service goals are not necessarily compatible with those of IESS/MS and its capital expenditure planning occurs without regard to the availability of MOPH or IESS/MS services.

Client Population

5.15 MOPH is supposed to serve 75% of the population, and they live mainly in rural and peri-urban areas. The unit of service is the family, or at least the mother and children. IESS provides medical services to about 13% of the population divided into 8.5% for IESS/MS and 4.5% for IESS/SSC. The IESS/MS clientele are wage earners in the public and private sectors of the economy who mostly live in cities. They are individuals who receive care on an individual basis. The population served by IESS/SSC is
exclusively rural and mainly low income. It includes the dependents of the head of the family.

Provision of Services

5.16 MOPH provides a full spectrum of services through its health care facilities ranging from primary prevention to specialized hospital care. Because individuals join IESS/MS and their dependents are not eligible for benefits, its services are episodic, encounter-specific and curative. These services are provided through its 16 hospitals and 48 dispensaries. Even though IESS/SSC enrolls communities, its service provision philosophy is taken from its urban counterpart and services tend to be curative and medical care oriented. Only outpatient care is provided in its 312 dispensaries, and patients are referred to IESS/MS for hospital care. IESS/SSC has the potential to deliver family-oriented comprehensive health care.

Logistics of Materials and Maintenance

5.17 The logistics systems maintained by MOPH, IESS/MS and IESS/SSC differ in their degrees of centralization. At one extreme is IESS/SSC where all procurement, storage and distribution functions are centralized at the national level. At the other extreme lies the proposed IESS/MS system to be implemented in 1986, in which all logistics functions including the purchase of drugs will be transferred to the regional level. Between these two extremes lies MOPH in which some of the purchasing and warehousing functions are maintained at the central level, e.g., negotiations for pharmaceuticals, materials and equipment over a specified threshold. Troublesome aspects of the logistical systems of all three providers are their inability to:
(a) provide a sufficient supply of spare parts for medical equipment, and
(b) provide facilities with the scope and quantity of drugs required.

5.18 Routine facilities and equipment maintenance functions are poorly performed by hospital staff and more sophisticated maintenance activities should be, but are not often, done by the central level unit. Within MOPH, the central level maintenance function is assumed by the Ecuadorean Institute of Sanitary Works (IEOS), a semi-autonomous unit within the MOPH structure, but performance is very weak. The MOPH provincial health chief responsible for facility and equipment maintenance lacks direct authority over his counterpart in IEOS. IESS/MS has an insufficient number of trained maintenance personnel at the central level unit. This is not an important issue for IESS/SSC which maintains a smaller and less sophisticated physical plant. A common problem shared by all is the lack of preventive maintenance which is partly due to the absence of manuals, the lack of specialized tools and spare parts, shortages of trained maintenance personnel, and an easy target for budget cuts.

Financing and Budgeting

5.19 The source of funding—and as an outgrowth the budgetary process under which they operate—differs for MOPH, IESS/MS, and IESS/SSC. MOPH is
financed through non-earmarked revenues and is subject to an annual budgetary process which: (a) places MOPH in competition with other public sector entities for the available discretionary funds (about two-thirds of total government revenues are by law earmarked for specific sectors or programs); and (b) subjects the approved Ministry budget to repeated adjustments during the fiscal year making the budget unsuitable as a planning and control tool. Both IESS directorates are financed through wage contributions, a fixed government subsidy and yields on investments. This income is not subject to the vagaries of the national budgetary process and to its programmatic uncertainties.

5.20 **MOPH.** The Ministry of Finance prepares a draft budget for MOPH within the framework of the national budget. MOPH prepares a pro forma budget through a parallel process with limited guidelines from the Ministry of Finance. The operating expense budget is forward directly to Finance and capital expenditures go to Finance via CONADE which selects and ranks investment projects. Following reconciliation of all the individual ministries and the Ministry of Finance budgets, a draft budget is sent to Congress for review and approval. Final budget authorization is usually received four to five months into the fiscal year. Meanwhile, MOPH operates under a continuing resolution at previous year's budget level. Execution of the budget is a continuous process of negotiation. Extensive delays in final budget approval, complicated expenditure procedures, and shortfalls in expected revenues create a high degree of uncertainty and the need for frequent budget readjustments during the fiscal year. Three adjustments were made to the MOPH budget in the 1984 fiscal year. Most expenditures in the operating budget tend to be for non-discretionary spending, i.e., mainly salaries, and budget reductions consequently occur in capital expenditures, preventive maintenance, supplies, transportation and supervision.

5.21 **IESS/MS and IESS/SSC.** The budget preparation and execution process is played out within the organizational structure of the IESS. Even so, budget approval and authorization by the IESS High Council occur three to four months into the fiscal year. The final operating and investment budgets are transmitted to CONADE and the Ministry of Finance, and are included in the national budget. Since CONADE and the Ministry of Finance lack the authority to make adjustments in the IESS budget, the transmittal process is simply a final procedural step in the budgetary process.

5.22 Although the three entities show financing and budgeting differences, they share a number of similar practices which have an adverse impact on their financial management: (a) no link between the investment budget and the recurrent cost budget; (b) consistently budgeting larger amounts of money for capital investment than can knowingly be spent or encumbered in the fiscal year; and (c) lack of timely actual expenditure data to prepare next year's budget and to exercise management control.

**Personnel**

5.23 Health sector human resources vary in their degree of availability. There are enough physicians, but they are maldistributed.
There is a shortage of nurses, dentists, medical technicians and maintenance workers. Very few health promoters are being trained and utilized. Shortages are more pronounced at MOPH which has the lowest salary scale. Of particular concern is the serious, sector-wide shortage of adequately trained managers at the top and middle levels of the institutions. Though the problem is quite apparent at the central levels, it is most acutely felt at the provincial (MOPH) and regional (IESS) levels where very few of the persons presently occupying management positions have received formal training. The shortage of trained management personnel is exacerbated by the absence of a formal policy to attract qualified management staff and the aggressive competition among other sectors of the economy for this resource.

5.24 Management training opportunities, particularly for individuals at the provincial and regional levels are very limited. Moreover, individuals who receive national or international training are not reassigned to their former provincial or regional posts after completing their training. Positions are filled by appointment and not necessarily on the basis of management skills. Therefore the demand for management training is limited as it is not perceived to be useful for promotions or coveted appointments. Also, physicians prefer advanced clinical training, especially overseas training, which offers greater prestige, increased financial rewards and better chances for advancement.

Leadership

5.25 The health sector experiences limited stability and continuity in leadership due to frequent turnovers and rumors of changes in key positions. Though the actual changes are not as numerous or widespread as rumors would suggest, the changes which do occur reinforce the perceptions of leadership instability. These perceptions of instability are as important as the objective reality in terms of undermining sector leadership. MOPH has had six ministers in the past five years who do not necessarily pursue the same policy objectives and operational strategies. During four of the six tenures, changes were initiated in organizational structure affecting lines of authority and reporting relationships. Changes are less frequent in the IESS where major top level changes occur with the change of government.

5.26 Instability and discontinuity contributes to a diffusion of sector leadership, with no one individual or institution being in a position to exercise leadership over the sector. All major and minor actors adopt independent roles with minimal coordination among themselves. Commitment to sector-wide goals suffers under these circumstances. In addition, sector goals and objectives are stated in the National Development Plan and in the Annual Operating Plan in very broad terms and lack the specificity of purpose and direction for sector leadership to be exercised.

Control Systems

5.27 Irrespective of the performance of each subsector entity, the health sector in general does not exercise effective management control,
i.e., it does not assure that resources are obtained and used efficiently and effectively in the achievement of the sector's or the institution's objectives. Evaluations of the performance of annual plans or periodic evaluations of specific components are not conducted. Adjustments made during the year are triggered by budget cuts and are not the result of performance audits. The three major providers share the same structural and operational deficiencies which inhibit effective management control:

(a) Program planning lacks precisely defined goals and operational definitions of the desired outcomes. As a result the focus is on input and process measures which circumvents the question of program effectiveness.

(b) Accounting systems cannot and do not generate unit costs or provide timely actual expenditure data useful for a comparison of executed versus authorized or budgeted expenditures.

(c) Information systems are limited in scope and provide inaccurate information too late.

5.28 However, the health sector is not devoid of all control systems. Specific functional management areas maintain an effective system of operational control to assure that specific tasks are carried out. Controls exist for assuring the quality of manufactured supplies and drugs and for monitoring inventories. A reasonably financial auditing system is in place which assures that rules and regulations are being followed.

5.29 The lack of a structured management information system hinders the monitoring and evaluation of performance and the planning of programs. The health sector does not maintain a single unified data base. Each provider has its own information system designed to meet its own programmatic and management needs. The effect on the sector of having individual information systems is a three to five year delay in the availability of national health status and health systems data. Furthermore, data and information do not lead to knowledge for lack of analysis and use of the data. The nonuse of health services data for routine decisions may be attributed to: (a) delays in collecting data at each level of the system; (b) delays resulting from manual data processing; (c) personnel at the regional and provincial levels with insufficient analytical skills to use data in problem identification and problem solving; (d) insufficient effort to validate the data collected; and (e) inadequate supervision from the central and regional/provincial levels to the operational units where the data are initially generated.

Summary of Institutional Capacity of the PHN Sector

5.30 The population, health and nutrition sector in Ecuador is weakened by a number of structural deficiencies at the sectoral and institutional levels. The most important ones are: (a) the advisory nature of the National Health Council and its dependence on the Minister of Public Health limit its effectiveness in sector-wide policy formulation, setting national priorities and making resource allocation decisions; (b) insufficient staff and lack of professional expertise at the level of CONADE minimizes its potential to provide sector guidance and coordination; (c) failure by MOPH to strengthen provincial levels and delegate authority to operating units; (d) need to strengthen the recent regionalization of IESS/MS service
delivery; and (e) the presence within IBSS at the same organizational level of two directorates both responsible for health activities.

5.31 A management audit of the sector reveals the following weaknesses: (a) independent investment planning by the major providers and policy decisions driven by budgets and by political factors; (b) overlapping service areas and client populations, especially between MOPH and IESS/SSC; (c) logistics systems failing to provide regularly drugs, spare parts, and maintenance services; (d) the uncertainty about its annual budget does not allow MOPH to use the budget as a planning and control tool; (e) no link between the investment budget and the recurrent cost budget; (f) shortage of trained managers at the top and middle levels of the sector; (g) instability and discontinuity in sector and institution leadership; and (h) the sector does not exercise effective management control and does not have an adequate information system to support planning and control actions.

VI. Summary of Sector Issues

6.01 The health sector in Ecuador faces six major issues: (i) limited access to basic health services, family planning services and nutrition services; (ii) lack of a well designed population program; (iii) a stalled hospital building program; (iv) level of health care financing; (v) structural deficiencies; and (vi) management weaknesses. Gaps in access to basic health care for a large portion of the population, and an unsatisfied demand for family planning services result in unwanted fertility, unnecessarily high infant and maternal mortality levels, and widespread malnutrition. High levels of fertility affect the country's socioeconomic development, and Ecuador does not have an explicitly designed population program which coordinates and integrates the activities of the many providers. An ambitious hospital program was initiated during the petroleum boom and has been stalled by the economic recession. In relative terms, Ecuador as a country and its public sector spend less on health services than other middle income countries of similar per capita income. Structural deficiencies are the lack of stable long term policies and implementation strategies, and the inability to coordinate and/or integrate the actions of the main health care providers. Management weaknesses detract from sector performance, limit how scarce financial, human and technical resources are acquired and used, and reduces the capacity of the institutions to execute policies and programs.

Issue 1: Gaps in Access to Services

6.02 Access to basic health services, and to safe water and sanitary waste disposal is not available or is severely limited for about one third of the 9.4 million Ecuadorians. They do not receive care because services are not physically available, or are not accessible for reasons of distance or cost, or are not culturally acceptable. Lack of basic health care is reflected in the country's relatively high infant and child mortality, and fertility rates. The natural growth rate is about 2.8% per annum. Total
fertility rate of the peri-urban poor, the rural population, and the native Indians is well above the national average of 5.2. The infant mortality rate is high at 76 deaths per thousand live births and reaches 200 deaths in poor rural areas. About four out of ten deaths in the country occur in children under five years of age. Primary causes of excessive and unnecessary death and disease in infants and children are poor environmental conditions, infectious and communicable diseases, low immunization rates and malnutrition which affects two out of five children.

6.03 The Government acknowledges and wants to reduce the inequity in access to basic services for the poor. The sector's priorities are: (1) controlling immuno-preventable diseases; (2) reducing the incidence of diarrheal disease and respiratory infections; (3) promoting maternal and child health, including family planning and nutrition interventions; (4) completing the construction and equipping of hospitals on which work was stopped due to the current liquidity crisis; and (5) upgrading and making better use of the existing physical and human infrastructure. This is an ambitious program and its successful execution would require setting priorities, and making available implementing instruments such as additional financial resources, trained manpower, strong institutions and effective management systems. Government has not formulated or committed itself to an explicit national population policy with demographic goals to reduce the high population growth rate. There is also no explicit nutrition policy. Yet, malnutrition is believed to be pervasive and affects labor productivity, motivation, and the activity levels and learning capacity of children, and thus both the well-being and earning capacity of the poor.

Issue 2: No Well Designed Population Program

6.04 Ecuador provides family planning services – albeit with serious gaps as pointed out in para. 6.02 above – for health reasons as part of MCH programs. The high fertility rate – an average of 5.2 children per woman in 1982 – is the result of a broad mix of economic, social, and cultural forces. These include such factors as the early age of marriage for Indian girls, the diminishing practice of prolonged breast-feeding, the limited use of modern contraception in rural areas, and the low relative status of women. A population unit was established within CONADE in 1982 to analyse population data and to make recommendations for population policies within the broad context of socioeconomic development objectives. So far the work of this unit has focused on collecting and organizing data, and on some statistical analyses. It is in the process of developing a comprehensive population program which incorporates mortality, fertility, migration and population distribution. MOPH should coordinate the activities of the public sector (MOPH, IESS), the private nonprofit organizations (APROFE, CEMOPLAF) and the for profit private sector (physicians and pharmacies).

Issue 3: Hospital Building Program

6.05 The petroleum boom (1972–82) and the generous borrowings of the 1970s led to the start of ambitious hospital expansion programs which has now been slowed down for lack of capital. Pressure is exerted by
communities, political constituencies and the construction and equipment industries to complete the planned and/or initiated works. The IESS investment program is estimated to be about US$200 million and completion of the MOPH investments would cost about US$38 million. Adding the expansion plans of smaller providers (e.g., Cancer Society) would mean a potential investment of approximately US$250 million over the next five years. It is not realistic to go forward with this level of investment given the current economic situation. Some of these capital expenses are not needed and excessive investment in hospitals deprives primary health care of the much needed funds to expand services.

Issue 4: Health Care Financing

6.06 Total health expenditures in 1984 represented a modest 3.4% of GDP. MOPH’s budget was only 6.4% of the Government budget in 1984, and public sector expenditures were only slightly more than one third of total expenses. Ecuador spends less money on health services than other middle income countries. It should be financially feasible to expand slightly the share of GDP devoted to population, health and nutrition programs through the rest of the 1980’s.

6.07 A gap exists between health planning and health care financing and provisions are not made for assuring that recurrent cost funds will be available for operating the planned investment. Cost accounting is practically non-existant, and unit costs are not available for service planning, budgeting and control purposes. IESS has two budgets for financing health services (IESS/MS and IESS/SSC) which should be unified as a precursor to consolidating the two delivery mechanisms. Finally, there does not appear to exist a mechanism for billing and for receiving payments across providers, e.g., IESS/SSC refers patients for hospital care to IESS/MS and to MOPH but is not billed and consequently does not pay for services received.

Issue 5: Structural Deficiencies

6.08 The lack of a national priority setting agency, of consistent and explicit national health, population and nutrition policies as part of a national health plan, of technical criteria for resource allocation, and of equitable implementation strategies result in a large number of organizational/institutional deficiencies. Major structural deficiencies are: (i) the centralization of executing authority in a politically and technically weak Ministry of Public Health in Quito; (ii) overlap and duplication of health programs and investments between IESS/MS, MOPH, IESS/SSC and the Charity Board of Guayaquil, on the one hand, and between the public and the private systems, on the other hand; (iii) the organizational separation between IESS/MS and IESS/SSC; (iv) the lack of strong support systems for the regionalization of IESS/MS; (v) limited access by certain segments of the population to some services and no access to other services; and (vi) no centralized decision making authority on
hospital expansion and high technology medical equipment investments in the public and private sectors.

**Issue 6: Management Weaknesses**

6.09 The lack of professional managers and of the application of reasonable management practices result in sector institutions which do not have the capacity to plan, execute and evaluate programs effectively and efficiently. Weak logistical support systems disrupt the flows of drugs and supplies, and of spare parts. Personnel policies do not encourage productivity, and staffing patterns do not match health care services needs. Some existing facilities are underutilized, when at the same time, other facilities cannot cope with service demand. Defective maintenance of vehicles decreases the frequency of field supervision. The lack of a system to produce cost data, the lack of comparability among providers, and late information on service statistics severely limit planning and control of service programs. Additionally, investment planning is not linked to budgeting of recurrent cost. Few physicians in charge of major health programs have been trained as managers. The few that have received management training do not stay long in their positions because they have little or no authority, become quickly disillusioned, and return to clinical practice.

Thus, a major flaw in the Ecuadorian health care system is the managerial weakness of provincial (MOPH) and regional (IESS) authorities in terms of leadership, supervision, management information, authority to select and train the right mix of staff, budget control and cost accounting. Managers at the provincial/regional and lower levels are not able and/or are not allowed and/or are not willing to plan, organize, staff, direct and control the health programs for which they are held accountable. The combination of external assistance, supplier credits, and local political demand has led to excessive capital expenditures on hospitals which is not being adequately complemented by hospital staffing, and plant and equipment maintenance, thereby creating a serious imbalance at all service levels between planned programs and available resources.

6.10 These management weaknesses limit the implementation of policies and programs and constrain sector development. Execution of internal and external funded programs are delayed or carried out only partially for lack of capable implementing sector institutions staffed with competent personnel. Appointments of physician managers should require management knowledge and experience and be less influenced by political considerations.

**VII. SECTOR DEVELOPMENT STRATEGY**

7.01 This chapter proposes a health sector strategy and recommends actions based on the earlier analysis of problems and formulation of issues. It is important to note the substantial progress achieved in the health sector in the decades of the 1960's and 1970's. During that time Ecuador developed a national network of health care facilities, increased the output of medical graduates and nurse auxiliaries, established a
Ministry of Public Health, created a program to reach disadvantaged farm workers as part of its Social Security system, and legislated the compulsory one year rural service for medical, dental and nursing school graduates. More importantly, Ecuador registered a decrease in infant, child and adult mortality, and life expectancy increased. In the area of population, fertility rates started their decline as the use of contraceptives increased, birthrates decreased and both private and public sectors played important roles to make it happen. As regards nutrition, although no explicit policy has been articulated, nutrition-specific actions have been carried out which have kept the spotlight on this area. The economic recession of 1982-83 caused the steady advances in health status improvement to stagnate, and some of the terrain gained may have been lost. The February 1986 dramatic drop in oil prices will cause a severe loss of income and does not augur well for a quick reversal of the deteriorating trends in health conditions. Oil exports are the major source of funds for the public sector and a fall in oil prices will require a review of the public investment program.

7.02 Health Sector Goals. The rapid extension of the health system in the 70’s, the economic recession in the first half of this decade, and the analysis of sector issues suggest the following goals for a health sector strategy:

(a) improving equity in access to care;
(b) increasing efficiency of service delivery; and
(c) assuring quality of care.

7.03 Definition of Health Sector Goals. Improving equity in access requires identifying unserved, underserved and high risk population groups, and removing geographic, financial and cultural barriers to basic health care services. This, in turn, will involve a coordination of activities by the major service providers, a closer collaboration between the public and private sectors, and a willingness by traditional and non-traditional medicine to cooperate. The current independent behavior of service providers, the lack of a strong national coordinative mechanism, and overlapping jurisdictions complicate greatly the tasks of sector-wide planning which would provide more services to more people. Increasing the efficiency of service delivery requires the presence of strong management capability, knowledge of uses of funds and of unit cost, elimination of duplication, cost effective services, and establishment of control systems, especially realistic budgeting and cost accounting. Efficiency measures should decrease unit cost and contain overall health expenditures. If access to care can be reasonably assured and efficiency increased, there is a pressing need to strive for the highest possible quality of care standards for all Ecuadorians. Current evidence suggests substantial disparities in the quality of care, depending on the health service provider, the type and location of facility, employment status, and the ability to pay. Those able to pay receive reasonable quality care in the private sector. The public sector may not be able to provide the highest quality care to everyone, but in can be equitable and it should make efforts to: (i) raise the minimum acceptable standards; and (ii) increase equity by assuring quality care to
those most at risk and least able to qualify for or pay for services, who are often the same individuals.

7.04 **Recommended Actions to Meet Goals.** Three priority actions are proposed to meet the goals of improving access to health care, increasing efficiency in the delivery of services and assuring the quality of health care: (a) Extension of primary health care services, especially in rural and peri-urban areas; (b) increase the activities in fertility regulation; and (c) the review and consolidation of sector investments. A fourth recommended activity would deal with a set of sector studies to prepare for specific future sector development actions.

A. Extension of Primary Health Care Services

7.05 The Government’s 1984-88 Health Plan gives priority to PHC including maternal and child care, family planning and nutrition. Mass vaccination campaigns are being prepared to raise the low vaccination rates. Diarrheal diseases would be attacked through an expansion of safe water and sanitary waste disposal systems, the extensive use of oral rehydration therapy, and community health education. Family planning activities would be stepped up through expanded MCH programs. A nationwide nutrition survey is being carried out. Some external assistance is being provided by donor agencies (UNICEF, USAID, UNFPA, IDB, WFP, Belgium, West Germany) to increase population coverage for PHC, to control specific communicable diseases, to support food programs and to reduce the population growth rate. The PREMI project sponsored by the First Lady and intended to reduce infant mortality is carried out through the MOH delivery structure and its social communications program and promotion is funded by USAID. The Pathfinder Fund supports family planning services provided by the Armed Forces, and USAID has an agreement with IESS/SSC for strengthening family planning activities.

7.06 **Constraints.** Structural deficiencies and management weaknesses have caused delays in the implementation of donor assisted projects and have limited the potential benefits from PHC activities. MOPH is responsible for providing preventive services to the total population and curative services to about 75% of the population, however it reaches only about half of its target population. Family planning is viewed by some groups in society as population control and by others as being against religious doctrine, and therefore it is often a sensitive political issue. The PREMI program fulfills a specific purpose and is scheduled to be phased out upon completion of its purpose. IESS/MS covers only workers and unless its services expand to include the dependents of the worker and become family oriented, it can contribute but little to PHC. IESS/SSC serves a rural disadvantaged population and is legally mandated to expand its coverage from the current 400,000 affiliates to a somewhat unrealistic number of one million by the end of 1988. It is community based and covers the whole family. Therefore it has the potential to provide PHC including family planning services, and it should be integrated with IESS/MS to offer
comprehensive services. The private sector is curative care oriented and caters to those able to pay.

7.07 Recommendation. It is difficult to see how stated government PHC goals can be reached unless the following steps are taken:

(a) reduce the projected US$ 250 million investment in hospitals (see para. 7.13);

(b) increase operating expenditures available to PHC through a reorientation of money flows from specialized, urban based curative care to preventive, promotive and curative PHC and through a small increase in total public sector expenditures;

(c) strengthen the implementation capability of MOPH to cover a higher percentage of its assigned population;

(d) use the untapped potential and the fast growth of IESS/SSC to provide family planning, health and nutrition services in rural areas where the need is greatest;

(e) determine the financial feasibility of expanding the beneficiaries of IESS/MS to include household members and offer family-based preventive and curative services;

(f) use the results of the nutrition survey to formulate nutrition policy and to design specific and targeted interventions to reduce malnutrition; and

(g) provide a mechanism to coordinate the actions of MOPH, IESS, Social Welfare and the Ministry of Education in PHC, and obtain agreement from donor agencies to use this coordinating mechanism.

The foregoing actions should form the basis for a comprehensive PHC strategy to reach total population coverage with minimum but adequate and affordable population, health and nutrition activities by the year 1995. This PHC strategy would improve equity by increasing access to services, and efficiency by better utilization of existing resources.

7.08 A cost-effective increase in the coverage and quality of PHC will require five major changes in the way care is delivered:

- policy and procedural guidelines must push the PHC system to become more dynamic and interactive, with the physician and the auxiliary nurse aggressively reaching out and working with the community to solve health problems. Cultural and language barriers make it even more imperative for PHC to reach out and be community oriented, and therefore the training and use of indigenous health workers, either auxiliary nurses or promoters, must be accelerated;
more functions should be delegated to paramedical personnel so that they can treat uncomplicated cases of common disease and fewer patients would be referred or go directly to more costly higher levels of care;

the almost complete reliance on inexperienced and often unmotivated medical school graduates fulfilling a one year rural service requirement should be decreased in favor of more full-time rural general practitioners. A more permanent rural medical staff would provide continuity of care, decrease the flow of referrals and self referrals to specialized hospitals and better supervise medical school graduates and paramedical staff;

the provision of family planning services should be cast in a broader demographic context and it should include a social marketing effort which would provide guidelines on the preferred choice of contraceptive techniques and services, the appropriate pricing strategy, the most effective delivery system and public information program;

health education deserves increased emphasis in an effort to maintain health, prevent disease and ensure early treatment. Educational messages must be a coordinated activity by all providers.

7.09 Extension of primary health services represents the logical and most cost-effective way of increasing equity by making care more accessible. It stresses efficiency by giving priority to prevention and first-level, low technology treatment, and provides an entry point to the health care system. Allocating additional resources at the primary care level provides a greater impact on the health of the population than an equivalent allocation to specialized medical care.

B. Increase the Activities in Fertility Regulation

7.10 Ecuador's birth rate is 37 births per 1,000 population. The 1982 reported contraceptive prevalence rate of 40% is clearly overstated in light of the high birth rate. A more realistic estimate of the CPR would be 30%. The total fertility rate was 5.2 births per woman in 1982. This reproductive profile places Ecuador among the high population growth countries. Population growth is expected to continue at the rate of 2.8% per annum until 1990 and drop to 2.5% by 2000. The high level of fertility will increase the population by 49% between 1985 and 2000 and will have serious consequences in terms of health status, number of schools and housing units to be built, new jobs to be created and additional food to be produced.

7.11 Recommendation. Ecuador should design a population program which deals with mortality, fertility, migration and population distribution. It
should integrate and encourage currently ongoing activities in fertility regulation. Such an action program would include the following components:

(a) The population unit within CONADE is responsible for recommending population policies within the broad context of socioeconomic development objectives. This unit should be assigned the responsibility to prepare a population policy and to outline a population program.

(b) MOPH should be strengthened to coordinate, regulate and supervise the activities of the public sector (MOPH, IESS), the private nonprofit organizations (APROFE, CEMOPLAF), and the for-profit private sector (physicians and pharmacies).

(c) The extension of primary health care services recommended earlier would increase contraceptive practice through a combination of actions: (i) an expansion of IESS/MS benefits to all household members would allow the provision of family based care and would make family planning services available through IESS hospitals and dispensaries; (ii) the projected expansion of the rural IESS/SSC program to reach 10% of the population by 1988 would provide family planning services to this presently underserved rural population; (iii) MOPH covers only half of its assigned population and a strengthening of its service delivery capability in rural and peri-urban areas would increase the provision of family planning through expanded MCH programs; (iv) the recommended community outreach activities and the training and use of indigenous health workers would provide the unserved dispersed rural population with family planning; and (v) support of NGO actions through integrated planning, contracting for service provision, especially in peri-urban areas, and sharing of operational data for evaluation purposes.

(d) A set of studies should be designed to (i) test and recommend the most appropriate promotional activities; (ii) monitor the coverage extension of service delivery by all providers; (iii) assess the possibility of providing public resources to private delivery systems; (iv) regulate pricing of contraceptive supplies in the private sector; and (v) evaluate the fertility regulation impact.

7.12 CONADE has postulated three total fertility rate (TFR) hypotheses for the year 2,000, viz., 3.6, 4.0, and 4.3. Under the first hypothesis (TFR=3.6), Ecuador's birth rate would decline to 28.7 births per 1,000 population which would result in a population of 13.7 million. The second (TFR=4.0) and the third (TFR=4.3) hypotheses would, respectively, produce birth rates of 30.9 and 32.6 births per 1,000 and would give a total population of 14 million or 14.3 million. To achieve these population size targets, the contraceptive prevalence rates under the three hypotheses would need to be 57%, 52% or 48% accepting the overestimated 1982 CPR of 40% as a basis. The amount by which the 1982 CPR is overestimated would reduce the target rates correspondingly. Implementation of the action program
recommended in the previous paragraph could achieve a TFR of 3.6 or a total population size of 13.7 in the year 2,000.

C. Review and Consolidation of Sector Investments

7.13 Current austerity measures have forced MOPH to limit its physical expansion program to remodeling and replacement activities without increase in capacity. IESS/MS has scaled down its plan to add 3,285 beds and would construct 1,900 new beds which would still more than double its present capacity. IESS/SSC plans to increase its current number of 312 dispensaries to 900 by December 1988. The Cancer Society plans to replace its 58 bed Guayaquil facility with a 160 bed hospital. The largest private hospital (150 beds) opened in November 1985 and another private 60 bed hospital started service in December 1985. Planned capital expenditures over the next five years are estimated at US$250 million. Decisions by these providers are not coordinated at the national level and result in costly duplication of facilities in certain geographic areas (e.g. Ibarra, Tulcan), an excess of hospital beds in other areas (Manabi), inequities in the distribution of physical facilities, and an unnecessary outflow of foreign exchange mainly for fixtures and equipment.

7.14 Many existing beds lack the staff, for example, nursing personnel and supporting services (laboratory, X-ray, physiotherapy, etc.) required to be fully operational. Of all MOPH beds available, 88% are staffed, and consequently 12% of the MOPH hospital infrastructure is not being used. In such cases, provision of the necessary staff and supporting services for existing beds deserves priority over new bed construction. Shortages of staff and supporting services usually occur in rural areas which then limits even further the access of the population to care.

7.15 The planned net increase in hospital beds is not necessary and would lead to a large increase in annual recurrent cost. There is a need to upgrade the supporting services for existing beds, to upgrade or replace some of the existing stock, to correct regional inequities and to maintain the present acceptable 1.8 beds per 1,000 population ratio.

7.16 Given the size of the planned investment, the recurrent cost implications, and the many providers making independent decisions, Ecuador should draw up and implement a national sector-wide capital expenditures plan, set standards, and evaluate and decide upon investments for facilities and high cost medical equipment based on health needs. It could assign this task to an existing structure such as the National Health Council, although its past and short record shows structural and functional weaknesses. If the decision is made to use the Council as a vehicle, then it should be reformed and its operational capacity strengthened. This could be done by a change in the Presidential decree which created it. A decision must also be made on the need for the facilities in the planning stage or for which construction has already started. The following decisions are recommended: (a) no new projects should be started; (b) an accurate inventory of all
started investment projects should be made indicating original real total cost, real sunk cost, timing and real cost estimate for completion; and (c) the inventory should be reviewed and projects identified: (i) for which capital and operating funds would be available; (ii) which are technically justified; (iii) which can be staffed, supplied and maintained; and (iv) which are in areas where other facilities cannot meet the demand or do not exist. Based on this inventory, decisions on completion or deferral of the projects would be made.

D. Sector Studies

7.17 A final recommendation deals with the need for additional analysis and policy definition to prepare for specific, targeted and cost/effective sector development actions. Additional work is required on five topics: health care financing, health services utilization, pharmaceuticals, manpower training, and plant and equipment maintenance. The five study topics would support the health sector development goals of access, efficiency and quality.

7.18 There is a dearth of studies of health care financing in Ecuador. Studies should be commissioned to establish unit costs of care for a variety of procedures and conditions in different facilities and performed by different providers. This information is needed for planning, budgeting and control purposes, and for cost-effectiveness studies comparing the results of different interventions by different providers. There is a pressing need to link recurrent costs with planned capital expenditures in all planning exercises and resultant plans. Finally, mechanisms should be developed for billing and payments among providers for services provided to each other's assigned client populations.

7.19 A second study area in which additional data and analysis are needed is health services utilization. This would answer the questions of who obtains what services, from which provider, at what cost. Additional information is needed particularly for the private sector—traditional and non-traditional medicine—but it is equally important to document the extent of overlap in eligibility and utilization of all service providers.

7.20 The use and management of pharmaceuticals are among the most important aspects of a health service. Drugs are important and their management is one of the most responsible functions of the health worker. Drugs are powerful and must be used with skill, knowledge and accuracy; otherwise, they are dangerous. Drugs are expensive and may consume a disproportionate share of the national health budget or of the family budget, and they require foreign exchange for the import of raw materials and finished products. More information is needed to analyze the import, manufacturing, pricing, distribution, selling, prescription standards and consumption patterns of drugs.
7.21 A fourth study would deal with the issue of health personnel: population-based demand and supply by type, level of training, career structure, incentives, and utilization. Specific attention would be paid to the top and the bottom of the skills pyramid, i.e., the training and use of physicians and community health workers.

7.22 A final study area deals with corrective and preventive maintenance of health care facilities and their equipment, with special emphasis on bio-medical equipment. Data need to be collected for an inventory of facilities and major medical equipment together with a physical and functional assessment of its use and usability, and a financial evaluation of the cost to upgrade, repair, and maintain. Norms need to be established and implemented on the acquisition and use of high technology equipment. Finally, sharing arrangements between private and public sectors, and among providers require analysis and policy recommendations.