

PN-PAJ-195  
1511-29868

62

**LEBANON HEALTH SECTOR FINANCING:  
ISSUES, PROBLEMS AND RECOMMENDATIONS**

A Report Prepared by:  
JAMES R. JEFFERS, Ph.D., (TEAM LEADER)

PAUL ZUKIN, M.D., M.P.H.

During the Period:  
JANUARY 24 - MARCH 12, 1983

Supported by the:  
U.S. AGENCY FOR INTERNATIONAL  
DEVELOPMENT (ADSS)  
AID/DSPE-C-0053

**AUTHORIZATION**  
Ltr. AID/DS/POP:  
AID/DS/HEA:NE/TECH  
Assgn. No. 583131

## ACKNOWLEDGEMENTS

The authors wish to thank Dr. Nabil Kronfol, Chairman, Department of Health Sciences, American University of Beirut, and assistant to His Excellency the Minister of Health and Labor and Social Affairs, for arranging meetings and contacts in Lebanon. Dr. Kronfol also assisted greatly in sharing his personal files of information and providing extremely valuable advice on various matters pertinent to this study.

The authors are delighted to acknowledge the personal accessibility of and receptivity to ideas as well as the candor exhibited by His Excellency Dr. Adnan Mroueh, Minister of Health and Labor and Social Affairs. Dr. Mroueh attended many meetings, several of them on weekends, and unceasingly gave the team the benefit of his knowledge and advice concerning all aspects of the study.

Special thanks are expressed to Miss Nevine Hammud, second year M.P.H. candidate, AUB, who worked closely with the team in attending various meetings, providing valuable comments and serving as interpreter and translator on numerous occasions. Our task could not have been accomplished without her.

Time and space do not permit mentioning individually all the GOL officials and private and public sector health professionals who provided valuable information and advice during the course of this study. We express our heartfelt thanks to all. The same is true of members of the WHO Health Sector Assessment Team, although special appreciation begs to be expressed on behalf of Mr. Leone Bloche, WHO Mission Leader, Dr. Eugene Boostrom, Dr. Arnt Meyer-Lie, Dr. David Pearce, and Dr. Willy De Geynut, all of whom interacted closely with the USAID Health Sector Financing Study Team. The team expresses a great debt of appreciation to Dr. Ridah Wahid, Director of the NSSF, for many important and stimulating discussions and for offering data and staff assistance for purposes of this study. Sincere thanks are also extended to Mr. Salah Sawaya, Director of Statistical Services, and Mr. Gaston Cordahi, Chief Actuary, NSSF, for sharing information and advice.

The team was impressed with the interest, courtesy and high level of professionalism exhibited by the USAID Lebanon Staff. Letitia Butler, Assistant Program Officer, worked extremely effectively to set up the conditions for the study and provided excellent briefings and advice throughout its course. The executive staff, including Mr. Malcolm Butler, Director, Mr. William McIntyre, Deputy Director, and Mr. Kurt Shafer, Program Officer, exhibited keen interest and personal support for the study both during and after the period of the team's activities in Lebanon.

Mrs. Kris Loken, NE/TECH/HPN, AID/Washington, worked extremely closely with the team after her arrival in Lebanon, on February 7, 1983. She attended many of the meetings held between members of the team and Lebanese and WHO officials and made many valuable comments and suggestions. She also made many useful comments on various parts of the draft of the study prior to its completion.

The team would also like to express its appreciation to Miss Roudayna Sahyoun, Miss Irina Metni and to Miss Colette Badawi, all of whom typed various draft portions of the study in Lebanon. Special thanks goes to Mrs. Jean Skog who typed the entire draft on the word processor at The University of Iowa prior to its submission to NE/TECH, AID/Washington, in mid-March.

Appreciation is expressed to the American Public Health Association for providing technical and logistical support to Dr. James Jeffers, and to Trident Corporation for providing similar assistance on behalf of Dr. Paul Zukin. Dr. Jeffers expresses special appreciation to the Department of Economics, The University of Iowa, for permitting him to leave campus in order to further his professional development in undertaking this study on behalf of the Governments of the United States and the Republic of Lebanon.

## TABLE OF CONTENTS

Acknowledgements . . . . .		i
LIST OF TABLES AND FIGURES . . . . .		v
EXECUTIVE SUMMARY . . . . .		vi
LIST OF ACRONYMS USED IN REPORT . . . . .		xiv
I. INTRODUCTION AND BACKGROUND . . . . .		1
1.1 Background and Purpose of Study		1
1.2 The Team and its Activities		1
1.3 Areas of Primary Focus		3
1.4 National Reimbursement and/or Health Security Schemes		3
1.4.1 Private Health Insurance (PHI)		3
1.4.2 Nationalized Health Services Systems		4
1.4.3 Social Security Schemes		4
1.5 Major Policy Issues		5
1.5.1 Equity		5
1.5.2 Organizational Inefficiencies		5
1.5.3 Lack of Uniformity of Quality of Care		6
1.5.4 Implications of Reimbursement Schemes for Health Services Delivery System Costs		6
1.5.5 Relationship Between the Public and Private Health Sector		7
1.5.6 Decentralization and Autonomy		9
1.5.7 Ability of Government to Afford an Expanded Health Care Delivery System		9
1.6 Organization of the Remainder of the Study		10
II. BACKGROUND AND SITUATIONAL ANALYSIS. . . . .		11
2.1 Overview of the Current State of the Lebanon Economy		11
2.1.1 Labor Force and Compensation		11
2.1.2 Government Fiscal Activities		12
2.1.3 Ministry of Health Budget		12
2.2 Brief Review of Health Services Delivery System and Population Served		14
2.2.1 Population Characteristics		15
2.2.2 Principal Diseases and Illnesses		15
2.2.3 Hospital Beds		16
2.2.4 Dispensaries		17
2.2.5 Health Personnel		18
2.2.6 Other Health Sector Resources		20
2.2.7 Important Policy Measures of Special Relevance to this Study		20
III. MEDICAL SERVICES FINANCING MECHANISMS . . . . .		25
3.1 Financial and Service Characteristics of the Major Health Care Providers and Financial Intermediaries		25

3.2	Public Sector Health Services Delivery and Financing Mechanisms	25
3.2.1	The Ministry of Health (MOH)	25
3.2.2	Army and Public Security Forces	25
3.2.3	The National Social Security Fund (NSSF)	25
3.2.4	Office of Social Development (OSD)	30
3.2.5	Cooperative Government of Civil Servants (UGCS)	30
3.2.6	Municipalities	30
3.3	Private Sector Health Insurance	30
3.4	Out-of-Pocket Expenditures	33
3.5	Total of Health Expenditures in Lebanon in 1982	33
3.6	Weaknesses in Financial Mechanisms	34
3.6.1	Fragmentation Among Public Sector Agencies	34
3.6.2	Absence of Cost Controls and Quality Assurance	35
3.6.3	Lack of Private Health Sector Innovations and Initiatives	36
3.7	Relationship Between Public and Private Health Sectors	37
3.8	Economic Desirability of Expanding the Public Hospital Sector	40
3.8.1	Assumptions	41
3.8.2	Results of Analysis	42
3.9	Summary of Financial Sector Problems and Issues and Implications for Policy	44
IV.	CONCLUSIONS AND RECOMMENDATIONS . . . . .	48
4.1	System Imperatives	48
4.1.1	Health Sector Policy	48
4.1.2	Specific Components of Strategy	49
4.2	National Health Security System (NHSS)	52
4.2.1	Guiding Principles	52
4.2.2	Reimbursement Standards	53
4.2.3	Organization and Activities	54
4.2.4	Costs and Revenues - Some Alternatives	57
5.0	Recommendations for Follow-up Technical Assistance	71
5.1	Establishing Minimum Data Base	71
5.2	Study of Determinants of Utilization	71
5.3	Development of Standards for Health Facilities	71
5.4	Develop Programs to Improve and Strengthen the Quality of Patient Care	72
5.5	Assist in the Development of Programs Designed to Contain Costs	72
5.6	Establishment of a National Drug Plan	72
5.7	Assistance in Exploring Possibilities for Private Sector Initiatives	72
5.8	Recommended Project	72
REFERENCES		74
ANNEXES		
	ANNEX A - Scope of Work	76
	ANNEX B - Persons Contacted	78
	ANNEX C - Feasibility Assessment for a Prepaid Health Care Program	79
	ANNEX D - Information Needs for NHSS Operations	81

## LIST OF TABLES AND FIGURES

**Tables:**

2.1.1	Composition of Lebanese Labor Force: 1974	12
2.1.2	Allocation Under the 1982 State Budget	13
2.2.1	Population by Province, 1980	15
2.2.2	Percentage of Reported Communicable Diseases in Lebanon: 1974	16
2.2.3	Hospital Beds by Ownership, Province and Ratios/1000 Persons: 1974	17
2.2.4	Distribution of Dispensaries by Types of Ownership, Lebanon, 1977-78	18
2.2.5.1	Health Personnel in Lebanon, 1977	19
2.2.5.2	Distribution of Physicians, Percentages and Ratio to Population by Province: 1980	19
3.2.1	Summary of Financial and Service Characteristics of Major Health Related Entities	26-29
3.3.1	Private Health Insurance in Lebanon	31-32
3.8.2.1	Recurrent Medical, Amortized Capital and Total Recurrent Costs per Patient Day According to Occupancy	42
3.8.2.2	Costs of Operating, Admissions, Patient Days Associated with 3000 Public Hospital Beds, According to Level of Occupancy	45
3.8.2.3	Projections of Costs by Level of Occupancy, Assuming 10% Compound Annual Growth in Recurrent Medical Costs Excluding Capital Replacement	46
4.2.4.2.1	NSSF Costs - 1982	60
4.2.4.2.2	Summary of Estimates of NHSS Costs by Level of Population Coverage	63
4.2.4.2.3	Summary of Estimated Public Revenue Sources	64
4.2.4.4	Cost, Revenues, and Deficits by Population	66
4.2.4.4.3	Summary of Added Revenue Sources and Resulting Surpluses of NHSS Depending on Population Coverage	70

**Figure:**

4.2.3	Possible Organization and Activities of NHSS	55
-------	--	----

LEBANON HEALTH SECTOR FINANCING: ISSUES, PROBLEMS, AND RECOMMENDATIONS  
JAMES JEFFERS, PH.D., TEAM LEADER, AND PAUL ZUKIN, M.D., M.P.H.  
JANUARY 24-MARCH 12, 1983

EXECUTIVE SUMMARY

Purpose of Study

The purpose of the USAID Lebanon Health Sector Financing Study was to examine existing health financing mechanisms and policies, identify weaknesses and problems, propose alternative strategies for resolving problems identified, and make recommendations for follow-up technical assistance, if appropriate. The complete scope of work for the exercise is presented as Annex A to this report. USAID Health Sector Financing Study Team.

To accomplish the objectives of the study, USAID funded a two person team in Lebanon during the months of January and February, 1983. The team consisted of James Jeffers, Ph.D., Professor, Economics, The University of Iowa and Team Leader, and Paul Zukin, M.D., M.P.H., President, Health Management Group, Ltd., Piedmont, California. Dr. Jeffers arrived in Lebanon on January 24 and was joined by Dr. Zukin on February 7. Dr. Zukin departed Lebanon on March 1, followed by Dr. Jeffers' departure on March 12.

During the course of the team's activities in Lebanon, nearly 50 persons were interviewed and solicited for advice and information, including Lebanese officials, public and private sector health professionals, and university professors and researchers (see Annex B). In addition, the team worked closely with a WHO health sector assessment mission comprised of some 14 experts, sharing information and opinions freely concerning health sector problems, issues, and possible solutions. The WHO mission worked in Lebanon from February 6 to February 26, then went to Alexandria, Egypt to prepare its draft report at WHO's Eastern Mediterranean Regional Office. The two reports are complementary. The USAID report deals with details and substance of health sector financing problems, issues, and recommendations, while the WHO report deals with the entire spectrum of health sector problems and issues and provides a framework and recommendations for health sector planning and programming over the next several years.

Situational Analysis

The major findings of the USAID Lebanon Health Sector Financing Team as concerns the current situation pertaining to Lebanon's health system may be summarized as follows:

- The health care system is a complicated maze of fragmented and uncoordinated public sector and private sector health services delivery and reimbursement agencies.
- The private health services delivery sector is rich and powerful in terms of health manpower, facilities and resources and is operating virtually in an uncontrolled fashion. Legally set fee and tariff schedules reportedly are not followed. There is said to be substantial evidence of inflated billings and charging for services not rendered.
- Authority and capacity for public health services delivery is scattered among a plethora of ministries and autonomous public sector agencies, all of which are uncoordinated and under-funded. The public health services delivery sector has a very limited capacity to deliver services.
- The GOL committed itself long ago to a policy of making health services available to each member of the population regardless of ability to pay, and

yet the Government has only a meager capacity to supply health services directly to the population. This makes it necessary for Government to rely heavily on the private sector to deliver health services to the population for which costs are reimbursed by Government. As a consequence, the private sector receives roughly 80% of public sector revenue allocations as reimbursement for medical services that are supplied on behalf of Government.

- Medical facilities and manpower are badly maldistributed with the bulk of resources concentrated in the major cities, Beirut and Tripoli. In general, the South and the non-urban areas of Lebanon are medically underserved relative to the rest of the nation.
- Quality of care rendered by both the public and private sectors is comparatively low and is virtually unmonitored. For example, only four tissue committees are known to be operating in hospitals in Lebanon.
- Public facilities were badly damaged by the various circumstances of war. Wages and salaries paid to health professionals in the public sector are low by comparison with salary levels and rates of earnings in the private medical sector. Morale, discipline and incentives of health professionals and administrators in the public sector are very low.
- The public health care system is overly centralized, with little authority and autonomy existing at provincial, district, and community levels.
- Public sector medical cost reimbursement is scattered among several different agencies which cover different, but sometimes overlapping, segments of the population, provide non-uniform benefits, and receive revenues principally from assessments on wages and salaries. Wage and salary assessments are not uniform and appear to be inequitable.
- There is very little capacity in the GOL fiscal structure to tax and transfer so as to achieve equity. Tax bases consist predominantly of import duty, indirect tax collections, and wage and salary payroll assessments. Income tax collections account for less than 5% of total government revenues.
- The current Minister of Health is extremely knowledgeable, dedicated, and candid, and he is committed to resolving the various problems in Lebanon's health services delivery system. He has enlisted a cadre of equally dedicated, bright, and committed advisors to assist him in finding solutions to existing problems.
- The MOH, with USAID assistance, has mobilized several task forces of Lebanese experts to work out solutions to various problems and is in the process of developing and institutionalizing a health planning unit in the MOH, supported by technical assistance from AUB.
- The MOH has initiated a new policy to establish Area Health Authorities throughout Lebanon which will serve to decentralize as well as to regionalize health services delivery and administration. This policy would permit government and private health providers to cooperate in coordinating health resources available from national, provincial, and community levels to provide a comprehensive package of health services, including illness prevention and health promotion services, to population groupings of 100,000 to 200,000 persons.
- The MOH is seeking to upgrade and to expand the public sector health services delivery capacity. In this effort, it will emphasize hospitals in order to gain credibility for government in the eyes of the people and to compete with the private medical sector by offering quality health services at low cost, thus putting pressure on the private health sector to improve quality of care and to lower costs and prices.

### Areas of Primary Focus of Study

The team focused primarily on selected areas of critical importance to accomplish the assignment. These areas are as follows:

- Estimating the magnitudes of major financial components of the health services delivery system, both public and private.
- Undertaking analyses necessary prior to making recommendations concerning the consolidation of all public sector financial reimbursement agencies into a single entity which might be called the National Health Security System (NHSS).
- Making recommendations concerning how a National Health Security System could function in terms of uniform reimbursement to providers and how it could be adequately and equitably financed from both public and private sector funding sources.
- Providing recommendations concerning the minimum base of data and information needed to monitor costs and quality of medical services provided in the medical services delivery system, both public and private.
- Undertaking a financial analysis of major policy options being considered, including an analysis and projection of costs associated with expanding the number of public sector hospital beds.

### Major Findings and Conclusions

Analysis of the magnitude of the major financial components of the system reveals that last year the public sector spent roughly LL 551.0 millions on both directly providing services and on reimbursing a fraction of the costs of services supplied by the private health sector. Roughly 80% of total public sector spending was spent on private sector reimbursement. Total spending on health services in Lebanon in 1982 is estimated to have been at least LL 1.1 billion. Expert opinion offered by others suggest that this figure may be as high as LL 1.6 billion. It should be noted, however, that the lower estimate is consistent with a range of alternative estimates based on fragmented studies of villager's health expenditures made by villagers and on an extrapolation from what appears to be a rather solid study of health expenditure by income class in Lebanon conducted by the Ford Foundation in 1966; these estimates range from LL 1.26 to 1.22 billion respectively. In any case, total expenditures seem to be roughly 50% public and 50% private. Estimated drug costs as a component of total health expenditures range from 38 to 42% of total outlays on health.

After reviewing the weaknesses of the existing financial structure, the authors conclude that changes in financial mechanisms alone can do little to improve the health services delivery system. In order for the financial incentives that are incorporated into a system of financial mechanisms, policies, and procedures to assist in improving the performance of the health care system, there must be consistency between policies being implemented by both health care and financial decision makers. Thus health sector policies that are required in order for a recommended financial strategy to have maximum support effect must be clearly presented prior to specifying a cost effective financial strategy that is consistent with the allocation of GOL resources, demand and supply factors, cost containment, and other elements.

### Recommended Health Sector Policy

Due to various factors, partly arising as a result of circumstances of war, Lebanon has a vigorous private health sector that is rich in resources, both physical and personnel. In planning, budgeting and forming policies for the future, the GOL should view both private sector and public sector health resources in the same light as potentially being mobilized toward assisting the government in meeting the health needs of the population. In doing so, in the

team's judgment, little emphasis should be placed on expanding public sector services delivery systems, and great emphasis and commitment should be devoted to regulating the private health sector in a fashion which brings it into a more effective partnership with government in achieving the nation's health sector goals.

There is need for public health facilities and publicly provided medical services to cater to the needs of the population for specialized services and to cater to the needs of the poorest of the poor. Reliance cannot be placed on the private sector to provide all of the health services that a nation needs, because there are not sufficient private incentives to do so. In the interests of placing the public hospital sector on a firmer financial footing, there is need to allow government hospitals to admit strictly private patients and to receive reimbursement for services rendered to eligible patients. However, there is no reason in principle, particularly from an economic perspective, not to rely on the private health sector to provide the bulk of medical care, if efforts are made to insure that the private health sector behaves responsibly.

Principal reliance on private sector provision of health services is appropriate in Lebanon, given the nation's strong commitment to private enterprise and the fact that 80-90% of health services are currently being rendered by the private health sector. However, greater emphasis should be placed on effective regulation that improves quality of service, medical practice and performance, and which serves to contain costs and to reduce duplication of facilities and other types of wastage throughout the system, both public and private. This policy is recommended in contrast to an apparent and contemplated GOL policy of expanding the public health care sector so it can more effectively "compete" with the private health sector. In the judgment of the authors, there is no economic justification for anything other than a modest and selective expansion of public sector medical facilities in the next five to ten years.

Equally important, there is no economic justification for Government to tolerate intimidation and dictation from a large and powerful private health sector which operates virtually in an uncontrolled fashion, serving individual and private interests which are largely divergent from the collective interests of the Lebanese people. The private health sector should be brought under control and induced to work more effectively on behalf of meeting the health needs of the nation. The authors admit that in certain selected cases political imperatives in the short-run may overrule objective economic and medical rationales. However, in the long run, economic and strictly medical realities must ultimately prevail. Thus, the general strategy recommended in this report places emphasis on regulation backed up and linked to a system of financial incentives which tends to harness public and private sector health resources to a common task, namely improving the health status of the population. Specific components of this strategy are presented immediately below.

### Recommended Strategy

#### A. Consolidate and Unify Public Health Services Reimbursement

Public sector reimbursements for health services should be consolidated into one national agency to achieve greater uniformity of benefits, to increase equity of assessments required to fund operations, and to permit Government use of this amalgamated agency as a primary vehicle for giving positive or negative sanctions to public and private health sector performance, as appropriate. The resulting large and unified reimbursement agency, here called the "National Health Security System" (NHSS), would control the bulk of public sector funds available for payment for health services delivered in Lebanon, and thus could exert sufficient

power over the health services delivery system to improve its performance. This agency, the NHSS, is described in detail in subsection 4.2 of this report. As is emphasized in Subsection 4.2, the NHSS will take some time to form and thus it can extend coverage to the entire Lebanese population only gradually over the years to come.

#### B. Rehabilitate the Public Curative Sector

The GOL should concentrate for the next several years on rehabilitating existing elements of the public health services delivery system, including hospitals, clinics, health centers, and other outpatient facilities. As stated above, the GOL's contemplated policy to fill all gaps in the current system in order to correct the existing maldistribution of hospital facilities principally through the construction of new public hospitals, autonomous or otherwise, cannot be justified on economic grounds. Some additional public hospital beds possibly could be justified on political grounds which are beyond the scope of this study. However, even in this case, construction of additional hospitals should be preceded by a careful assessment of needs weighed against alternative modalities of delivering health services (i.e., health centers) many of which may involve reliance upon private sector facilities. In all cases the recurrent cost implications of newly constructed facilities must be carefully taken into account. (Section 3.0 of this report presents analysis on recurrent costs of hospitals.) In weighing the decision concerning whether or not to construct additional public hospitals to fill gaps determined on the basis of assessment of needs, the GOL should also consider the benefit/cost implications of subsidizing the private health sector to take the initiative to fill the apparent gap in the availability of needed services. However, it warrants stressing that rehabilitation of public sector health facilities should be given far greater emphasis than new construction.

#### C. Improve Public Sector Health Services Facility Performance

In addition to rehabilitation, the standard of performance of public sector health facilities must be improved to make them more acceptable to the population of consumers. As a minimum, the following will be required:

- Improve maintenance of buildings, plant and equipment.
- Develop and institutionalize a compensation plan sufficient to attract an adequate number of committed staff of medical professionals and other staff to public health facilities.
- Improve the quality of medical practice performance through developing and maintaining adequate patient records, tissue committees and professional peer review boards and committees to assess the appropriateness of the management of cases of illness (including diagnosis, treatment, discharge criteria and follow-up).

#### D. Strengthen the Financial Base of the Public Hospital Sector

The Autonomous Hospital Act of 1978 and the proposed Area Health Authority Legislation open the door for significant opportunities for strengthening the financial structure of the public hospital system. We support the thrust and principles of these two acts of legislation and urge the adoption of the following recommendations which the authors understand would be permitted under these legislative initiatives:

- Permit the newly constituted NHSS to reimburse public hospitals for basic medical care on the same basis as certified private hospitals.
- Allow public hospitals to admit private patients, when bed availability permits, and to receive payment for amenity services from private sources (i.e., out-of-pocket and private health insurance or both) over and beyond the level of reimbursement provided by the NHSS.

### E. Strengthen Primary Health Care in both the Public and Private Health Sectors

Greater emphasis must be placed on primary health care services and especially on illness prevention and health promotion so as to eventually reduce the need for hospital and other curative services. This requires a change in the priorities and attitudes of practicing physicians in both public and private sector outpatient facilities and treatment units. Long-run solutions would include modifying medical teaching and training curricula to give a greater emphasis to preventive and community medicine, and the retraining of existing doctors in the interests of instilling an enhanced appreciation of the advantages of emphasis on illness prevention and health promotion in medical practice. However, these innovations will take time to develop and would have to be reinforced in connection with actual medical practice. The latter activity can be initiated now. The authors suggest that the following be required of physicians and other health professionals practicing in public and private outpatient facilities:

- Require the development and maintenance of adequate outpatient records that include as a minimum, a brief medical history, major physical findings, and a chronological record of diagnoses and treatments, including all drugs prescribed and all adverse reactions.
- Require the establishment and maintenance of standards of health promotive and illness prevention measures, including as a minimum, regular basic physical examinations for children and appropriate immunization programs for children and pregnant women.

### F. Rectify the Maldistribution of Health Manpower Resources

Health manpower is currently concentrated in a few major urban centers. The Area Health Authority (AHA) proposed legislation would bring greater attention to making health services available more broadly to the entire nation. But in doing so, AHA directors and other managers of the system would encounter great difficulties in recruiting adequate numbers of health professionals to the public system, autonomous or otherwise. Therefore, in response to the Minister's request for advice in this area, the authors recommend either forced placement of medical personnel upon graduation, or the adoption of a compensation plan under the legislation giving degrees of autonomy to public sector institutions, as follows:

- Professional compensation would consist of a package of compensation with components including a base salary, earnings from medical practice (up to a maximum), housing allowances, education allowances for the professional and dependent children, and a pension that would not become vested until after a specified number of years of service.
- The package of compensation would be varied and made more attractive to professionals recruited to serve in areas currently underserved medically, and which are more remote and which offer fewer amenities than posts located in Beirut and other major urban centers.
- Compensation generated from performance of medical acts should be graduated so as to diminish gradually as the maximum allowed compensation is reached in the interests of reducing incentive to "over supply" medical procedures.

### G. Foster Alternative Private Sector Initiatives

Establishing a broader financial reimbursement mechanism by itself will neither fully address the maldistribution of health care in Lebanon, nor improve the quality of services. In fact, it could further stress the system by driving up costs and lead to abuses.

The challenge will be to institute reforms and innovation in both the public and private sectors that will make health care better distributed, more comprehensive and of better quality. The private sector has efficiencies which are associated with the free enterprise system and these should be built on. Three strategies are suggested for consideration.

#### G.1 Link Prepayment with Comprehensive Health Care Delivery

A problem with traditional health insurance is that carriers have little incentive to control medical care costs. There is little or no control over the content or quality of care, which typically is fragmented.

A private sector alternative that addresses many of these problems is to link a comprehensive health care package to prepayment for a specified population to be served. Providers (physicians and facilities) are organized into a delivery system that guarantees to provide specified services for a pre-determined fee - hence they are at financial risk and have an incentive to maintain health and reduce costs. These entities, called "Health Maintenance Organizations" (HMO's), can have various arrangements among physicians, and between physicians and hospitals. Such an approach to health care delivery has been suggested for Area Health Authorities by Professor Bashur (9) and is recommended for consideration by the authors of this report.

Establishing an HMO requires careful assessment of the potential market and organizing necessary components including physicians, facilities and a health and management information system. A protocol for such an assessment is provided in Annex C of this report.

#### G.2 Expanded Commercial Health Insurance

Commercial health insurance presently plays a very small role in financing health services in Lebanon. In other countries (e.g., the United States), some commercial insurance firms recently have assumed a leading role developing innovative health care systems, including HMO's. An attempt should be made to interest a major insurance company with health care experience to survey the potential for such innovation in Lebanon. Companies like Blue Cross and Blue Shield in the United States are non-profit entities which could be approached to undertake such a survey and to make recommendations.

#### G.3 Upgrade the Management of Private Hospitals

Involvement of professional hospital management firms with private hospitals in Lebanon could lead to a higher level of patient care and reduced costs. This avenue should be explored.

#### H. Enforcement of Legal Tariffs

The uniform fee and service tariff for third class services should be published and managers of private and public facilities, as well as health professionals, should be fined or otherwise punished for violations and abuses, to insure compliance.

#### Need for Follow-up Support

In order to implement the recommended strategy, the GOL will need significant technical assistance in the following areas:

- Assistance in developing and maintaining standards of appropriate medical performance (i.e., tissue committee, peer review utilization committees, etc.) evaluation criteria, and methods of operation.
- Assistance in establishing a minimum base of data concerning costs and utilization of both private and public health providers.

- Assistance in developing and monitoring standards and procedures for inspecting, certifying, and classifying facilities according to quantities and qualities of services, staffing patterns, and other performance criteria.
- Assistance in exploring possibilities for private sector initiatives, including greater use of private health insurance and the establishment of HMO's.
- Assistance in linking the to be formed NHSS reimbursement activities to organization and establishment of AHA's offering comprehensive health care services at community levels.
- Assistance in establishing better auditing and cost control procedures, based on medical performance standards and guidelines, adherence to legal fee tariffs, and standards of cost appropriate for prospective reimbursement.
- Assistance in developing a national drug plan including developing a standard formulary emphasizing the use of generic drugs. Health providers whose services are paid for by NHSS reimbursement would be required to use this formulary. The drug plan would also improve procurement, control and distribution of drugs.

In conclusion, the authors recommend that a Financial Management and Medical Quality Assurance Project be designed and implemented by the GOL with support and assistance from USAID. This project would assist in consolidating all public sector medical cost reimbursement agencies into the NHSS. Technical assistance under such a project would be provided by a combination of long-term and short-term United States experts working cooperatively with local experts affiliated with the MOH, local universities, and what is currently the NSSF. The project would be implemented in close cooperation with the existing USAID assisted project establishing a planning unit in the MOH. Section 4.2 of this report presents a general description of a Financial Management and Medical Quality Assurance Project that would assist in forming the NHSS and thus provide a basis for implementing the major recommendations of this report.

## LIST OF ACRONYMS USED IN REPORT

AHA	= Area Health Authority
ALIC	= American Life Insurance Company, in Beirut
ALOS	= average length of patient stay in hospitals
AUB	= American University of Beirut
AUH	= American University Hospital at AUB
CDR	= Council for Development and Reconstruction
DG	= Director General
GOL	= Government of Lebanon
HIP	= health insurance plan at AUB
HMO	= health maintenance organization
LL	= Lebanese pounds
MCH	= maternal and child health care
MD	= medical doctor
MEA	= Middle East Airlines
MOD	= Ministry of Defense
MOF	= Ministry of Finance
MOH	= Ministry of Public Health
MOI	= Ministry of Interior
MOLSA	= Ministry of Labor and Social Affairs
NHSS	= National Health Security System
NOE	= National Office of Employment
NSSF	= National Social Security Fund
ODS	= Office of Social Development
OPD	= outpatient department of a hospital
PH	= public health
PHC	= primary health care
PHI	= private health insurance
UGCS	= Union of Government Civil Servants, Mutuelle, or Cooperative of Government Civil Servants
WHO	= World Health Organization, United Nations

## 1.0 Introduction

In this section we review the purpose of this study, briefly outline basic characteristics of financial reimbursement schemes, and discuss major issues that need to be taken into account in analyzing and designing health financing schemes.

### 1.1 Background and Purpose of Study

At the request of the MOH, GOL, the USAID commissioned a study of health sector financing in Lebanon. This effort was coordinated with a broader health sector assessment conducted by the WHO, in collaboration of the League of Red Cross Societies, which was also conducted at the request of the MOH, GOL. These two teams carried out their respective assignments during the months of January and February, 1983. Although the respective reports of these two teams were prepared as separate documents, the two teams functioned virtually as a single unit, sharing information freely and interacting on various issues frequently during the course of the study.

The scope of work for the USAID financing study is included as Annex A to this report. Therefore it is only necessary to briefly summarize the purpose of the study here and to provide a brief review of the actual focus of activities.

Very generally, the purpose of the study is to review the health financing information that is available from both private and public sector sources; collect additional information when necessary and possible; identify problems and weaknesses in the financial mechanisms currently in place; propose alternative strategies for resolving problems identified; and ultimately, to recommend a cost effective financing plan compatible with the Lebanese context. Recommendations are to address issues of fiscal accountability, training, cost containment, demand-supply factors, and resource allocation and information system requirements. In addition, the team was to examine needs for follow-on technical assistance and to make appropriate recommendations.

### 1.2 The Team and its Activities

The team consists of two persons, James Jeffers, Ph.D., Professor, Economics, The University of Iowa, and Team Leader, and Paul Zukin, M.D., M.P.H., President, Health Management Group, Ltd., Piedmont, California. Dr. Jeffers arrived in Lebanon on January 24 and Dr. Zukin arrived in Lebanon on February 7. Dr. Zukin departed on March 1, and Dr. Jeffers departed to the United States on March 12, where he worked for five days finalizing the report in the United States. Three days were also spent by Dr. Jeffers in the United States working with Dr. Eugene Boostrom, M.D., Dr.P.H., Systems Analyst, WHO Mission to integrate this report into an appropriate annex to the broader WHO Report.

The USAID Health Financing Team divided the tasks between them according to their respective expertise and this report represents an integration of the results of individual efforts. In all respects the report represents a team consensus of the issues and recommendations.

In approaching the tasks outlined in the initial scope of work, the team encountered certain contextual realities that served to guide the team in accomplishing the assigned tasks, thus providing the precise focus of the study and the content of this report. Each of these elements is briefly discussed immediately below.

First, the team was confronted with the reality that health policy in Lebanon currently is undergoing rather drastic revision and evolution. This the team regards as a very positive thing, but it presented certain difficulties in terms of accomplishing the assigned tasks. The team was not able to cost-out the implications of clearly stated health sector policies and to suggest alternative financial strategies for accomplishing them. Rather, the team was invited to comment on, and in some cases analyze the financial implications of various policy proposals (e.g., the wisdom of expanding the number of public hospital beds). This made achievement of the team's tasks much more difficult, since it was necessary to cost-out the financial implications of various policy options in addition to recommending overall cost effective financial strategies required for achieving health sector goals.

A second contextual reality the team encountered was the high priority currently given by the GOL to the reorganization of the health delivery system generally, and to the reorganization of the entire financial institutional structure in particular. Of specific interest to the health finance team is the matter of the consolidation of public sector health cost reimbursement agencies (MOH, NSSF, UGCS, ODS, etc.). At the current time, these agencies are fragmented among various Ministries (principally MOH and the MOLSA) and enjoy a mixed status of varying degrees of autonomy and direct line directorate relationship to the MOH or the MOLSA. The team was requested to suggest how the activities of these various agencies could be consolidated, how such a new agency would best operate in terms of its mandated activities, and where it should be located within government structure and operations. After wrestling with these matters for some time, the team came to the conclusion that it would be appropriate to make recommendations concerning the wisdom of forming a consolidated health financing agency, and to make recommendations concerning its activities and how best it could be financed. The consolidated health financing agency proposed in this report has been tentatively called the "National Health Security System" (NHSS). However, the team concluded that it would not be possible to make recommendations concerning where such an agency should be located within the structure of Lebanese Government (i.e., under the MOH, under the MOLSA, or an autonomous body under the tutelage of either Ministry, the Council of Ministers, etc.). The basis on which the team declined to make recommendations concerning the location of the NHSS is the recognition that such a decision ultimately must be made on political grounds and not on mere technical considerations. Such a recommendation lies beyond the scope of work of the health sector financing study team.

A third contextual matter that influenced the team's activities and thus the content of this report is the fact that due to war activities, no official data have been collected over the course of the last eight years. While there are several fragmented small surveys and studies of various sectors of the health delivery system, undertaken principally by AUB professors and students, no comprehensive set of data exists. Many of the special studies yield contradictory results, and virtually all are incomplete. Rather fundamental data are lacking concerning rates of inpatient hospital admissions, outpatient visits, disease patterns and trends, causes of death, costs of services, etc. As a consequence, the team spent a great deal of time systematically collecting, interpreting, and reconciling rather basic data and information describing the general and financial characteristics of the health services delivery system.

### 1.3 Areas of Primary Focus

As a result of the realities of the current state of affairs in Lebanon, the team focused primarily on selected areas of critical importance to accomplishing the assignment. These critical areas are as follows:

- Estimating the magnitude of major financial components of the health services delivery system, both public and private.
- Undertaking analyses necessary prior to making recommendations concerning the consolidation of all public sector financial reimbursement agencies into a single entity called the National Health Security System (NHSS) in this report.
- Making recommendations concerning how a National Health Security System could function in terms of uniform reimbursement to providers and how it could be adequately financed from both the public and private sectors funding sources.
- Providing recommendations concerning the minimum base of data and information needed to monitor costs and quality of health services provided in the health services delivery system, both public and private.
- Undertaking a financial analysis of major policy options being considered, including an analysis and projection of costs associated with expanding the number of public sector hospital beds.

### 1.4 National Reimbursement and/or Health Security Schemes

Since this report primarily deals with health sector finance, it is useful to briefly acquaint readers with various financial options that are available for national consideration. Currently in Lebanon, a major emphasis is placed on public sector reimbursements of the costs of services provided in the private health sector. Public Sector reimbursement schemes represent alternatives to conventional strict fee for services, i.e., private sector payment schemes in which private providers are paid by patients upon the receipt of services from out of pocket or from private health insurance sources of funds.

Essentially, there are three basic models of reimbursement and/or health security schemes from which to choose at the national level. Some salient features of each are briefly outlined below.

#### 1.4.1 Private Health Insurance (PHI)

The first to consider is private health insurance (PHI). PHI is "packaged" by commercial carriers in terms of services eligible for reimbursement, exclusions, deductibles and co-payments that are required. Packages of PHI are marketed to individuals and groups of individuals, whereby insureds are required to pay a periodic premium, in order to be entitled to reimbursement for the cost of health services. Individuals or groups of individuals are "rated" in terms of their probable health service utilization needs, which is determined actuarially (according to age, sex, life style, employment, etc.). Probable health services needs are estimated on the part of the beneficiary population and probable health care costs are calculated. Exclusions, co-payment and deductibles are incorporated in the policy in the interests of curbing excess utilization of services. Premiums are set to cover the anticipated reimbursement payments on behalf of beneficiaries, plus a "loading factor", the latter including costs of administration and profits. Insurance carriers compete among themselves in terms of the packages of services for which reimbursement is eligible, exclusions, deductibles and co-payment required, levels of premiums charged, promotional efforts, etc.

PHI provides consumers an opportunity to substitute a series of fixed, generally small payments for payments of an uncertain nature that would arise in the future in the event of illness. Since illness is an uncertain event for any individual, financial payments for costs of illness would be uncertain, both in terms of timing and amount. However, illness in large populations is predictable, hence risk pooling can be accomplished by PHI carriers that have a large number of subscribers.

PHI involves elements of prepayment and risk-pooling. However, financial risk still rests with beneficiaries, since the role of the commercial insurance carrier is that of a financial intermediary. Insurance carriers simply collect premiums and pay out benefits, holding back a profit in the case of proprietary insurance carriers. Any rise in costs due to inflation or poor medical performance on the part of providers, both of which increase costs per unit of medical services required, are passed on to insureds in the form of higher premiums. Aggregate savings in the costs of medical care result only from economies of scale in management and possible cost containment measures taken by PHI carriers.

The United States has a large portion of its population covered by PHI, however cost control has not been very effective. Since profits are based on a mark-up percentage over and above costs consisting of payments to beneficiaries, proprietary insurance companies have no incentive to control costs. Non-profit carriers often are heavily directed by health providers and thus also have little or no incentive to control costs. Competitive pressures between and among providers are weak, due to the great variety of service packages that various carriers offer, thus making it difficult, if not impossible, for consumers to shop and to compare prices and value of coverage. Insureds included in group policies have no choice but to contribute to the company adopted insurance scheme. Since part of all of the premiums are offered "free" as a company fringe benefit, insureds in most cases have little or no incentive to closely examine or compare the company plan to theoretical alternatives.

#### 1.4.2. Nationalized Health Services Systems

A second type of reimbursement and health, or health security scheme, is a nationalized health services system. These are rare in the Mid-East, Latin America, and Asia. However, they are common in Europe where countries have well-developed fiscal systems for collecting public revenues (e.g., Great Britain, Sweden, etc.), or in Communist countries in which ideologically the state must play the major role in the production of all things, including health services. Such a system is likely to be unacceptable in Lebanon on ideological and political grounds; thus little time and space will be devoted to discussing such systems in this report. However, it is important to observe that in the case of a nationalized health system in which all or nearly all health services are produced by the State, financial risk which arises in the event of illness is assumed by the State and not by the population of health care consumers. Also, since the State provides services directly to members of the population, costs of illness treatment originate directly in the form of health resource costs in the development and recurrent budgets of the State. Thus the cost burden is a public one that is financed through the capacity of the State to generate revenues.

#### 1.4.3. Social Security Schemes

A third form of a national reimbursement and/or health security scheme from which one can choose is a national social security scheme. Such systems are

widespread in Latin America and Europe. A social security financed medical costs reimbursement system characterizes a significant segment of the United States health system, namely Medicare (reimbursement of the medical costs of the aged who are 65 years of age or older, which comprise roughly 12 percent of the United States population).

In its simplest form, such a system generates revenues principally in the form of taxes on wages and salaries, and reimburses health services costs on behalf of beneficiaries, usually consisting of current and retired wage earners and their dependents. However in more complicated settings like Lebanon, the State provides health services directly when possible (i.e., where public facilities are available and accessible), as well as reimburses private providers in cases where public medical services are not available.

To the extent that the State reimburses costs of private sector provided services, or provides services directly, a social security type of system is similar to a nationalized health service delivery system, in that financial risk arising as a result of illness in the beneficiary population is borne by the State rather than by consumers. The assumption of financial risk on the part of the State on behalf of beneficiaries provides a degree of health security to the population. The fact that such systems are financed in the form of wage tax assessments contributes to the idea that such systems are social security systems. The revenues available to finance such systems arise from essentially the same source as national pension, disability, industrial accident, and other social security programs.

### 1.5 Major Policy Issues

A social security type system of the sort that exists in Lebanon is very complicated. It involves elements of a nationalized system in which government provides services directly; third-party reimbursement on the part of governmental and autonomous governmental agencies; and a limited quantity of third-party private sector medical service transactions, the latter involving private health providers, consumers and private health insurance companies.

In view of the complicated nature of the Lebanese institutional structure, many substantial issues must be addressed. Those issues that are most crucial in the view of the authors of this study are discussed briefly below:

#### 1.5.1. Equity

Possible equity issues exist on the side of entitlements of beneficiaries to direct service and/or reimbursement of the costs of health services rendered on the one hand, and exist in terms of levels of assessments generating revenue for the reimbursement system, on the other. As indicated above, there are several public reimbursement agencies (MOH, NSSF and UGCS). In addition, four ministries and/or autonomous agencies are involved in supplying health services directly (MOH, the Army, ODS, and Municipalities). As the analysis presented in Section 3.0 reveals, benefits available to covered beneficiaries of each agency are not uniform. Further, the analysis presented in Section 3.0 reveals that the tax assessments levied on insureds also are not uniform among the various beneficiaries covered by the agencies of concern.

#### 1.5.2. Organizational Inefficiencies

The fact that both direct service delivery and coverage of population groups is fragmented among several different agencies suggests that a great deal of

duplication in administration, possible overlappings in coverage, and other sorts of organizational inefficiencies exist.

### 1.5.3. Lack of Uniformity of Quality of Care

Fragmentation between government agencies which are under the control of different ministries that are not coordinated is likely to result in considerable variation in the quality of care delivered for which reimbursement is provided. A fragmented system must be carefully monitored in terms of the quality of care provided by both the public and the private sectors. In the absence of uniform quality of services being provided, financial cost comparisons among the components of the system are meaningless, since it is not clear what exact services are being financed by each system component, and consequently by the system in its entirety.

### 1.5.4. Implications of Reimbursement Schemes for Health Services Delivery System Costs

Financial reimbursement schemes provide incentives to the individual components of the system, all of which ultimately have broad implications for the costs of the overall system.

#### 1.5.4.1. Incentives to Providers

In general, fee for service or payment to medical professionals for procedures or medical acts performed is a piece rate reimbursement mechanism which encourages the output of medical procedures and acts. Regardless of the level of fee schedules or "tariffs", the signal is clear to providers that more money is earned if a greater number of medical acts are performed. The higher the fee schedule, the greater the incentive for medical professionals to perform a large number of acts or procedures. In sum, fee for service provides incentives for professionals to oversupply services. Insofar as utilization and/or medical ethical standards limiting the number of procedures to those justified on the basis of strict medical necessity are lacking, nothing exists to restrain physicians from oversupplying medical services except shortages of funds with which to pay for services.

Cost reimbursement, as compared to indemnity or prospective reimbursement to health facilities, encourages the oversupply and overutilization of health services and facilities.

#### 1.5.4.2. Relationship Between Incentives and Apparent Efficiency

The paradox in all of this is that given the total number of reimbursed private sector admissions, increasing average length of stay (ALOS) will increase the number of patient days (equal to admissions x ALOS) thus raising the occupancy rate (equal to patient days / beds x 365). A rise in the occupancy rate tends to make the private sector appear to be efficient, since efficiency often is viewed as directly related to rate of occupancy. Also, these same private hospitals can charge full actual costs per patient day of care rendered to private patients, treating these cases very intensively so as to keep the ALOS of private patients low. Thus, ALOS in private hospitals averaged over both publically reimbursed and private full-pay patients, on balance, may compare favorably by comparison with the ALOS of strictly public hospitals.

Most of the adverse incentive problems that are due to cost reimbursement can be blunted by: (1) paying medical professionals on salary; (2) paying a fixed reimbursement per case of hospitalization and paying a fixed fee per visit to

physician; (3) prospective reimbursement to hospitals and capitation payments to physicians, and (4) by setting utilization standards (i.e., standard lengths of stay per diagnostic group of a given degree of severity of illness, and degree of complication). Only if incentives to oversupply medical services are constrained, will true efficiency prevail.

#### 1.5.5. Relationships Between the Public and Private Health Sectors

Government and private sector agencies have different goals, objectives and methods of operating, including how both cost-out resource utilization. Public and private sector goals and objectives are usually conflicting and different operating methods and costing procedures lead to differences in perceptions as to the comparative appropriateness and effectiveness of public facilities versus private facilities. The latter is particularly true when government is playing a substantial reimbursement role of privately provided services while also directly providing services itself.

Politically speaking, the major burden of responsibility for the health status of the nation is placed on government, principally on the health ministry. However, the health ministry usually does not have control of the entire public sector health delivery establishment which often is fractionated among other ministries as is the case in Lebanon. Also, health as a Government responsibility usually receives a rather low priority in national budgets. Typically, the health ministry is under-funded relative to its burden of responsibilities, as compared to budget allocations received by other ministries. Thus, the health ministry is frustrated and has limited capacity to carry out its responsibilities.

The private health sector has no national responsibility for the health of the nation. Each practitioner and each health facility tends to feel a responsibility only for their own patients, staff and facility. While the private sector is composed of both voluntary (not-for-profit) and proprietary agents, both strive to maximize output of services in order to generate revenues with which to earn greater profits, increase the quality of services provided, or to reward staff better, as the case may be. An added objective of private medical teaching institutions is to enhance and to improve the quality and magnitude of teaching and research programs.

Given the different objectives and perceived responsibilities of public and private sector health agencies, there exists considerable rivalry and competition for funds, patients, staff and facilities. Generally the private proprietary sector, in which profit motives are a strong if not predominate alternative to quality and quantity service enhancement, tends to "skim the cream" of the medical market place. Proprietary professionals and institutions tend to treat the low cost but high fee cases of illness of minimum severity and complexity, leaving the more difficult cases to public facilities, voluntary providers, and medical teaching institutions. There is also a tendency to overcharge whenever possible, to charge what the market (comprised of ignorant patient consumers as compared to medical professionals) will bear, to proliferate medical technology in the interests of competing for patients, and to concentrate in urban population centers in which the most affluent patients reside. Urban settings also provide opportunities to refer difficult high cost patients to public, voluntary or educational institutions.

The response of ministries of health, in the authors' experience, is for them to resent the private sector, particularly the reimbursement of the costs of

privately delivered services, and to strive to expand the public sector's direct health services delivery role. Principal emphasis usually is placed on increasing the number of public hospital beds. Public hospital bed expansion is justified on the political ground of the necessity of enhancing the Government's image in the eyes of the people, thus increasing public credibility in the Government's ability to carry out its responsibilities. The greater the climate of political uncertainty existing, the greater urgency is felt to expand public hospital beds.

Part of the rationale for expanding public sector hospital bed capacity is the often mistaken belief that the public sector can operate hospitals at lower costs per unit of service. This may or may not be true, depending on the existing circumstances. In any case, two considerations must be taken into account. First, other things equal, if salary levels in civil service are lower than in the private sector, the Government will not be able to adequately staff its public facilities, unless professionals are forced placed or required to engage in service as a matter of law (conscripted). If ways can be found to get around low civil servant salaries, ultimately health professionals will be available to the public sector in adequate numbers, but only if at the margin compensation levels are equal to what these professionals can earn in the private sector. In short, compensation must be equalized between the public and private health sectors in the absence of regulation or law requiring health professionals to serve in public institutions.

It should be noted that job security, pension plans, housing allowances, medical practice payments and educational allowances are all items of compensation that in addition to salary, Government may include in a total compensation package in order to provide incentive for health professionals to become employed in the public sector. However, the general point is that the private sector level of earnings sets the standard of compensation that the public sector must meet. Thus in order to meet its objectives, Government cannot remain aloof from the level and trend of earnings in the private health sector.

Note the importance of cost control to Government. If Government is reimbursing private providers, cost control measures not only serve to reduce private sector abuses, they also serve to moderate the rise in the level of private sector compensation. Any extent that Government can slow down the upward trend in private sector levels of compensation will enhance government's ability to compete with the private sector for the services of health professionals.

A second consideration that must be taken into account concerning the issue of public sector versus private sector costs of health care delivery concerns capital or development costs. Typically, Governments divide budgets into capital (or development) cost accounts, and operating (or recurrent cost) accounts. Appropriation for the funding of these budgets is usually done separately, and often these budgets are even prepared by different agencies and through different procedures and processes. This is most unfortunate because of the intimate connection and relationship that exists between the two types of costs.

A current outlay on a hospital development project mandates a stream of recurrent costs equal to 30%-50% of the original cost of the capital facility (even 65%-75% in the case of highly sophisticated tertiary care facilities) depending on the levels of salaries, and other expenses involved in operating the institution. If recurrent costs are 50% of operating costs, the R/D (ratio of

recurrent costs to development costs) is .5. In two years, assuming no inflation, the sum of recurrent costs will equal the original development costs of the facility.

Since Governments divide or separate development and recurrent cost budgets, it is not uncommon for officials in operating ministries like health to ignore capital costs in comparing costs of operating public institutions and private institutions. Ignoring capital costs is tantamount to ignoring capital replacement funds that eventually will be needed in the future.

The need to replace capital is recognized by almost all private enterprise institutions including private health providers, particularly proprietary hospitals and clinics. In order to provide for replacement of capital in future periods, private firms calculate the annual amount of funds necessary to be set aside and invested, if possible in an earning sinking fund or reserve, which when accumulated over the period of useful life of the hospital or clinic will equal the amount needed to replace the facility. Inflation in future replacement costs also needs to be taken into account. The sum of recurrent costs and the annualized capital replacement costs constitutes total annual operating costs for the facility. Division of this total of annual operating costs by units of annual output of service, say total annual patient days, yields an average cost per patient day that must be covered in order to operate the facility and to replace it when it becomes obsolete in the future.

Summing up this discussion of public versus private sector costs, one must make clear that comparison of per unit costs include all elements of costs and are otherwise comparable. A presumed difference in costs per patient day between public and private institutions must be analyzed in depth prior to making any recommendations concerning the economic advisability of expanding the public medical sector as compared to sustained reliance on the private medical sector.

#### 1.5.6. Decentralization and Autonomy

Typically, ministries of health are organized in a descending order of authority with the headquarters at the top, a tier of regional or provincial offices, and a final lower tier of district level offices. Also, typically, the MOH headquarters has a preponderant proportion of legal and administrative authority and control over budget as compared to lower levels. As a consequence, little discretionary authority and budget is available at lower levels, particularly at the district and community levels. The result is that major activities are often conducted in the capital city and in other urban areas while relatively little evidence of government attention or concern is given to health programs at district, municipal and/or community levels in non-urban areas. Dominant attention is often paid to curative care activities in hospitals located in major cities, with very little attention paid to illness prevention and health promotion or to primary health care (PHC) program activities at community levels outside metropolitan centers. Many countries are trying to decentralize MOH authority and control over resources, and to give greater autonomy to local levels of the health administrative hierarchy. Lebanon is no exception to this.

#### 1.5.7. Ability of Government to Afford an Expanded Health Care Delivery System

The health sector must compete with other sectors for resources, e.g. defense, industry, education, housing, etc. Donors are likely to be very generous to Lebanon in gifts and concessionary loans for rehabilitation and some new capital development projects. It is possible that in certain circumstances,

funds may be made available to support recurrent cost needs. However, ultimately the recurrent cost burden of the public sector will be the responsibility of the GOL. A central issue concerns the ability of the GOL to bear the recurrent cost burden of a rehabilitated and expanded public health sector.

Costs are a major, if not the major, issue as concerns the Lebanese health services delivery system. Currently roughly 80% of public sector funds are spent on reimbursement of privately provided medical services. Any expanded reimbursement eligibility coverage of the population will reduce barriers to access to the health care system and will increase rates of utilization. It is alleged that the private health sector is abusing the reimbursement mechanism with overcharging, charging for services not rendered, and charging different public agencies for the same services on behalf of the same patient. Cost containment, under existing circumstances and those that must prevail if reimbursement mechanisms are expanded in terms of population coverage, is a major concern of this study.

#### 1.6.0 Organization of the Remainder of the Study

The next section, Section 2.0, presents an overview of the general economy, describes the population served and the salient features of the health services delivery system. In this section and throughout the report we deal essentially with personal health services. These are made up primarily of curative or medical care services. No attempt is made to deal with community or public health services. The latter include environmental sanitation, sewage and waste disposal, communicable disease control, etc. While important, these are beyond the scope of the current study.

Section 3.0 describes financial mechanisms in detail, notes existing weaknesses and presents analyses of the various issues raised in Section 1.5 above. Section 4.0 presents our conclusions and recommendations, including a detailed outline of a consolidated public sector cost reimbursement agency (in this report called the National Health Security System) and describes how such an agency could be organized and operated.

The final section, 5.0, presents our recommendations concerning the need for follow-up technical assistance, including the general recommendation for initiating a Financial Management and medical Quality Assurance project. Such a project conducted over a three year period, in our opinion, effectively could implement the major recommendations offered in this report.

## 2.0 Background and Situational Analysis

In this section we briefly review the general economic characteristics of Lebanon and describe the volume and distribution of health sector resources. No attempt is made to describe the Lebanese health sector in detail, since that is done in considerable depth by the WHO Health Sector Assessment Mission.

The salient features of the health services delivery system are summarized as the basis for examining existing financial mechanisms and identifying problems and weaknesses. These are the subject of the next section of this report.

### 2.1 Overview of the Current State of the Lebanon Economy

Lebanon is a comparatively small country covering roughly 4000 square miles, with a population estimated at approximately 3.0 million, including some 2.75 million in Lebanon and 0.25 million working abroad.

Since 1975 the Lebanese economy has reflected the adverse consequences of its internal security problems. Traditionally, Lebanon has served as the financial and commercial center for the Middle East generally, and as a strategic stepping stone between the industrialized West and the developing, now oil-rich, Arab states.

With the outbreak of hostilities in 1974 and the continued disruptions, internal turmoil and destruction caused by numerous invasions since then, Lebanon's economy naturally has suffered. Per capita income estimated in 1981 at LL 8800 (\$2200) has been roughly constant since then, measured in constant prices.

The rather stable level of per capita income stems in part from the mini-boom in construction that was required to reconstruct damage due to war. Other factors include those working abroad and consequent remittance of earnings (estimated at LL 9.0 billion, or \$2.2 billion) and sizeable transfers of capital and operating funds from various countries sympathetic to Lebanon's plight. Thus while Lebanon has been running a sizeable trade deficit, balance of payments have registered surpluses in recent years due to transfers and capital inflows. This surplus was estimated at LL 3.4 billion (\$850 million) in 1981 but is believed to have declined in recent years, due to the GOL's inability to control ports and thus tax items currently entering the country illicitly. This is costing the GOL an estimated LL 8-12 billion (\$2-3 billion) annually at the present time.

#### 2.1.1 Labor Force and Compensation

The economically active labor force is estimated at about 743,000 including 250,000 Lebanese who currently are working abroad. The 743,000 figure compares with an estimated 782,000 active labor force in 1970. The most recent year for which a breakdown of the composition of the labor force is available is 1974. The composition of the labor force in that year is presented in Table 2.1.1 below:

Table 2.1.1

## Composition of Lebanese Labor Force: 1974

<u>SECTOR</u>	<u>PERCENTAGE</u>
Agriculture	19.9
Industry	18.7
Energy & Water	.9
Construction	6.4
Transportation & Communication	6.1
Commercial, Hotels & Restaurants	17.6
Services, including Administration	<u>30.6</u>
TOTAL (rounded):	100.0%

Subtracting 47,000, the number of government civil service employees, the estimated number of persons serving in the Army or public security forces, 35,000, and the 250,000 Lebanese working abroad from a total active work force of 743,000 yields 411,000 persons comprising the non-government civilian work force.

Total payroll of civil servants plus military and public security forces, 82,000 persons, is estimated at LL 2.3 billion in 1982. The wage bill of domestic civilian non-government employed individuals, 411,000 is conservatively estimated at LL 8.4 billion (\$2.1 billion). The latter estimate is based on LL 20,400, the estimated average annual wage of 215,000 employees currently covered by the NSSF (which includes a lower proportion of professionals, marrieds, and older persons than the civil service). Neither the Civil Service data nor the NSSF data include income from the self-employed. Thus the LL 8.4 billion figure representing the wage bill of the domestic private sector work force is drastically underestimated, but represents the best estimate that is available.

### 2.1.2 Government Fiscal Activities

For purposes of this study, Government fiscal activities are extremely important. The GOL traditionally has incurred significant annual deficits. However, in the recent years annual budget deficits have been rising at an accelerated rate. In 1981 the budget deficit was officially recorded at LL 1.4 billion (\$335 million) representing roughly 25% of a total budget of LL 5.6 billion (\$1.4 billion). However in 1982, the budget deficit was officially recorded at LL 2.75 billion (\$688 million), representing roughly 47% of total expenditures of LL 6.3 billion (\$1.6 billion). The 1983 budget deficit is predicted to be even higher, both in magnitude and as a proportion of total expenditures.

Budget deficits are financed in the main through the sale of government obligations to the Central Bank and to commercial banks, thus contributing to an expansion in the domestic money supply which is highly inflationary. Inflation has been estimated to be running at 20% annually.

Allocations under the state budget for 1982 are shown in Table 2.1.2 below.

### 2.1.3 Ministry of Health Budget

As can be seen from Table 2.1.2 below, the MOH was allocated roughly LL 240 million (\$60 million) out of a total State budget of LL 6.3 billion (\$1.58 billion) in 1983. The MOH received roughly 3.8% of the total State budget. Actual expenditures as reported by the MOH in 1982 were LL 234 million (\$58.5

Table 2.1.2 - Allocation Under the 1982 State Budget

(In Lebanese Pounds)

	<u>Section 1</u>	<u>Section 2(a)</u>	<u>Section 2(b)</u>	<u>TOTAL</u>
Presidency of the Republic	2,828,800	175,000	-	3,003,800
Parliament	25,388,400	730,000	-	26,118,400
Premiership	119,532,300	15,875,000	-	135,407,300
Ministry of Justice	52,441,800	-	-	52,441,800
Ministry of Foreign Affairs	84,463,700	-	-	84,463,700
Ministry of Interior	273,446,200	65,275,000	50,000,000	388,721,200
Ministry of Finance	85,110,700	4,530,000	-	89,640,700
Ministry of Defense	769,354,500	391,260,000	85,000,000	1,245,614,500
Ministry of Education & Fine Arts	938,799,600	11,025,000	31,000,000	980,824,600
Ministry of Public Health	210,075,100	30,395,000	-	240,470,100
Ministry of Labor & Social Affairs	94,286,400	51,512,000	-	145,798,400
Ministry of Information	30,342,300	1,200,000	20,000,000	51,542,300
Ministry of Public Works	75,476,700	636,600,000	384,345,000	1,096,421,700
Ministry of Agriculture	16,692,400	58,951,000	-	75,643,400
Ministry of Economy	147,258,000	155,000	-	147,413,000
Ministry of Posts, Tele- gramme & Telephone	34,787,200	14,950,000	-	49,737,200
Ministry of Electric Power & Water Resources	12,766,000	104,602,000	-	117,368,000
Ministry of Tourism	33,293,300	12,302,500	-	45,595,800
Ministry of Industry & Oil	3,053,700	665,000	-	3,718,700
Ministry of Housing	6,506,500	2,087,500	-	8,594,000
Debts Outstanding	481,728,000	-	-	481,728,000
Reserve	829,733,400	-	-	829,733,400
<b>Total</b>	<b>4,327,365,000</b>	<b>1,402,290,000</b>	<b>570,345,000</b>	<b>6,300,000,000</b>

Source: Ministry of Finance, 1982

MOH reimbursement to private hospitals are lagging by about LL 10 million (\$2.5 million) per year due to late billings, disruptions in the ability of government to make disbursements due to circumstances of war, and disputes concerning charges and billings.

Historically in recent years the MOH has received from a high of 4.1% (1966) to a low of 2.3% (1978) of the state budget. The MOH received a 2.8% share of the state budget in 1980 and 1981, respectively. Thus the current 3.8% budget share awarded to the MOH represents a recent upturn in MOH budget, which for the most part is due to increases in funds required for reimbursement of private sector rendered medical services.

Of the total of LL 234 million (\$58.5 million) spent by the MOH in 1982, LL 160 million (\$40 million) was spent on private sector reimbursement, (with approximately LL 10 million worth of private sector claims still pending). This leaves the MOH with a maximum of only LL 74.0 million (\$18.5 million) over and above funds needed for private sector reimbursement, with which to support public health, training, and direct medical services delivery programs, and general administration.

When MOF officials were questioned concerning the prospects for increased outlays to the MOH beyond current percentage levels, the response was not optimistic. Other competing demands for public funds (particularly military outlays) were listed as being of high (but not necessarily higher) priority. In addition, the current difficulties the GOL is encountering in raising revenues in the face of dwindling import tax revenues were also mentioned.

It may be noted that the GOL revenue structure is not particularly elastic with respect to increasing needs for funds. Income taxes constitute less than 5% of total revenues, and principal reliance is placed on import duties and indirect taxes. Accordingly, there is a limited capacity for the GOL to generate additional revenues to meet all of its needs for recurrent spending, hence the traditional and recently accelerated resort to deficit financing. The matter is succinctly stated in the following quotation (39.p.76):

Lebanon's fiscal structure is notorious for its imbalances. Despite recent legislation to correct for these ....., state institutions responsible for collecting revenues and enforcing the new legislation are largely incapable of doing so. Thus, even direct taxes, including income tax only contributed to 18.6% of revenue in 1980 against 23.7% in 1979. Income tax alone, represented only 3.9% of the ordinary budget for FY 1980.

## 2.2 Brief Review of Medical Services Delivery System and Population Served

### 2.2.1. Population Characteristics

The total population of Lebanon is estimated at 3.0 million persons, of which 2.737 million were estimated to be living in country in 1980. The distribution of population among provinces is given in Table 2.2.1 below:

Table 2.2.1

## Population by Province, 1980

<u>Province</u>	<u>Population</u>	<u>Percentage</u>
Beirut	664,000	24.3
Mt. Lebanon	1,046,000	38.2
North Lebanon	458,000	16.7
Bekaa	255,000	9.3
South Lebanon	<u>314,000</u>	<u>11.5</u>
Totals:	2,737,000	100.0

Source: National Employment Office, Government of Lebanon.

Lebanon is one of only nine countries that has not conducted a recent census; the most recent census was conducted in 1932. However, Khalaf (5) has estimated demographic characteristics including age, distribution and trends in fertility and mortality based on a sample of 30,000 households undertaken in 1970 by the Lebanese Ministry of National Planning, followed up by a 10% sub-sample in the summer of 1971.

Summarizing Khalaf's findings, Lebanon is characterized by a population that exhibits a high dependency ratio. Nearly 42% of the population is under 15 years of age and 54% is under 19 years of age. Yet nearly 5% of the population is 65 years of age or older as compared to an estimated 3.6% in other Arab countries (5, p.13). Females comprise roughly 18.4% of the economically active population as compared to only approximately 8.6% in the remaining Arab world. The average age for first marriage is 28.5 years for males and 23.2 years for females. Many observers feel that due to war, in recent years the average age for marriage on the part of both males and females has been steadily advancing.

Lebanese crude birth rate is estimated at 34 per 1000, with a general fertility of 144 per 1000 women. Life expectancy at birth for both sexes is estimated at 64.2 years. Infant mortality is estimated at 65 per 1000 living children. The survival rate of children to the age of 5 years shows a definite trend in favor of females.

### 2.2.2 Principal Diseases and Illnesses

Unfortunately, in recent years the statistics section of the MOH has not had sufficient staff to conduct regular surveys of the incidence and prevalence of disease. Most recent data available pertain to the year 1974. Even in these data it is believed that the incidence of disease is substantially under-reported. Table 2.2.2 below, from Ministry of Health data, lists the communicable diseases reported in 1974.

Table 2.2.2

## Reported Communicable Diseases in Lebanon: 1974

<u>Diseases</u>	<u>Percentage</u>
Typhoid and paratyphoid	36.5
Respiratory tuberculosis	30.7
Schistosomiasis	8.65
Viral hepatitis	6.26
Non-respiratory tuberculosis	5.44
Poliomyelitis	3.36
Cerebrospinal meningitis	2.64
Alimentary intoxication	2.40
Dysentery	1.22
Malaria	1.22
Others (diphtheria, rabies, tetanus, etc)	1.51
TOTAL (rounded):	100.0%

Source: Ministry of Health, Reference 31, pp. 31.

The majority of diseases in the table above are preventable. Not shown are the degenerative diseases, i.e., heart disease, cancer, etc. Dr. N. Armenian, Dean of the School of Public Health, AUB, an epidemiologist, observed that Lebanon is rather unique as a nation. On the one hand, it exhibits a disease pattern similar to that characterizing developing nations but on the other, a sizable segment of the population exhibits a pattern similar to that of highly developed industrialized nations. Unfortunately, data were not available to the team with which to illustrate this phenomena.

### 2.2.3 Hospital Beds

The actual stock of acute general hospital beds available in Lebanon is not known with certainty. Many so-called hospitals consist of extremely small overnight apartment clinics which would not qualify as hospitals, if strict certification standards were enforced. Also enumeration efforts have been stalled by the war, and thus the data available are largely based on 1977 surveys that have been updated on the basis of fragmented studies conducted since that time.

As of December of 1982, MOH authorities report (3, pp. 17-18) that in 1974 there existed a total of 112 acute general private hospitals in Lebanon, of which two were university administered, 12 were operated by voluntary organizations, and 98 were proprietary (for profit) institutions. In addition, there were two military hospitals and 21 MOH public facilities yielding an estimated total of 135 acute general hospitals.

The distribution of non-military hospital beds according to public or private ownership and province and the ratio of beds per 1000 persons for 1974 is presented in Table 2.2.3 below:

Table 2.2.3

Hospital Beds by Ownership, Province and Ratios/1000 persons - 1974

	<u>Government</u>	<u>Voluntary</u>	<u>Private</u>	<u>Total</u>	<u>Beds/1000</u>
Beirut	220	1093	1339	2652	4.4
Mount Lebanon	328	420	617	1365	1.6
North Lebanon	260	115	694	1069	1.6
South Lebanon	385		287	672	1.2
Beka'	350	-	105	455	1.1
TOTAL:	1543	1628	3042	6213	2.0

Source: MOH, taken from 3, pp. 17-18.

Table 2.2.3 above shows a dominant concentration of hospitals in Beirut, while the remainder of the country and particularly South Lebanon and Bekaa are relatively underserved.

Since the war, Lebanon is believed to have lost hospital beds. The current number of acute general hospital beds available is estimated at roughly 6400, 1200 public and 5200 private sector beds, respectively. While the 1200 public beds are not fully operational at this time due to circumstances of war, they will be made operational in the near future. Also, the 5200 private sector hospital bed figure excludes an estimated 514 small "fly-by-night" clinic beds that would not meet a reasonable standard of hospital care, if certification were strictly enforced.

In addition to acute general hospital beds, it is believed that roughly 3400 private hospital beds for chronically ill patients currently exist, of which the MOH contracts for the use of 2500, yielding a total of approximately 9800 hospital beds of all types in Lebanon. Assuming a population of 3.0 million, the ratio of hospital beds per 1000 persons is approximately 3.2. Assuming that the population currently actually served is roughly 2.75 million, yields a ratio of 3.5 beds per thousand population.

#### 2.2.4 Dispensaries

The distribution of dispensaries in 1977-78 by type of ownership is presented in Table 2.2.4.

Table 2.2.4.

## Distribution of Dispensaries by Type of Ownership, Lebanon, 1977-78

	<u>No.</u>	<u>%</u>
1. <u>Government</u>		
Army	3	1.0
Ministry of Health	16	7.0
Office of Social Development	61	27.5
Municipality	10	4.5
Subtotal.	90	40.0
2. <u>Private</u>		
Lebanese Red Cross	22	10.0
Community & Families	48	22.0
Political groups	19	9.0
Religious groups	26	12.0
Caritas	3	1.0
Movement social	4	1.5
Other (mainly families)	10	4.5
Subtotal	<u>132</u>	<u>60.0</u>
TOTAL	<u>222</u>	<u>100.0</u>

Source: International Red Cross - UNICEF Survey, Lebanon, 1977-78, taken from (3, p. 22).

The numbers of dispensaries appear to be very low. If dispensaries serve as an index of PHC availability and/or first contact medical care, the existence of such a small number of dispensaries suggests a lack of emphasis on this type of health care service availability.

With respect to dispensaries, little uniformity in terms of size, service, activities, and staffing patterns exist. Thus no attempt is made to show their distribution among provinces, since doing so would be misleading. The staff of dispensaries is heavily dominated by physicians. Indeed, MOH officials agree that there are more physicians than nurses in Lebanon and this is reflected in the staffing of dispensaries. The next section presents data reflecting the total numbers of various categories of health personnel and the distribution of physicians among provinces.

### 2.2.5 Health Personnel

Table 2.2.5.1 below presents number of the various categories of health personnel and numbers per 1000 population believed to exist in Lebanon in 1977.

Table 2.2.5.1

## Health Personnel in Lebanon, 1977

<u>Population</u>	<u>Number</u>	<u>Per 1000</u>
Doctors	2000	1/1080
Dentists	932	1/3480
Pharmacists	894	1/3635
Nurses	1514	1/1625
Nursing Aids	998	1/3256
Midwives	500	1/6500
Physiotherapists	96	1/33854
Laboratory technic	200	1/16250
X-Ray technicians	20	1/162500
Sanitarians	200	1/16250

Source: Ministry of Health, October 1977, taken from 3, p-23.

Table 2.2.5.1 shows that physicians comprise the largest single category of health personnel in Lebanon. The ratio of physicians to 1000 population appears very favorable, even by comparison with many highly industrialized nations. However, severe shortages exist in the number of nurses and nurses aids and in other categories of health personnel.

In 1982 the National Employment Office completed a national study of the numbers and distribution of physicians in Lebanon. Table 2.2.5.2 presents a summary of the number of physicians, percentage, and physicians to population ratios by province in 1980. These data are based on the National Employment Office study completed in 1982 (35).

Table 2.2.5.2

## Distribution of Physicians, Percentages, and Ratio to Population, by Province: 1980

	Beirut	Mt.Leb.	N.Leb.	S.Leb.	Bakaa	Total
Number of physicians	1264	580	233	168	159	2404
Percentage of total	52.6	24.1	9.7	7.0	6.6	100
Ratio of physicians to population	1:525	1:1803	1:1965	1:1869	1:1603	1:1138

Source: National Employment Office, Government of Lebanon (35).

Table 2.2.5.2 again shows a concentration of health resources, in this case physicians, in Beirut. Bakaa appears to be in a better position with respect to the remaining provinces. Areas that appear to be most greatly underserved are North Lebanon followed closely by South Lebanon. Since physicians dominate the medical sector generally and comprise the largest component of health personnel in Lebanon, we would expect the distribution of remaining cadres of actively

working health professionals to follow roughly that of physicians.

A matter of great concern to Lebanese health officials is that increasing numbers of licensed physicians are graduates of foreign medical schools which are not highly regarded. While Lebanon currently enjoys a high ratio of physicians to population, increasing dependence in the future on marginally trained medical graduates poses a serious problem for the quality of medical care that will be available to Lebanese citizens in the future.

## 2.2.6 Other Health Sector Medical Resources

### 2.2.6.1 Training Institutions

The following material concerning training relies heavily on the Health Manpower and Training Annex to the Report of the February 1983 WHO/LRCS Health Sector Assessment and Planning Mission to Lebanon. Some of the major findings of that report are summarized below.

Currently there are two accredited medical schools in Lebanon, AUB and St. Joseph Faculty. In addition, St. Joseph offers B.S. training in pharmacy and dentistry. The Faculty of Health Sciences, AUB, offers B.S. degrees in environmental health, bio-statistics and laboratory technology. Master's level training is offered at AUB in epidemiology, general hospital administration, and health services administration.

Both AUB and St. Joseph Universities have B.S. programs in Nursing (AUB also offers an Associate Degree program). There are at least seven other nursing schools in Lebanon, most of which are sponsored by religious groups and charitable organizations. Three universities (AUB, St. Josephs, and Lebanese University) offer training programs for laboratory technicians, with AUB offering the only B.S. degree in this area. Although now closed due to the war, the MOH initiated a diploma program in the School of Sanitarians (Tripoli).

In summary, Lebanon already has a fairly credible level of resources for training health personnel. Two medical schools in addition to AUB and St. Joseph's are operating in Lebanon, but as yet have not been accredited. Plans are also in progress to offer M.S. and Ph.D. nursing programs in the future.

### 2.2.6.2 Pharmacies, Drug Agents and Pharmacists

Drug acquisition and control is a big problem in Lebanon. It is estimated that at least 8500 general types of drugs are used in the country, many of which have never been approved legally. There are an estimated 502 drug firms that wholesale drugs obtained from an estimated 95 drug (import) agents. Only 17 local drug manufacturing firms exist. There are an estimated number of 1125 legal pharmacists licensed in Lebanon. While there are 296 legal pharmacies, an estimated number of 320 illegal pharmacies are known to be operating in Lebanon. Mark-up profits are as high as 143% over acquisition costs and drug costs are estimated to constitute 38-42% of total outlays on medical services in 1982 (see Section 3.5 of this report).

### 2.2.7 Important Policy Measures of Special Relevance to this Study

Health sector policy is stated clearly in the Minister's speech delivered in the United States in December of 1982. This policy is also succinctly summarized in the Executive Summary of the Report of the February 1983 WHO/ LRCS Health Sector Assessment and Planning Mission to Lebanon. In the interests of not duplicating the work of others, the authors do not attempt to summarize Lebanon's

health sector policy here. However, two policy measures, one old and one new, are particularly relevant to this report and thus they are briefly summarized below.

#### 2.2.7.1 The Autonomous Hospital Act of 1978

The act proposes to establish autonomous public hospitals, one for each province. The act also allows for extension of the autonomous mechanism throughout the provinces to all MOH health facilities and services.

A board of directors is created which is responsible for the autonomous hospital system, but which reports to the Minister of Health. Funding for the hospitals comes primarily from the MOH. Seven members sit on the board. Members include a representative each from St. Joseph's and AUB, the Director General from both the MOH and the NSSF, two representatives from the Lebanese Order of Physicians and one "expert". The board meets monthly.

Also meeting monthly is a separate board responsible for each hospital. This board consists of one professor each from St. Joseph's and AUB medical schools and two local citizens with college degrees.

Under the Act, hospitals can hire and fire employees and can set compensation for physicians and other employees essentially as they see fit. Hospitals may charge private patients directly for services.

To date, no autonomous hospitals have been implemented under the Act. However, with or without modification the Act could be used as the umbrella arrangement under which MOH hospitals could be given autonomy and flexibility to restructure their operations consistent with the needs of a revised health care delivery system.

As presently written the law appears to have many flaws. These are:

1. The boards meet infrequently and their staffs serve only part-time. There is insufficient management control and accountability.
2. By extension of various MOH facilities and services, the general board of directors could control the entire MOH health system, by-passing various MOH directorates and experts. As a result, coordination and integration of MOH facilities, services and referral mechanisms could be lost.
3. Employees under contract to the MOH might be redundant if other workers were selected to staff an autonomous hospital. Under existing civil service regulations the MOH would have to keep these redundant workers on its payroll.

These problems aside, the law presents many opportunities for the public hospital system to become more financially secure and to be able to compete with the private sector for the services of health professionals. While strictly speaking no hospital is currently operating according to this law, the Batroun Hospital is operating under a semi-autonomous arrangement with the NSSF. The Minister has been interested in the possibility that the Batroun Hospital might serve as a model for a reorganized public hospital system. Thus the experience of the Batroun Hospital is highly relevant to the objectives of this study.

### 2.2.7.1.1 Batroun Hospital

Batroun Hospital is a 75-bed acute care facility with an outpatient service and serves as a regional renal dialysis center. It is currently running a surplus over costs on its operations. Yet its daily room charge is low relative to other hospitals offering a similar level and quality of service.

The hospital is unique in many ways. First, it is the only acute facility in a community with a catchment population of at least 60,000. Second, it functions as a MOH-owned institution, leased to the NSSF and operated as an autonomous hospital with a board of directors. The board consists of five members who meet weekly. The hospital is managed by a trained administrator.

As an autonomous institution, the hospital can hire and fire and set wages different from those which the MOH pays. In fact, the hospital wage scale seems to be similar to that of the Ministry for nursing personnel. Compensation of the laboratory, however, is different. The director, a full-time salaried employee, earns LL 8,000 per month, plus 15% of all receipts for laboratory service over LL 15,000 per month. His total monthly earnings were not revealed. Presumably the purpose of the incentive arrangement is to stimulate commitment and productivity. However, without strict controls, one could envision that the incentive arrangement could very easily stimulate abuses and over-utilization of services.

The physicians on the staff are basically in private practice who use the hospital to hospitalize their private patients. They are also assigned patients on a rotation basis who present to the hospital for care, referred from the MOH, NSSF, or the UGCS.

For patients who are covered by a government related reimbursement scheme, physicians receive 100% of the applicable fee as set by the acts schedule (85% from the reimbursing agency and 15% from the patient). The hospital collects both the reimbursement and patient components and pays the physicians directly, if this is what the physician elects, retaining 10% of fees as a collection charge. If preferred, physicians can bill patients directly for reimbursement, and in this case the physician keeps the full amount of fees.

By action of the board of directors for a private patient (i.e., one with no public sector reimbursement coverage), physicians may charge twice the scheduled amount for medical acts and procedures. Previously they charged three times the scheduled tariff fees, but this level of charging was rescinded by the board of directors.

Initially it had been the team's impression that Batroun Hospital had an incentive system for physicians. This does not appear to be the case. Monthly earnings of the physicians are around 20,000 LL. This is said to be about one-fourth of that earned by comparable doctors in Beirut. However, the Batroun physicians have no overhead, while most Beirut physicians are said to have an overhead of about 30%.

In discussing the adequacy of physicians earnings with Batroun officials, it became clear that there are insufficient hospital beds in the Batroun area to meet the demand. The hospital operates at 90% occupancy and at this level makes money. One surgeon reported that the limitations on beds reduced his average work day to around four hours.

To summarize, in the team's view Batroun Hospital is a unique case. It is not at all representative of a MOH-related hospital operating as an autonomous entity competing effectively with hospitals in the private sector. There does not seem to be an incentive scheme to compensate physicians that differs in any significant way from that common to private practice.

Presumably the physicians accept the working conditions for several reasons. First there seemed to be genuine commitment to the facility and to the community. One sensed that they did not feel that they were being taken advantage of in the way that some physicians are by fee-sharing with private hospitals. Second, the compensation, while less than that potentially earned in other situations, is still quite good for the time worked and is apparently adequate to meet their needs. They liked the autonomy they had, say, as compared to being salaried physicians working in a MOH hospital. Despite all these rather positive features, were there other hospitals available in Batroun, we suspect a good share of the Batroun Hospital physicians would also use these other hospitals in order to augment their income. This more than likely would force Batroun to allow higher charges for medical acts and procedures in order to compete for physician services. This might force Batroun Hospital into a break-even or even a loss position.

#### 2.2.7.2 The Area Health Authority Law

This law has recently been proposed and is in the process of being passed. Consistent with the GOL policy of assuring all citizens the right to good health, Lebanon is in the process of restructuring its health care system. The Area Health Authority (AHA) concept emphasizes comprehensive health care with a full range of preventive and curative services provided in public and private health facilities in a coordinated fashion.

The law proposes a two-tiered system. First would be a central level Directorate which would guide the system primarily by setting standards, setting general policy, planning, and supervision, and generally reinforcing professional and administrative systems.

The second level would be the area level consisting of some 10-12 "Area Health Authorities" (AHA's), each serving between 200,000 and 400,000 persons. The AHA's will be autonomous entities. Each AHA would have a Director, a policy committee and at least one general hospital as well as necessary outpatient facilities in which to provide all levels of health care.

Primary care is emphasized. Also envisioned is a financing arrangement which would permit individuals to select their provider: public, voluntary or proprietary. In essence there would be competition between the public and private sectors for personal health services. Categorical public health services such as food and water safety, sanitation, etc., however, also would be the responsibility of the AHA.

Each AHA would have the authority to structure its health care so as to meet its health needs most effectively. Innovative arrangements of physicians and health facilities into organizational structures capable of providing comprehensive care would be encouraged. Establishing an HMO, for example, has been suggested. The AHA would have the authority to set salaries or to establish alternative compensation packages for employees so as to attract and retain dedicated staff.

Three kinds of budgets are envisioned for the AHA: a capital budget to support facility and other development which would come from the central Ministry of Health; a recurrent or operating budget which also would come mainly from the MOH; finally, there would be an autonomous budget from funds collected by the AHA for services rendered to private patients and reimbursements from public sector and private sector agencies. The autonomous budget would be used at the discretion of the AHA. The specifics of the interrelationship of the three budgets would be more clearly defined as the AHA system is implemented.

To govern and manage the new system, directors and advisory boards or councils are proposed for both the central level and the area levels. These boards aim at getting community representation into decision making.

The Area Health System concept, we are told, has been approved in principle at the GOL ministerial level and is in the process of being drafted into legal language so that it can be considered for legislative approval and enactment in the near future.

#### 2.2.7.3 Summary Comments

The AHA concept offers the opportunity for major broadening of the coverage and quality of health care in Lebanon. Both the autonomous hospital law and the proposed AHA legislation present some significant opportunities for strengthening the financial basis of the health care delivery system which are explored more fully in Sections 3.0 and 4.0 of this report.

### 3.0. Health Services Financing Mechanisms

#### 3.1. Financial and Service Characteristics of the Major Health Care Providers and Financial Intermediaries

In the previous chapter the components of Lebanon's health care system were outlined in terms of types of public and private providers and the distribution of health facilities and human resources regionally. Because of lack of basic data, the performance of the system in meeting health service needs and in reducing health problems in various categories cannot be given. Similarly, in many cases, data with which to describe the financial performance of the health care system in Lebanon also either are not available or are of questionable accuracy. We are thus limited to making best estimates of expenditures of various health care providers, as well as of out-of-pocket expenses incurred by patients.

Table 3.2.1. below provides a summary of financial and services characteristics of the major health care providers and financial intermediaries. Table 3.1.2. presents similar information concerning private health insurance. The salient features of health services delivery and financing mechanisms are discussed below.

### 3.2 Public Sector Health Services Delivery and Financing Mechanisms

#### 3.2.1 The Ministry of Health (MOH)

As shown in Table 3.2.1, the MOH primarily serves 700,000 medically indigent, provides medical care in its own hospitals and outpatient facilities and reimburses costs of services rendered in private hospitals. Roughly 77% of hospitalized patients (40,000 52,000) are treated in private facilities with which the Ministry has contracts. In 1982, the MOH had contracts for 1184 beds with private hospitals. Reimbursements were based on a MOH fee schedule (tariff) and were reimbursed at 85% of scheduled charges. The Ministry's 1982 budget amounted to LL 234 million and of this sum, LL 160 millions were allocated for reimbursement of health services provided in the private sector.

#### 3.2.2 Army and Public Security Forces

The military, including active duty army and public security forces and retired personnel, their dependents and civilian support staff, are provided care in military facilities or on a reimbursement-of-charges basis in private facilities. A total of 250,000 individuals are covered. Total expenditures are estimated at LL 75 million in 1982. Funds are directly allocated from the MOD to operate military health services and to reimburse private providers.

#### 3.2.3 The National Social Security Fund (NSSF)

The NSSF provides financial reimbursement for health care charges incurred by employees in the private sector, including autonomous organizations. In 1982, a total of 645,000 persons, comprised of 215,000 employees and 430,000 dependents, were covered. Funding comes from employers, employees and the MOF. By special law, the MOF is obligated to pay the NSSF an amount equal to 25% of NSSF payments for medical services rendered on behalf of beneficiaries.

Care is provided in private health care facilities and reimbursement is based on a percentage of a NSSF fee schedule or tariff. Estimated expenditures in 1982 were LL 144 million. Total spending would have been LL 163 million if the NSSF had adopted the uniform tariff recently developed by the Task Force on Health Care Financing, MOH.

Table 3.2.1: SUMMARY OF FINANCIAL AND SERVICE CHARACTERISTICS OF MAJOR HEALTH-RELATED ENTITIES

ENTITY	FINANCING	THOSE SERVED - ELIGIBLES	SCOPE OF SERVICES & CLIENT PAYMENT	SERVICES UTILIZATION
Ministry of Health	<p>1. Receives budget from Ministry of Finance, 1982 estimated total 234 million LL. MOH collects no fees from patients.</p> <p>2. Budget break down <u>M.L.L.</u></p> <p>a. "Chapter 1" reimbursement of pvt. providers 130+</p> <p>b. "Chapter 2 - long-term care (Tbc, mental rehab.) in private facility. 20+</p> <p>c. "Chapter 3" reimbursement for private lab., x-ray, dialysis, etc. <u>10+</u> 160+</p> <p>d. Est. cost of MOH facilities for medical care 50</p> <p>e. Est. cost for general admin. &amp; P.H. <u>24</u> Total: 234</p> <p>3. Average annual cost for those served: LL</p> <p>a. For private reimbursement 229</p> <p>b. Add amount MOH pays for its own facilities serving an estimated 700,000 persons <u>71</u></p> <p>Est. expenditure/beneficiary/year 300LL</p>	<p>1. Anyone not covered by other health service - basically the medically indigent, estimated at <u>700,000.</u></p> <p>2. Where no other facility is available, anyone presenting for care is treated without question.</p> <p>3. If patient unable to pay the 15% of tariff, MOH pays for them.</p>	<p>1. Provides services directly in its own facilities, without charge to patients.</p> <p>2. Contracts with private hospitals + MDs and pays 85% of fee schedule. Patient pays 15% if able, up to 500 LL maximum. No outpatient benefits except lab, x-ray, dialysis, on referral from MOH OPD.</p> <p>3. Covers out of Lebanon referral for medical care, 100% of costs including transport and attendant.</p> <p>4. Categorical P.H. Services.</p> <p>5. Covers services provided only in a 3rd class bed.</p>	<p>1. 1982 40,000 private hospitalizations 12,000 MOH facility hospitalizations. 120,000 out patient visits. (source, DG, MOH, 2/12/83).</p>

97

Table 3.2.1 (Continued)

Army, Security Forces	<p>1. Entirely funded by GOL through Ministry of Defense.</p> <p>2. No budget estimate but in 1982 55 million LL spent on reimbursement of private sector care. This equaled 80% of services provided, hence total expenses estimated at 75 million LL; and estimated 15 M.LL for drugs. Est. expenditure/beneficiary /year. =300LL</p>	<p>1. Active duty military, security forces amounting to 35-40 thousand plus retirees and dependents.</p> <p>2. Civilian employees, numbering estimated 35,000.</p> <p>3. Total number covered 250,000.</p>	<p>1. 2 military hospitals, damaged and only partially operational,</p> <p>2. Contract out to private facilities.</p> <p>3. Active duty and dependents covered 100%</p> <p>4. Civilian employees covered 75% of costs of services.</p>	1. No information
National Social Security Fund	<p>1. Financed by an amount equal to 7% of payroll, up to 1st LL750 /month, 1.5% from employee 5.5% from employer.</p> <p>2. GOL, Min. of Finance, gives NSSF an amount equal to 25% of expenditures for medical care annually.</p> <p>3. Total estimated expenditure for 1982 is 144 M.LL. This equates to 223 LL per beneficiary.</p> <p>4. Total out of pocket for 15% not reimbursed by the fund amounts to approx. 25 M.LL. However, in fact it is believed beneficiaries pay more than this because reportedly some providers charge more than the authorized tariff.</p>	<p>1. Employees in private industry - from one employee, up.</p> <p>2. Foreign workers whose countries cover Lebanese workers in their country.</p> <p>3. Total covered in 1982, 645,000 (215,000 employees insured plus 430,000 dependents).</p>	<p>1. Covers all services provided under fixed schedule (tariff) of fees; NSSF paying 85% of these fees and the client 15%, for in-patient care and 70% and 30% respectively, for out patient care.</p> <p>2. Provider bills the NSSF directly collects the consumer portion from the consumer.</p> <p>3. Fund does not operate any medical care facilities at this time but has a linkage to the Batroun hospital which operates as an autonomous entity.</p> <p>4. Covers only 3rd class charges in hospital, but client can pay difference for higher class bed.</p> <p>5. Patients may be referred out of Lebanon for care not available in the country.</p>	<p>1. All those covered have similar benefits.</p> <p>2. Because of delays in processing claims, some providers are reluctant to cover services involving small amounts of money e.g., under 100LL.</p>

Table 3.2.1 (Continued)

<p>Office of Social Develop-</p>	<p>1. Health services financed from Min. Labor &amp; Social Affairs directly in some medical-social centers, and in others, cost sharing with voluntary organizations. Total funding is budgeted at 10 M.L.L. for 1983, as follows: 7 M.L.L. to cover health services for 113,250 in medical-social centers entirely subsidized by OSD and 3 M.L.L. for 113 smaller medical-social centers jointly funded with voluntary agencies serving 81,700. Total number served equal 194,950; average expenditure equal 10 M.L.L./194,950 or 51.3 LL per beneficiary.</p> <p>2. Total collected from beneficiaries unknown.</p> <p>3. Total spending in 1982 was 8 M.L.L.</p>	<p>1. OSD attempts to fill the gaps for social services and MCH care. Operates in rural areas and under served beneficiaries.</p> <p>2. Total served in 82 was 194,950.</p>	<p>1. Provides mainly curative MCH services - mid-wives, care of children some immunizations and health education through medical-social centers.</p> <p>2. Client pays 5 LL per center visit. Total collected is unknown but maximum would not exceed 194,950 x 5 LL or around 1 Million LL.</p> <p>3. OSD is developing expanded centers including delivery of maternity cases and broader health care.</p>	<p>1. Degree to which OSD services are utilized by under served population has not been established.</p>
<p>Mutuelle - Cooperative of Civil Servants, (UGCS).</p>	<p>1. Financed by contribution from civil servants and the Lebanese government. Funds go to the Cooperative of Civil Servants to cover various benefits. 1982, of a total budget of 75 M.L.L., 50 M.L.L. went for health benefits. This equates to 50 M.L.L./220,000 = 221 LL per beneficiary.</p>	<p>1. Employees and their dependents are covered equally. Civil Servants number 47,000 and dependents 173,000, for a total of 220,000 eligibles.</p>	<p>1. Provides health and death benefits and rewards for births and marriages.</p>	<p>1. Break down of served utilization by beneficiaries not available from visit to Mutuelle. (UGCS)</p>

28

Table 3.2.1 (Continued)

<p><b>Mutuelle Coopera- tive of Civil Servants, (UGCS)</b></p> <p>(Cont'd.)</p>			<p>2. Health benefits vary with employees rank. Benefits are cash payments for health care based on a relative value scale which the Mutuelle has established. This scale has varied from that used by the MOI and NSSF for reimbursement in the past. Drug costs are partially reimbursed. Lowest rank employee treated in 3rd class; higher rank gets 1.6 x 3rd class reimbursement amount and can use 2nd class bed; highest rank reimbursement is 2.3 x 3rd class bed care.</p> <p>3. Employee pays 1% of full payroll amount and government 6% of payroll.</p> <p>4. Beneficiary may be referred out of Lebanon for medical care not available in country.</p>	
<p><b>Municipalities</b></p>	<p>1. Municipality health services are under the jurisdiction of the Ministry of the Interior.</p> <p>2. Many municipalities operate dispensaries which provide services to municipal employees and their dependents and to the general public.</p>	<p>1. Municipal employees and dependents.</p> <p>2. Exact population coverage is unknown.</p>	<p>1. Outpatient services usually are rendered free to municipal employees and their dependents.</p> <p>2. A charge (nominal) is often required for services rendered on behalf of the general public. Exact fees and fee revenues are unknown.</p>	<p>1. The City of Beirut spent roughly LL 10.0 million in 1982.</p> <p>2. Spending on the part of all other municipal health facilities is estimated at LL 10.0 million in 1982.</p>

#### 3.2.4 Office of Social Development (OSD)

The OSD provides outpatient care to some 195,950 medically underserved individuals. The OSD spent LL 8 million for care in 1982. In 1983, it expects to spend LL 7 million for care in its own facilities, and an additional LL 3 million for care provided jointly with voluntary organizations.

#### 3.2.5 Cooperative Government of Civil Servants (UGCS)

The UGCS also provides financial reimbursement for care in private health facilities based on a percentage of total charges as established by its own individual fee schedule. Those covered include 47,000 GOL employees plus 173,000 dependents for a total of 220,000 persons. Funding comes from payroll tax assessments paid by employees and the national government. The tax assessment is 7% of total wages and salaries, excluding allowances, of which employees pay 1% and the State pays 6%. The 1982 estimate for health reimbursement expenditures is LL 50 million.

#### 3.2.6 Municipalities

Municipalities frequently provide outpatient care in dispensaries and health centers which they operate. In Beirut, the municipality estimates that it spent roughly LL 10 million for health services in 1982. A rough estimate of expenditures by all municipalities in Lebanon for health care in 1982 is LL 20 million.

#### 3.3 Private Sector Health Insurance

In the private insurance sector, one finds both commercial health insurance e.g., the American Life Insurance Company (ALICO) and health insurance offered their employees by employers who are self-insured, e.g., AUB. Table 3.3.1 below details the coverage, benefits and costs of health insurance provided by ALICO and AUB. No attempt was made to survey all private sector health insurance plans individually. The information presented concerning ALICO and AUB are illustrative of the types of private insurance plans that are in effect in Lebanon at the present time.

Private health insurance is not used extensively in Lebanon. In general, private health insurance is supplemental to public sector direct health services delivery and reimburses the costs of services rendered by private providers. ALICO estimates that LL 5 million is spent annually in Lebanon for commercial health insurance covering 100,000 persons primarily to supplement NSSF benefits. AUB spends LL 5 million each year providing coverage for some 13,000 students, faculty and other employees, including dependents.

Although their number is small, some firms provide medical care for employees in company dispensaries, without charge. Middle East Airlines (MEA), Lebanon's largest employer with 5,000 employees, provides both this service and also pays the 15% of medical care charges not reimbursed by the NSSF. MEA estimates that it spent LL 1 million in 1982 for these benefits.

It is difficult to cost out the total spent on health care by private firms and other organizations in 1982. Including commercial health insurance, AUB and MEA, LL 11 million are accounted for. Doubling this figure to LL 22 million, we believe, gives a reasonable estimate of the total expenditures by private health insurance organizations in 1982.

Table 3.3.1  
PRIVATE HEALTH INSURANCE IN LEBANON

ENTITY	REMARKS	THOSE COVERED	SCHEDULE OF BENEFITS	COSTS																																																																				
AMERICAN UNIVERSITY OF BEIRUT HEALTH INSURANCE	<p>1. Plan is self insured by AUB and provides both hospitalization and ambulatory care. Plan is called the HIP</p> <p>2. Number currently covered is 13003. This includes students, faculty members and employees. Close to 100% of eligible sign up for the HIP.</p> <p>3. The AUB Hospital Insurance Plan has two general plans - one for subscribers not covered by NSSF and another which serves to supplement benefits under NSSF. Benefits under both plans cover identical services. The difference is the premium charged and the class of service.</p>	<p>1. Students and AUB employees - faculty and staff are covered, including dependents, according to the payment of premiums based upon the class of service and number of dependents.</p> <p>2. Distribution of subscribers by class of bed:</p> <table border="1"> <thead> <tr> <th></th> <th>HIP</th> <th>HIP + NSSF</th> <th>TOTAL</th> </tr> </thead> <tbody> <tr> <td>1st class</td> <td>1,016</td> <td>559</td> <td>1,575</td> </tr> <tr> <td>2nd class</td> <td>5,672<sup>■</sup></td> <td>1,558</td> <td>7,230</td> </tr> <tr> <td>3rd class</td> <td>147</td> <td>418</td> <td>565</td> </tr> <tr> <td>Total</td> <td>6,835</td> <td>2,535</td> <td>9,370</td> </tr> </tbody> </table> <p>■ includes 4247 students.</p> <p>3. The total of subscribers plus dependents is 13,003.</p>		HIP	HIP + NSSF	TOTAL	1st class	1,016	559	1,575	2nd class	5,672 <sup>■</sup>	1,558	7,230	3rd class	147	418	565	Total	6,835	2,535	9,370	<p>1. Subscribers are entitled to inpatient and outpatient care at the AUMI, with certain exclusions - eye glasses, blood, infusions, some drugs and ambulance service. Pre-existing health problems may be excluded. Hospital benefits, i.e., number of days per year, increase with length of employment.</p> <p>2. Faculty and key staff are generally treated in 1st class accommodations, students in second class and lower level workers in third class.</p>	<p>1. Premiums are generally collected monthly from employees or in advance from students.</p> <p>2. On an annual basis, the following is the schedule premiums as of March, 1982:</p> <table border="1"> <thead> <tr> <th></th> <th>HIP</th> <th>HIP/NSSF</th> </tr> </thead> <tbody> <tr> <td colspan="3"><u>1st Class</u></td> </tr> <tr> <td>Subscriber</td> <td>960</td> <td>708</td> </tr> <tr> <td>Couple</td> <td>1,644</td> <td>1,248</td> </tr> <tr> <td>Cpl + 1 child</td> <td>2,112</td> <td>1,608</td> </tr> <tr> <td>Cpl + 2 or more children</td> <td>2,568</td> <td>1,944</td> </tr> <tr> <td colspan="3"><u>2nd Class</u></td> </tr> <tr> <td>Subscriber</td> <td>708</td> <td>372</td> </tr> <tr> <td>Couple</td> <td>1,248</td> <td>648</td> </tr> <tr> <td>Cpl + 1 child</td> <td>1,608</td> <td>840</td> </tr> <tr> <td>Cpl + 2 or more children</td> <td>1,944</td> <td>1,008</td> </tr> <tr> <td colspan="3"><u>Third Class</u></td> </tr> <tr> <td>Subscriber</td> <td>480</td> <td>216</td> </tr> <tr> <td>Couple</td> <td>876</td> <td>384</td> </tr> <tr> <td>Cpl + 1 child</td> <td>1,092</td> <td>420</td> </tr> <tr> <td>Cpl + 2 or more children</td> <td>1,356</td> <td>588</td> </tr> </tbody> </table> <p>Total premiums paid in 1982 were 4 million LL. This equates to 308 LL per insured/year. In 1982 total costs were 5 million LL. This deficit was funded by the University.</p>		HIP	HIP/NSSF	<u>1st Class</u>			Subscriber	960	708	Couple	1,644	1,248	Cpl + 1 child	2,112	1,608	Cpl + 2 or more children	2,568	1,944	<u>2nd Class</u>			Subscriber	708	372	Couple	1,248	648	Cpl + 1 child	1,608	840	Cpl + 2 or more children	1,944	1,008	<u>Third Class</u>			Subscriber	480	216	Couple	876	384	Cpl + 1 child	1,092	420	Cpl + 2 or more children	1,356	588
	HIP	HIP + NSSF	TOTAL																																																																					
1st class	1,016	559	1,575																																																																					
2nd class	5,672 <sup>■</sup>	1,558	7,230																																																																					
3rd class	147	418	565																																																																					
Total	6,835	2,535	9,370																																																																					
	HIP	HIP/NSSF																																																																						
<u>1st Class</u>																																																																								
Subscriber	960	708																																																																						
Couple	1,644	1,248																																																																						
Cpl + 1 child	2,112	1,608																																																																						
Cpl + 2 or more children	2,568	1,944																																																																						
<u>2nd Class</u>																																																																								
Subscriber	708	372																																																																						
Couple	1,248	648																																																																						
Cpl + 1 child	1,608	840																																																																						
Cpl + 2 or more children	1,944	1,008																																																																						
<u>Third Class</u>																																																																								
Subscriber	480	216																																																																						
Couple	876	384																																																																						
Cpl + 1 child	1,092	420																																																																						
Cpl + 2 or more children	1,356	588																																																																						

Table 3.3.1 (Continued)  
PRIVATE HEALTH INSURANCE IN LEBANON

ENTITY	REMARKS	THOSE COVERED	SCHEDULE OF BENEFITS	COSTS																								
<p>COMMERCIAL INSURANCE-AMERICAN LIFE INSURANCE COMPANY (ALIC)</p>	<p>1. Generally sold to groups in commercial organizations. Minimum group is 10 employees.</p> <p>2. Health insurance is generally sold only as an add on to life insurance.</p> <p>3. ALIC estimates it has 20,000 employees covered by health insurance and that this constitutes half of the commercial health insurance in Lebanon. Total number of coverage is estimated at 40,000 employees plus 60,000 dependents or 100,000 individuals.</p> <p>4. Percentage of firms with fifty employees or more which make commercial health insurance available to their employees is small - at most ten percent.</p> <p>5. As seen from the schedule of benefits, catastrophic illness coverage is minimal.</p> <p>6. Employers may pay for some or all of employees insurance costs as a fringe benefit.</p>	<p>1. Employees and eligible dependents of firms with contracts with ALIC.</p> <p>2. Covers employee and only immediate family-spouse and dependent children.</p> <p>3. Employees and dependents have identical coverage.</p>	<p>1. ALIC sells two plans: These have identical benefit categories but differ in the maximum paid per category.</p> <p>2. Both plans are expected to be used in conjunction with NSSF.</p> <p>3. Both plans offer Medical Assistance Insurance (MAI) and Supplemental Major Medical Insurance (SMMI) MAI has no deductibles and no co-payment or co-insured provisions. It pays immediately for hospital services (only) up to the Plan's limits. These are 3,700 LL for Plan B and 6,200 LL for Plan A. SMMI may be purchased alone or in conjunction with MAI. If brought alone there is an deductible of 4500 LL. MAI covers this deductible; however there is a 20% co-payment or co-insurance charge to the insured. Both plans have maximum life time benefits of 50,000 LL and vary in the daily hospital room reimbursement - 160 LL for Plan B and 250 LL for Plan A. For an additional "load" of 20% on the premiums, out patient visits are also covered and their cost subtracted against the life time maximum.</p>	<p>1. Total annual premiums for commercial health insurance in Lebanon are estimated by ALIC as around 5 million LL. This equates to 50LL/per insured/year.</p> <p>2. Premiums are collected monthly; annualized they are as follows:</p> <p><u>Plan B - Low Coverage</u></p> <table border="1" data-bbox="1655 517 2026 698"> <thead> <tr> <th></th> <th>Employee Only LL.</th> <th>Employee &amp; family LL.</th> </tr> </thead> <tbody> <tr> <td>MAI</td> <td>288</td> <td>1,008</td> </tr> <tr> <td>SMMI</td> <td>72</td> <td>192</td> </tr> <tr> <td>SMMI &amp; Out-Pt.</td> <td>86</td> <td>230</td> </tr> </tbody> </table> <p><u>Plan A - High Coverage</u></p> <table border="1" data-bbox="1655 781 2026 863"> <thead> <tr> <th></th> <th>Employee Only LL.</th> <th>Employee &amp; family LL.</th> </tr> </thead> <tbody> <tr> <td>MAI</td> <td>432</td> <td>1,560</td> </tr> <tr> <td>SMMI</td> <td>144</td> <td>240</td> </tr> <tr> <td>SMMI &amp; Out-Pt.</td> <td>173</td> <td>288</td> </tr> </tbody> </table> <p>(Note that any number of family members are included in one flat premium rate)</p>		Employee Only LL.	Employee & family LL.	MAI	288	1,008	SMMI	72	192	SMMI & Out-Pt.	86	230		Employee Only LL.	Employee & family LL.	MAI	432	1,560	SMMI	144	240	SMMI & Out-Pt.	173	288
	Employee Only LL.	Employee & family LL.																										
MAI	288	1,008																										
SMMI	72	192																										
SMMI & Out-Pt.	86	230																										
	Employee Only LL.	Employee & family LL.																										
MAI	432	1,560																										
SMMI	144	240																										
SMMI & Out-Pt.	173	288																										

### 3.4 Out-of-Pocket Expenditures

The last and a major source of health care financing in Lebanon is direct out-of-pocket expenditures for drugs, physicians and other health related costs by the consumer. No good data on which to base estimates of the magnitude of these expenditures are available.

Drug costs constitute a major component of the costs of health care, particularly out-of-pocket expenditures. An International Labor Organization (ILO) study on health care costs estimated that expenditures on drugs represent 42% of total expenditures on medical care in Lebanon. Most recent figures on the reimbursement for charges for drugs paid by the NSSF amount to 55% of total outpatient charge reimbursement (LL 253 / LL 462) and 12% of reimbursement of inpatient charges (LL 34 / LL 283). These figures are based on average annual costs per insured. The composite or weighted average for reimbursement of drug charges is 38.7%. This figure corresponds closely with the 42% reported in the ILO study.

The ILO study estimated that Lebanon spent 6% of individual income on drugs and from 11% to 17% of income on health care all together. However, the portion of these expenditures that is directly out-of-pocket and that which is reimbursed by some type of insurance coverage has never been calculated. One could use the percentage of drug costs relative to "income" as a basis for estimating total expenditures on health services. However, the partial translation of the ILO study available to the authors does not make it clear how "income" is defined (i.e., disposable, personal, etc.) and the original report was not available for purposes of this study. Therefore, some basis other than percentages of income had to be used in order to estimate total outlays on health, including expenditures made out-of-pocket.

Based on discussions with people knowledgeable about Lebanon's health sector, we judge that at least as much is spent out-of-pocket at point of service as is paid for by some type of public sector reimbursement mechanism and private insurance organizations, including firms that self-insure, plus the value of services directly provided by Government.

### 3.5 Total of Health Expenditures in Lebanon in 1982

Aggregating the expenditures for health from the various sources described in Sections 3.3 and 3.4 above yields a total of LL 551 million per year. This is shown as follows:

	<u>LL Million</u>
Ministry of Health	234
NSSF	144
UGCS	50
Military	75
OSD	8
Municipalities	20
Private Health Insurance	<u>20</u>
	551

Of these LL 551 million, the bulk of funds, possibly 98%, are spent on curative medical services, and 80% represents reimbursements to the private sector. To the LL 551 million must now be added at least an equal amount for out-of-pocket expenditures. This yields a total of LL 1.1 billion, as the lower bound of

expenditures for health care in Lebanon estimated for 1982, or a per capita expenditure of LL 400, based on a population of 2.75 million.

This estimate was judged to be low by Lebanese health authorities whose best "guess" is about LL 1.6 billion. However, this last estimate is high by comparison with other estimates of aggregate outlays on health services in Lebanon. One such estimate is based on village studies which show an average annual outlay per capita of LL 458, which when multiplied by 2.75 million persons estimated to be living in Lebanon in 1982 yields an aggregate estimate of total expenditures on medical services at LL 1.26 billion. A second estimate is based on family budget expenditure data collected by the Ford Foundation in 1966, showing that on the average annual expenditures on health services per capita in that year equaled LL 164.5. Assuming a 6% rate of compound growth in health outlays annually, per capita expenditures on health services would have grown to LL 443 over the interval of years 1966 to 1983. Multiplying LL 443 times an estimated population of 2.75 million persons living in country in 1982 yields LL 1.22 billion as an estimate of aggregate outlays on health services in Lebanon in that year.

Thus we conclude that aggregate expenditures on health care in Lebanon in 1982 lie somewhere between LL 1.1 billion and LL 1.6 billion. With greatest likelihood, the true estimate lies nearer to the lower than the upper bound of this range. Total expenditures appear to be divided, roughly, equally between public and private sectors as sources of funds, and drug costs as a component of total health expenditures appear to range from 38% to 42% of total outlays on medical services.

### 3.6 Weaknesses in Financial Mechanisms

Weaknesses in the existing financial mechanisms are discussed under individual categories below.

#### 3.6.1 Fragmentation Among Public Sector Agencies

Public sector direct provision of health services and reimbursement of the costs of privately provided health services is scattered among several different agencies which are in no way coordinated. The NSSF, UGCS, and the OSD are autonomous agencies under the tutelage of the MOLSA. Municipalities and the Military are under the control of the MOI and the MOD, respectively. Both the MOH and the Military reimburse the costs of private sector provided health services, in addition to providing some services directly. The OSD supplies services directly (outpatient services only), while the UGCS and the NSSF are strict cost reimbursement agencies. The result is that different agencies, in principle, cover different but sometimes overlapping segments of the population providing non-uniform benefits to beneficiaries who happen to be covered by respective agencies depending almost wholly on their circumstances of employment.

Public agencies receive resources in a wide variety of ways: direct allocations from the MOF in the case of the MOH, ODS (MOLSA), and the MOD and wage and salary payroll tax assessments in the cases of the UGCS and the NSSF. Yet the NSSF also receives part of its revenues (25% of annual expenditures) directly from the MOF. There is no clear equity achieved in the case of benefits to beneficiaries who are covered, since each agency provides direct services or reimburses the costs of privately provided health services according to its own tastes, individual capacity, and schedules, as the case may be.

Adding up the total population covered by the various public agencies, it appears that a maximum of 2 million persons are covered by public sector direct delivery of health services or cost reimbursements, leaving 1 million persons medically disenfranchised.

Employee tax assessments range from zero in the case of the Military, 1.5% of monthly wages up to a maximum of LL 750 annually in the case of the NSSF, to a high of 1% of total wages in the case of members of the UGCS.

There would appear to be great advantages in adopting a uniform tariff or fee schedule on the part of public agencies, consolidating all or most of the public sector reimbursement activities into a single agency, and in providing for greater uniformity in employee contributions to public sector cost reimbursement. There also would appear to be merit in the MOH's recent decision to absorb the direct health services delivery activities of the OSD into MOH operations.

### 3.6.2 Absence of Cost Controls and Quality Assurance

As noted in Section 1.0 of this report, cost reimbursement invites various abuses. Cost reimbursement invites the oversupply of services, false billing and charging over and above legal fee and service tariffs. In the present system, very little is done to enforce the legal tariffs adopted by each agency for fear that private providers would refuse to accept the agency's clients and would provide services to the clients of another agency or engage in strictly private practice.

Actually, before 1976, the GOL cost containment program was active and was believed to be reasonably effective. However, during the course of eight years of war, the public health sector was hit hard and the private sector grew at a very rapid rate. Public agencies became increasingly weak due to war and political turmoil. This led to a decline in discipline and in effective administration of many Government programs, including those in the public health sector. Now that the war hopefully is over, Government has the opportunity to regain momentum in administration and enforcement. However, the question is how best to do this.

Adoption of a uniform tariff on the part of all public sector reimbursement agencies (such as the one recently developed by the Task Force on Health Care Financing, MOH) and consolidation of public sector cost reimbursement activities into a single responsible agency would facilitate enforcement of legal fees greatly. However, in addition to these things, Government must also develop the necessary data base and performance standards requisite to an effective program of cost containment that would improve the efficiency with which public funds are spent. An aggressive program of cost containment would not only serve Government's interests in using public funds more efficiently, but would also facilitate Government's interests in supplying greater volumes of health services through the public sector.

In addition to a current lack of effectively operating government medical facilities, Government faces the problem of recruiting and retaining an effective and dedicated cadre of physicians and other health professionals to Government service. In order to do this, Government would have to provide a compensation that at the margin is equal or better than the levels of earnings available in the private health sector. In the absence of an effective program of cost

containment, there is no check on the rise in the levels of earnings in the private medical sector. Thus, Government will always be fighting a difficult, if not losing, battle in competing with the private medical sector for the services of health professionals, unless Government resorts to conscription or forced placement in government service upon graduation.

An effective cost containment program cannot be launched without an equally strong program of quality assurance. If Government simply puts a lid or cap on costs and prices as the basis for its reimbursement activities, levels of private sector earnings can still raise, if the private health sector reduces quality of service to the obvious disadvantage to the welfare of patients. The quality of medical care in Lebanon is very uneven, in the authors' judgment, and in some cases is below minimum standards of acceptable medical practice.

Currently there are very few mechanisms in place to monitor the quality of care rendered in either the public or the private sectors. Of the roughly 130 or so hospitals in Lebanon, only four tissue committees exist and one of these was established only two years ago. There is no evidence of peer review or objectively established and enforced utilization and medical practice and performance standards outside of university hospitals and a handful of private voluntary hospitals. Medical audits are not regularly conducted outside of those institutions which accommodate teaching programs. Inspection and certification standards are very low and are not enforced consistently.

Under the circumstances cited in the paragraph immediately above, days of hospital care and visits to outpatient facilities and clinics could not possibly be reasonably comparable in terms of quality of care received, and thus reimbursement even according to a standard fee schedule could not be either wholly rational or equitable. The problems of lack of uniformity in the quality of care available and the general low level of quality of care in many cases will become greater as the trend toward foreign-trained physicians accelerates in the future, as predicted.

### 3.6.3 Lack of Private Health Sector Innovations and Initiatives

A major weakness of the existing system is the narrow range of choices existing for providers, consumers and reimbursement agencies. Lebanon, like many other Middle Eastern countries, is firmly committed to private enterprise. However, one of the virtues of private enterprise is its ability to innovate and to take the initiative in launching new forms of organization and methods of production and distribution. In other countries, like the United States, Canada, and West Germany, the private health sector has distinguished itself by initiating new trends in the organization of medical services delivery, like group practice and Health Maintenance Organizations (HMO's). These initiatives are noticeably lacking in Lebanon.

New initiatives in the organization and delivery of medical practice must be acceptable to providers, consumers, and reimbursement agencies. It is not always entirely clear how these three parties come to agreement as to the desirability of adopting new approaches to the delivery of health services. However, it is clear that any one of these groups can take the initiative.

Given the conspicuous absence of these innovative ways of organizing and delivering medical services in Lebanon and the cost savings that HMO's, in particular, have demonstrated in other countries, it would appear wise if

Government were to experiment with ways of fostering developments in these directions. HMO's in particular lend themselves to building-in ways of controlling service utilization, peer review, and consequent monitoring of quality and control of costs which would be in the best interests of Government and consumers, and which may be appealing to some providers.

Private health insurance is in an embryonic stage in Lebanon. Yet in other countries in recent periods, private health insurance companies have fostered the launching of new forms of health care organization and delivery, including HMO's.

The principal advantage of fostering new private sector initiatives is to create an enhanced environment of healthy competition between and among private sector providers, leading to improvements in the overall quality of care provided and lower costs per unit of service. An added advantage involves the wider choices presented to both consumers and to providers in terms of how these groups choose to participate in the medical market place in their respective capacities. It would also present Government with a wider choice of reimbursement options with respect to the private health sector.

### 3.7 Relationship Between Public and Private Health Sectors

As stated in Section 3.5 above, 80% of public sector revenues are spent on reimbursing the costs of private health sector provided medical services. The MOH resents its reimbursement role and feels in an inferior position relative to the private health sector. The MOH currently has little capacity to deliver services directly due to lack of resources, facilities and personnel, and its administrative capacity is weak. The private health sector is rich and powerful in terms of facilities and personnel, and has a favorable public image. The Government health sector is stigmatized as capable of producing only low quality medical services, if services can be provided at all. Thus the private sector is in a position virtually to dictate costs, prices and qualities of services and other terms on which it will provide health services on behalf of Government.

Naturally, the private sector provides services on terms that are most conducive to furthering its own individual and often selfish interests, which cannot be presumed to square with the collective interests of the Lebanese people. Equally naturally, the Government health establishment is frustrated and would like to regain a position of strength that it enjoyed vis a vis the private sector before the war(s).

Government also feels political pressure. Government feels that it must make a visible, if not dramatic, effort to directly provide a larger volume of health services to the people than currently provided in order to develop credibility in the eyes of the people and thus survive politically.

The MOH places major emphasis on expanding the number of public hospital beds vis a vis the private hospital sector. Public hospitals are highly visible and are viewed by the MOH as "temples or palaces" of compassion for the people, thus serving to demonstrate Government's commitment to improving the general welfare.

However, the MOH also aggressively justifies the expansion of the number of public hospital beds on economic grounds. The MOH insists that it can provide a quality of hospital services that is equal to that provided by the private health sector, and that the MOH can do so at lower costs than those currently reimbursed

per day of hospital service to private hospitals on behalf of MOH patients. It is consistently stated by MOH officials that increasing the number of public hospital beds is necessary in order to provide effective competition between the public and private sectors, resulting in higher quality and lower costs per unit of hospital services provided by the private hospital sector. MOH officials assert that effective competition between the public and private hospital sector requires that 40% to 60% of the total number of short-term general acute-care hospitals be public.

The total number of existing public, short-term acute-care hospital beds, if they were fully operational, is around 1200, while the total of existing private beds of this sort number roughly 5,200, yielding a total of 6,400 beds (see Section 2.0 of this report). In order for the MOH to roughly meet the lower bound of the "required" percentage of public hospital beds to total hospital beds, say 45%, which in its view is necessary to provide effective competition, the MOH would need 3000 additional public hospital beds (1200 + 3000 / 9,400).

The problems of constructing, staffing, managing, and financing the operation of an additional 3000 public hospital beds in Lebanon are enormous, if not staggering. Construction and management problems aside, staffing and finding sources of funds with which to finance operations are most critical in view of Government's limited fiscal capacities (see Section 2.1 of this report) and the current low level wages and salaries existing throughout the Lebanese civil service. However, the MOH has several ideas as how to surmount staffing and operating cost financing problems.

Staffing of hospitals would be accomplished by implementing the 1978 Autonomous Hospital Act which, among other things, would allow public hospitals to compensate professional and non-professional staff in ways not allowed by the civil service regulations. The basic idea is to pay physicians a base salary and to allow them to earn additional income on a piece-rate basis from professional acts and procedures performed on public patients. Hospitals would negotiate contracts with private physicians, provide services and collect revenues consisting of reimbursements from public sector reimbursement agencies, private health insurance plans, if applicable, and out-of-pocket from patients; and split the revenues with physicians according to a formula included in the contract, specifying base salary plus allowable commissions from medical practice. Public hospitals would also be able to accept purely private, as well as public, patients. Public patients admitted to public hospitals would be required to pay a maximum co-payment of LL 500 as is the case currently.

The idea of letting public hospitals accept payment from public sector reimbursement agencies is appealing, since it would provide a financial basis for the public hospital sector that would be more firm than is the case currently. The permitting of public hospitals to admit purely private paying patients would also contribute to strengthening the financial basis of public hospitals, but is less appealing because physicians may neglect public patients in order to pay more attention to private patients admitted to public hospitals. Strict discipline would be required in order not to let the quality of care rendered to public patients decline in public hospitals.

Plans to operate public hospitals under the autonomous hospital law, permitting higher rates of compensation to health professionals than currently permitted by civil service regulations, appears to be a necessary fact of life in

Lebanon. However, this has a certain aspect of "if you cannot fight them, join them" about it. Also, it has the disadvantage that fee for service compensation generally encourages oversupply of medical acts and procedures.

In Section 4.1 of this report, the authors provide an outline of a total compensation plan that might be appropriate for physicians under existing circumstances as requested by H. E. Dr. Mroueh. However, a few words of caution are in order.

First, in general, as stated in Section 1.0 of this report, public sector professional compensation must be competitive with the level of private sector earning in order to attract health professionals into public service. Public hospitals which are unique to an area would have the advantage of being the only workshop in town, i.e., Batroun Hospital (see section 2.2.7.1.1 above). However, in Beirut, Tripoli, and other major centers of population concentration where private hospitals exist, physicians have alternative places of work and thus the MOH will have to meet the competition provided by prevailing levels of private sector earnings. As pointed out above in Section 3.6.2, the public sector's ability to effectively compete with the private health sector for the services of physicians would be enhanced by an aggressive cost containment program. Regardless of the level of private sector earnings, however, the MOH must offer a level of compensation that is competitive with private sector earnings unless the GOL resorts to conscription of health professionals or forced-placement upon graduation and licensure. The implication of this is that equalization of health professional compensation levels between the private and the public health sectors, other things equal, implies equalization of operating costs per unit of service rendered in the two sectors. Thus the cost advantage that MOH officials claim for public hospitals over private hospitals would ultimately disappear.

Second, equalization of quality of medical care and operating costs in both the public and private sector, while at the same time retaining an upper limit of LL 500 out of pocket copayments required only in the case of patients admitted to public hospitals, would lead to a strong patient preference toward public and away from private hospitals. Public hospitals would come under increasing demand pressure, thus creating a justification for the construction of ever greater numbers of public hospital beds. Theoretically, ultimately the hospital sector could become comprised virtually entirely of public hospitals; the result being a nationalized hospital system.

We do not believe that Lebanese health officials want this. While it may be necessary to give public hospitals an advantage over private hospitals for such a time as it takes for the public sector to overcome its image of stigma, when, if ever, public hospitals become competitive with private hospitals, the upper copayment limit of LL 500 should be removed in the case of patients admitted to public hospitals. Medical indigency can be determined on a case-by-case basis and free medical service to whatever level is required can be provided by either public or private hospitals.

Ultimately, the issue concerning the desirability or undesirability of expanding the number of public hospital beds rests on considerations of strict medical necessity and need, and the economic justification for doing so. While in the short-run political considerations may dominate public health policy decisions, in the long-run politics must yield to strict medical need and economic imperatives. Since this report deals with health sector financing

issues and problems, the issue concerning the economic justification for the construction of 3000, or even any, new public sector hospital beds must be explored. This issue is explored in Section 3.8 below. The crux of the issue is whether or not the GOL can afford to construct and operate a larger number of public sector hospitals.

### 3.8 Economic Desirability of Expanding the Public Hospital Sector

In any analysis, one must be aware of the existing alternatives. Many alternatives to a massive expansion of the number of public sector hospitals exist. Some of these include an aggressive program involving construction of health centers with limited numbers of beds; aggressive regulation of the private health sector to make it behave responsibly in terms of quality of care provided and costs; the fostering of private sector initiatives aimed at quality improvement and cost reduction; and leaving it to private sector to fill gaps in the system, while at the same time regulating it to behave responsibly in terms of quality of services provided and prices charged to consumers. In making public policy decisions, cost effectiveness (obtaining the desired outcome at least expenditures of public funds) must be a major ingredient in the decision making process. Time and space do not permit costing out all the options available. However, it is possible to analyze some of the critical assumptions and implications of the MOH contemplated policy of greatly expanding the public hospital sector.

The crux of the MOH's economic justification for expanding the number of public hospital beds is its belief that a patient day of hospital care can be provided at a cost of LL 200 in a public hospital, while the MOH on the average is currently reimbursing the private hospital sector LL 300 per day of hospital care. In short, the MOH believes that if it had beds, it could save LL 100 per patient day of care. Yet, if professional services costs were eventually to be equalized, how could there be a difference between per day costs in public and private hospitals? The answer is that some elements of the private sector are making excessive profits or that some element of cost has been left out of the public hospital per patient day cost. We believe that both cases are likely to be true. However, to the extent that the difference lies mainly on the side of private sector abuse, the solution is regulation and better enforcement, not construction of additional public hospital beds. Thus attention is focused on missing elements of cost.

From discussions with MOH officials it is clear that there is little attention paid to costs of general medical administration, maintenance, and hospital costs. This is understandable. General medical administration is something that MOH officials are doing daily and is taken more or less for granted. Due to war, very little public funds have been available for regular maintenance, and capital costs are not seen to be the responsibility of an operating ministry, being separately budgeted and provided for by the CDR and the MOF.

It is inconceivable that the LL 200 per patient day figure as the cost of a day in a public hospital could include an appropriate allowance for general medical administration, maintenance, and replacement costs of capital. When questioned about the make-up of the LL 200 per patient day figure, MOH officials admitted that capital replacement costs were not taken into account, but insisted that the figure did allow for general administration and maintenance. Thus,

analysis focuses on taking into account the cost implications of making an appropriate allowance for capital replacement.

Hospital cost analysts often state that the average recurrent costs as a percentage of initial capital costs range from 30% to 75%, i.e., the R/D ratio discussed in Section 1.5 of this report. Variation in the R/D ratio is usually said to be due to differences in levels of medical technology, levels of services, and levels of compensation of staff. AUB is a comparatively high technology hospital comprised of roughly 400 beds and current operating expenditures range from \$26 million to \$30 million annually, depending on the number of beds that are in use during the course of the year. (Note that operating cost figures include a depreciation allowance for replacement of capital stock.) The AUB university controller, a highly qualified hospital financial consultant trained in the United States, estimates the historical cost of AUB beds at \$40 million, and thus the R/D ratio in the case of AUB ranges from 65% to 75%. This same individual estimates that replacement costs with no upgrading of equipment or service would cost twice the original cost, or \$80 million. Calculated on a current replacement cost basis, the R/D ratio in the case of AUB ranges from 32.5% to 37.5%.

Note that the R/D ratio varies directly with the level of occupancy, even when cost per patient day is constant. The higher the occupancy, the greater the number of patient days, and the higher are total operating costs relative to the capital costs of the facility. The maximum R/D ratio for any given hospital, costs per unit of service remaining constant, is reached at 100% occupancy.

Making allowance for capital replacement, the central questions on which analysis must shed light are the following:

- At what level of occupancy would public hospitals have to operate in order to be able to compete with average private hospital sector per patient day costs of LL 300?
- What would be the implications for public sector reimbursement, if the government were to build and operate 3000 new beds?
- What would it cost Government to construct 3000 new public sector beds and what would it cost to operate them annually in the years to come?

### 3.8.1 Assumptions

Estimates of the costs per bed of permanent (as contrasted with prefabricated) hospitals in Lebanon range from LL 360,000 (\$90,000) to LL 800,000 (\$200,000) depending on level of technology. We selected a cost of LL 440,000 (\$110,000) as a reasonable estimate of the current bed cost of a medium technology public sector hospital in Lebanon. We also assume that each bed is available 365 days of the year. Thus, 3000 new beds potentially could provide a total of 1,095,000 bed days of service annually.

Due to fixed staffing ratios, constant rates of remuneration, constant area requirements, and customary constant charges per unit of ancillary services, economies of scale in the rendering of medical services often are largely absent in a given facility. Thus we assume that recurrent medical costs of service are LL 200 per patient day and remain constant regardless of level of occupancy. While evidence exists that average length of stay (ALOS) is typically greater in public hospitals than in private hospitals, we assume that ALOS is 6.0 days, roughly the same as in the private hospital sector in Lebanon presently.

We assume that capital replacement costs increase at a rate of 10% compounded annually. However, we assume that public hospitals collect revenues and invest them at 15% compounded annually, so as to be able to replace capital stock over a 20 year period. (This is a very conservative assumption that is highly in favor of the MOH's case that it somehow can provide services more cheaply than the private sector) It is suggested that if this were done, hospitals would be replaced every 20 years. It also may be noted that if this were done, savings would be mobilized in the form of public hospital sinking fund reserves that could be lent out to the private (non-hospital) sector for reconstruction and development purposes.

In the interests of simplicity, initially we assume zero inflation with respect to all elements of costs other than capital replacement costs. Later we relax this assumption to present a more realistic picture of the recurrent cost implications of operating a public hospital sector comprising 3000 beds.

### 3.8.2 Results of Analysis

Assuming that hospital bed capital replacement costs increase at 10% compounded annually, the replacement cost of a bed increases from LL 440,000 (\$110,000) to LL 3.0 million (\$740,000) in 20 years. However, since replacement funds are assumed to be invested at 15% compounded annually, it is necessary to set aside and invest only LL 28,893 (\$7,224) annually per bed in order to provide for replacement at the end of 20 years. This LL 28,893 represents an amortized annual capital replacement cost that must be covered by annual revenues. When divided by annual patient days, which depend on the level of occupancy, the resulting figure represents an amortized capital cost per patient day. Total operating costs per patient day in this analysis represent the sum of recurrent medical costs and amortized capital costs per patient day. Recurrent medical costs, amortized capital costs and total operating costs per patient day are presented in Table 3.8.2.1 below, by selected levels of occupancy rates.

Table 3.8.2.1

#### Recurrent Medical, Amortized Capital, and Total Recurrent Costs per Patient Day According to Occupancy

Occupancy (%)	Rec. Med. Cost/Day (LL)	Amort.Capital Cost/Day (LL)	Total/Rec. Cost/Day (LL)
20	200	395	595
40	200	194	394
60	200	134	334
80	200	100	300
100	200	57	257

Source: Calculations of the Authors.

The answer to the first question posed at the end of Section 3.8 above is provided by Table 3.8.2.1 above. In order for the MOH to replace its capital stock at the end of 20 years and to produce patient care at an average cost of LL 300 per patient day, public hospitals on the average would have to be 80% occupied. The MOH could produce patient services at a cost below what it is currently reimbursing private hospitals, LL 300, only if it were able to achieve an occupancy rate above 80%.

In the years prior to the war, MOH hospitals averaged only about 40% occupancy (See Section 2.3). Thus, given the stigma currently attached to public hospitals, it would be very difficult for the MOH to boost public hospital occupancy rates to level of 80% or beyond in the near future. Evidence that is available suggests that even private hospitals, on the average, are achieving only 60% occupancy.

If private sector hospitals were identical to the public sector hospitals, whose costs are hypothetically described by Table 3.8.2.1 above and are operating at only 60% occupancy and yet are receiving on the average only LL 300, per patient day, clearly private sector hospitals would be losing money at the rate of LL 34, per patient day. It is possible that most private sector hospitals earn sufficiently higher rates on private patients to cover losses on public patients. It is also likely that many private hospitals are charging excessively. Since many private hospitals are voluntary, capital replacement will more than likely be accomplished through charitable contributions at some point in the future. In the case of other private hospitals, it is probably that little or no concern is placed on capital replacement at all, hence total operating costs are underestimated.

In order to determine the implications of the construction and operation of 3000 additional public hospital beds for private sector reimbursement, we have to determine the impact of public hospital bed expansion on private sector admissions, patient days, occupancy rates and costs per patient days. In order to do this, two additional assumptions are made. First we assume that the total demand for hospital services remains constant. This implies that while occupancy in the private sector initially is 60%, private hospital occupancy will decrease as more public beds are added. Second, we assume that operating costs are the same in both the private and public health sectors. This last assumption allows us to draw on the information presented in Table 3.8.2.1 above. It also is very conservative from the MOH point of view, since it is the MOH contention that private hospital sector costs are higher than public hospital sector costs.

Given that there were roughly 5200 private hospital beds in 1982, which when multiplied by 365 yields 1,898,000 potential private hospital bed days of service. However, assuming private sector occupancy at 60%, the total number of private sector hospital days of service rendered equaled 1,138,800 ( $1,898,000 \times .6$ ).

If the public sector were expanded by 3000 beds, a total of 1,095,000 ( $3000 \times 365$ ) potential patient days would be added to the entire (public plus private) hospital system in Lebanon. The analysis above has shown that in order for the MOH patient day cost, allowing for replacement, to equal the LL 300 average patient day cost currently reimbursed to the private hospital sector, public hospitals must achieve an average occupancy rate of 80%. This means that public hospitals would have to provide 876,000 patient days of service ( $1,095,000 \times .8$ ). Given the assumption of fixed demand for hospital services, private sector patient days of service must decline from 1,138,800 to 262,800 ( $1,138,000 - 876,000$ ). This would imply a private hospital sector occupancy rate of roughly 14% ( $262,800 / 1,898,000$ ).

Glancing at Table 3.8.2.1, one sees that private sector hospital patient day costs would exceed LL 600. If private hospitals costs are actually higher than those assumed in Table 3.8.2.1 as the MOH contends, reimbursement per day of

patient care in the private sector would also be higher. Thus the answer to the second question posed at the end of Section 3.8 is clear, namely that if the MOH were to build 3000 more beds, the private hospital sector may well cease to exist, unless public sector reimbursement agencies were willing, at least, to double the rate of reimbursement paid per patient day of private hospital service.

Some readers may object to the assumption of fixed hospital demand. However, if the demand for hospital services is not constant, there is little or no basis to the MOH contention that constructing and operating a greater number of public hospital beds would reduce expenditures of public funds. If the demand for hospital services increases as the result of expansion of public hospital beds, the public is likely to end up spending more on hospital services, both public and private. To the extent that public hospital costs are somehow lower and that public hospitals are able to attract patients away from private hospitals, patient day costs in the private hospital sector will rise requiring higher reimbursements from public sector funds, thus attenuating any possible cost savings to Government.

If Government were to contemplate replacement of hospitals over a longer interval of time, say 30 years, obviously total operating costs would be lower, and the case for building more public hospitals, on the surface, would appear stronger. However, public hospitals that are older than 20 years, even if well maintained, are not likely to be able to offer a level of quality of service and amenity sufficient to be able to compete effectively with an aggressive and rapidly growing private hospital sector. Thus we rule out longer replacement periods.

The answer to the third question posed at the end of Section 3.8 concerns what it would cost to build and operate 3000 additional public hospital beds. Given the assumptions stated in Section 3.8.1 above, Table 3.8.2.2 below presents a summary of this information, also showing admissions and patient days as well as costs, all according to occupancy rate. Note that the total initial costs of constructing 3000 new beds is assumed to be LL 1.32 billion (LL 440,000 x 3000) and that roughly LL 87.0 million must be set aside and invested annually for capital replacement (LL 28,893 x 3000), see column (5) of Table 3.8.2.2.

Table 3.8.2.3 below presents cost projections according to levels of occupancy, assuming that recurrent medical costs per patient day excluding costs of capital replacement, previously assumed to remain constant at LL 200, grow at a rate of 10% compounded annually. All other assumptions remain the same as in Table 3.8.2.2.

### 3.9 Summary of Financial Sector Problems and Issues and Implications for Policy

Aside from the various problems and weaknesses that exist with regard to health care financing mechanisms in Lebanon, it is clear that health sector issues go far beyond the need for consolidating the activities of financial agencies. Such a consolidation would provide many benefits, but in order to have maximum impact, financial policies must be linked to and thereby reinforce an overall health sector strategy and policy that is realistic in the Lebanese context.

The current policy of the contemplated massive expansion of the public hospital sector, while on the surface has considerable appeal, appears to present

Table 3.8.2.2

Costs of Operating, Admissions, Patient Days Associated with 3000 Public Hospital Beds,  
According to Level of Occupancy

(1) OCCUPANCY (%)	(2) ADMISSIONS	(3) PATIENT DAYS	(4) RECURRENT COSTS EXCLUD. CAPITAL (LL.M) *	(5) AMORTIZED CAPITAL REPLACEMENT COSTS (LL.M)	(6) TOTAL COSTS (LL.M)
20	36,500	219,000	43.8	87	130.8
40	73,000	438,000	87.6	87	174.6
60	109,500	657,000	131.4	87	218.4
80	146,000	876,000	125.2	87	262.2
100	182,500	1,095,000	219.0	87	306

\*Patient days x LL200.

Source: Calculations of the authors.

**Table 3.8.2.3**

**Projections of Costs by Level of Occupancy, Assuming 10% Compound Annual Growth  
in Recurrent Medical Costs Excluding Capital Replacement**

OCCUPANCY RATE (%)	1. RECURRENT COSTS EXCLUDING CAPITAL* (LL.M)				2. TOTAL COSTS** (LL.M)			
	5 yrs	10 yrs	15 yrs	20 yrs	5 yrs	10 yrs	15 yrs	20 yrs
20	70.5	113.4	182.2	294.6	157.5	200.4	262.9	381.6
40	141.0	226.9	365.7	589.1	228.0	313.9	452.7	676.1
60	211.6	340.3	548.6	883.7	298.6	427.3	635.6	970.7
80	282.0	453.8	731.5	1178.2	369.0	540.8	818.5	1265.2
100	352.6	567.2	914.3	1472.8	439.6	654.2	1001.3	1559.8

\*Recurrent costs per patient day are LL322, LL518, LL835 and LL1345 at the end of 5, 10, 15 and 20 years respectively

\*\*Total of recurrent costs, excluding capital, plus LL87.0 Million of annualized capital replacement costs.

considerable strain on GOL fiscal, administrative, and management capacities. This is not to say that a case cannot be made for constructing some additional public hospital beds. However, this is to say that the economic rationale for a large expansion of public hospital bed capacity is, neither compelling, nor justified. Thus, it appears to the authors that the GOL ought to give serious consideration to various alternative health sector development policies, that would be less demanding of public sector resources.

In addition, it would be extremely useful if financial management were strengthened and reformed in a manner so the resulting financing mechanisms would assist in furthering the attainment of health sector rehabilitation and development goals. Given the current situation existing in Lebanon, a great deal can be said for Government's adoption of a strong regulatory posture with respect to the private medical sector. A large volume of public sector reimbursement does not necessarily put Government at a disadvantage vis a vis the private medical sector. In fact, it presents Government with an opportunity to use financial reimbursement broadly as an instrument of health sector policy. The elements of such a broad policy are elaborated in the immediately following section of this report specifying the authors' conclusions and recommendations.

#### 4.0 Conclusions and Recommendations

Recommendations are presented in subsections 4.1 and 4.2. Subsection 4.1 presents what the authors feel are essential necessary strategies for improving the current health services delivery system. These we call system imperatives. Subsection 4.2 presents an overall financial strategy that encompasses most of the system imperatives presented in Subsection 4.1. This financial strategy consists of establishing and operating what the authors of this report call a "National Health Security System" (NHSS).

#### 4.1 System Imperatives

Minimal essential strategies necessary for improving the performance of the Lebanese health services delivery system are listed and elaborated individually below.

##### 4.1.1 Health Sector Policy

In reviewing existing health sector financing mechanisms, various weaknesses have been identified. However, the authors are very much aware that changes in financial mechanisms alone can do little to improve the health services delivery system. In order for the financial incentives that are incorporated into a system of financial mechanisms, policies and procedures to assist in improving the performance of the health care system, there must be consistency between the policies being implemented by both medical and financial decision makers. Thus the policies that are required in order for the recommended financial strategy to have maximum supportive effect must be presented clearly prior to specifying a cost effective financial strategy that is consistent with the allocation of GOL resources, demand and supply factors, lost containment and other elements.

Due to various factors, partly arising as a result of the war, Lebanon has a vigorous private health sector that is rich in resources, both physical and professional. In planning, budgeting and forming policies for the future, the GOL should view both private sector and public sector health resources in the same light, as potentially being mobilized toward assisting the government in meeting the health needs of the population. In doing so, comparatively less emphasis should be placed on expanding public sector services delivery systems and greater commitment and will should be devoted to regulating the private health sector in a fashion which brings it into a more effective partnership with government in achieving the nation's health sector goals.

There is a need for public health facilities and publicly provided medical services to cater for the needs of the population for specialized services and to cater for the needs of the poorest of the poor. Reliance cannot be placed on the private sector to provide all the health services that a nation needs, because there are not sufficient private incentives to do so. In the interests of placing the public hospital sector on a firmer financial footing, there is need to allow government hospitals to admit strictly private patients and to receive reimbursement for services rendered to eligible patients. However, there is no reason in principal, particularly from an economics perspective, not to rely on the private health sector to provide the bulk of medical services, if efforts are made to insure that the private health sector behaves responsibly.

Principal reliance on private sector provision of health services is appropriate in Lebanon, given the nation's strong commitment to private enterprise and the fact that 80-90% of health services are currently being rendered by the private health sector. However, greater emphasis should be

placed on effective regulation that improves quality of service, medical practice and performance and which serves to contain costs, and reduce duplication of facilities and other types of wastage throughout the system, both public and private. This policy is recommended in contrast to an apparent and contemplated GOL policy of expanding the public medical care facilities so that it can more effectively "compete" with the private health sector. In the judgement of the authors, there is no economic justification for anything other than a modest and selective expansion of public sector medical facilities in the next 5-10 years.

Equally important, there is no economic justification for government to tolerate intimidation and dictation from a large and powerful private health sector which operates virtually in an uncontrolled fashion, serving individual and private interests which may be divergent from the collective interests of the Lebanese people. The private health sector should be brought under control and induced to work more effectively on behalf of meeting the health needs of the nation. The authors admit that in certain selected cases, political imperatives, in the short-run, may overrule objective economic and medical rationales. However, in the long-run, economic and strictly medical realities ultimately prevail. Thus, the general strategy recommended in this report places emphasis on regulation backed up and linked to a system of financial incentives which tends to harness public and private sector health resources to a common task, namely improving the health status of the population. Specific components of this strategy are presented immediately below.

#### 4.1.2 Specific Components of Strategy

##### 4.1.2.1 Consolidate and Unify Public Health Sector Reimbursement

Basically, we recommend consolidating public sector reimbursement into a single entity to achieve greater uniformity of benefits and greater equity in terms of assessments required to fund operations. This agency would serve as a primary vehicle for giving positive or negative sanction to public and private health sector performance, as appropriate. A large unified reimbursement agency possessing control over the bulk of public sector funds available for payment for health services delivered in Lebanon can exert sufficient power over the private sector necessary to improve its performance. This agency, the NHSS, is described in detail in Subsection 4.2 below. It will take some time to form and thus can extend coverage to the entire Lebanese population only gradually over the years to come.

##### 4.1.2.2 Rehabilitate the Public Curative Sector

The GOL should concentrate for the next several years on rehabilitating existing elements of the public health care delivery system including hospitals, clinics, health centers, and other outpatient facilities. The GOL contemplated policy to fill all gaps in the current system in order to "correct" the gaps and maldistribution in existing health facilities principally through the construction of new public hospitals, autonomous or otherwise, cannot be justified on economic grounds.

Additional public hospital beds possibly could be justified on political grounds. However, even in this case, construction of additional hospitals should be preceded by a careful assessment of needs weighed against alternative modalities of delivering health services (i.e., health centers) many of which may involve reliance upon private sector initiatives.

In all cases the recurrent cost implications of newly constructed facilities must be carefully taken into account. (Section 3.0 of this report presents analysis on recurrent costs of hospitals.) In deciding whether or not to construct additional public hospitals to fill gaps determined on the basis of assessment of needs, the GOL should also consider the benefit/cost implications of subsidizing the private sector to take the initiative to fill the apparent gap in the availability of needed health services. However, it warrants stressing that rehabilitation of public sector health facilities should be given far greater emphasis than new construction.

#### 4.1.2.3 Improve Public Sector Health Services Facility Performance

In addition to rehabilitation, the standard of performance of public sector health facilities must be improved to make them more acceptable to consumers. As a minimum, the following will be required:

- Improved maintenance of building plant and equipment.
- Develop and institutionalize a compensation plan sufficient to attract an adequate number of committed staff of medical professionals and other staff to public health facilities.
- Improve the quality of medical practice performance through developing and maintaining adequate patient records, tissue committees, professional peer review boards and committees to assess the appropriateness of the management of cases of illness including diagnosis, treatment, discharge criteria and follow-up.

#### 4.1.2.4 Strengthen the Financial Base of the Public Hospital Sector

The Autonomous Hospital Act of 1978 and the proposed Area Health Authority legislation open the door for significant opportunities for strengthening the financial structure of the public hospital system. We support the thrust and principles of these two acts of legislation and urge the adoption of the following recommendations we understand are permitted under these legislative initiatives:

- Permit the newly constituted NHSS to reimburse public hospitals for basic medical care on the same basis as certified private hospitals.
- Allow public hospitals to admit private patients, when bed availability permits, and receive payment for amenity services from private sources (i.e., out-of-pocket and private health insurance or both), over and beyond the level of reimbursement provided by the NHSS.

#### 4.1.2.5 Strengthen Primary Health Care in Both the Public and Private Health Sectors

Greater emphasis must be placed on primary health care, including illness prevention and health promotion, so as eventually to reduce the need for curative services. This requires a change in the priorities and attitudes of practicing physicians in both public and private sector outpatient facilities and treatment units. Long-run solutions would include modifying medical teaching and training curricula to give a greater emphasis to preventive and community medicine and the retraining of existing doctors to impart an enhanced appreciation of the advantages of emphasis on illness prevention and health promotion in medical practice. However, these innovations will take time to develop, and in any event, they would have to be reinforced in connection with actual medical practice. The latter activity can be initiated now. The authors suggest the following be required of physicians and other health professionals practicing in public and private outpatient facilities:

- Require the development and maintenance of adequate outpatient records that include as a minimum a brief medical history, major physical findings, chronological record of diagnosis, and treatments, including all drugs prescribed and all adverse reactions.
- Require the establishment and maintenance of standards of health promotive and illness prevention measures, including as a minimum regular physical examinations, and appropriate immunization programs for children and pregnant women.

#### 4.1.2.6 Rectify the Maldistribution of Health Manpower Resources

Health manpower is currently concentrated in a few other major urban centers. The Area Health Authority legislation would bring greater attention to making health services available more broadly to the entire nation. But in doing so, the directors and other managers of the system would encounter great difficulties in recruiting adequate numbers of health professionals to the public system, autonomous or otherwise. Therefore, in response to the Minister's request, the authors recommend force placement of medical personnel upon graduation and/or the adoption of a compensation plan under the legislation giving degrees of autonomy to public sector institutions as follows:

- Professional compensation would consist of a package of compensation components including a base salary, earnings from medical practice up to a maximum, housing allowances, education allowances for the professional and for dependent children, and a pension which would not become vested until after a specified number of years of service.
- The package of compensation should be varied and made more attractive to professionals recruited to serve in areas currently under served medically, and which are more remote and which offer less amenity than posts located in Beirut and other major urban centers.
- Compensation for performance of medical acts should be graduated so as to diminish gradually as the maximum allowance compensation is reached, in the interests of reducing incentives to "over supply" medical procedures.

#### 4.1.2.7 Foster Alternative Private Sector Initiatives

Establishing a broader beneficial reimbursement mechanism by itself will neither fully address the maldistribution of health care in Lebanon, nor improve the quality of services. In fact, it could further stress the system by driving up costs and by leading to abuses.

It should be noted that GOL adoption of the specific suggestions presented in 4.1.2.7.1 - 4.1.2.7.3 below are not system imperatives in a strict sense. Rather, it is imperative only that the GOL adopt an attitude of giving more attention to experimentation with alternative ways of delivering health services in the private sector as a useful alternative to expanding strictly public sector provided health services.

The challenge will be to institute and support reforms and innovation in both the public and private sectors that will make health care better distributed and more comprehensive. The private sector has efficiencies which are associated with the free enterprise system and these possibly could be built on. Three strategies are suggested for attention.

#### 4.1.2.7.1 Link Prepayment with Comprehensive Health Care Delivery

A problem with traditional health insurance is that carriers have little incentive to control medical care costs. There is little or no control over the content or quality of care which typically is fragmented.

A private sector alternative that addresses many of these problems is to link a comprehensive health care package to prepayment for a specified population to be served. Providers, physicians, and facilities are organized into a delivery system that guarantees to provide specified services for a pre-determined fee--hence providers are at financial risk and have an incentive to maintain health and reduce costs. These entities, called "Health Maintenance Organizations" (HMOs) can have various arrangements between physicians, and between physicians and hospitals. Such an approach to health care delivery has been suggested for Area Health Authorities by Professor Bashur and is strongly recommended for consideration by the authors of this report.

Establishing an HMO requires careful assessment of the potential market and whether necessary components including a management plan and physicians, facilities, and a health and management information system can be organized. A protocol for such an assessment is included as Annex C to this report.

#### 4.1.2.7.2 Expand Commercial Health Insurance

Commercial health insurance presently plays a very small role in financing health services in Lebanon. In other countries, e.g., the U.S., some commercial insurance firms recently have assumed a leading role in developing innovative health care systems, including HMOs. An attempt should be made to interest a major insurance company with health care experience to survey the potential in Lebanon. Companies like Blue Cross and Blue Shield in the U.S. are non-profit entities which could be approached to undertake such a survey and to give recommendations.

#### 4.1.2.7.3 Upgrade the Management of Private Hospitals

Involvement of professional hospital management firms with private hospitals in Lebanon could lead to a higher level of patient care and reduced costs. This avenue should be explored.

#### 4.1.2.8 Enforcement of Legal Tariffs

The uniform fee and service tariff for third class services should be published and managers of private and public facilities, as well as health professionals, should be adequately fined or otherwise be punished for violations and abuses.

### 4.2 National Health Security System (NHSS)

#### 4.2.1 Guiding Principles:

It is the conclusion of the U.S. AID Health Sector Financing team that public sector reimbursement should be consolidated within a single public sector agency. This agency should establish a uniform reimbursement tariff, uniform reimbursement rates and standards for all individuals regardless of type and place of employment. While it should be established as a basic principle that every individual shall be entitled to receive services regardless of ability to pay, it also should be established as a principle that every individual should pay something for health services received, either in the form of taxes or out-of-pocket payment at the point of service delivery, or both. Ideally rates of

individual payment would be graduated according to the income and wealth class of individual members of the population.

The unified public sector health service financing agency, the National Health Security System (NHSS), would provide uniform and standard reimbursement to all citizens for a minimum set and class of services with exception only in the case of military and public security forces who will receive all services free and civil servants who will receive levels and qualities of services commensurate with rank and grade as is the case currently. Public funds would be made available for paying the medical expenses on behalf of the truly medically indigent, who would include the very poor, and those afflicted with catastrophic illness.

Thus with only rare exception, NHSS would provide entitlement to eligibility for reimbursement for a minimum set and class of services. Individuals and/or their employers may elect to buy supplemental health insurance or pay out-of-pocket cost for greater volumes and/or higher quality services as they wish. Reimbursement by the state for the minimum set and class of medical services on behalf of the bulk of the population shall be paid to both public and private medical services providers. Public hospitals, operating under the Autonomous Hospital Act (1978) and the soon to be legislated Area Health Authority Law, shall have the right to accept payment from the NHSS and co-payments made by individuals who enter under the reimbursement coverage provided by the NHSS, as would also be the case for certified private hospitals and clinics. Public hospitals would also have the right to treat and to receive compensation for services provided above and beyond the minimum set and standard of medical services for which reimbursement is provided by the NHSS, from either private insurance or direct payments by individuals. However, no public hospitals and no certified private hospital would be able to refuse an individual seeking services for which eligibility is entitled under the NHSS. Thus it is the responsibility of the Autonomous Hospital Board and the Area Health Authority to insure that there is an adequate number of public and private hospital beds available in each region of the country to serve all citizens electing to receive the minimum set and standard of services for which reimbursement is eligible under the NHSS.

#### 4.2.2 Reimbursement Standards

In general, the rates of reimbursement for hospital services would be based on the recently established uniform hospital tariff developed by the Task Force on Health Care financing, MOH. This tariff applies to what is now called "third-class services".

In connection with establishing the NHSS, the term third-class service shall be replaced with the term basic medical care. Thus hospital services in either public or private hospitals would be of two types, basic medical care services for which all citizens are entitled for reimbursement, and extra services of an amenity sort which individuals may elect to receive and to pay for entirely from private health insurance or out-of-pocket or both, if applicable. The NHSS shall pay 85% of the costs of basic medical care rendered in certified private hospitals with the patient paying the remainder. In the case of the true medically indigent, the patient shall be required to pay a maximum of LL 500. Cases of medical indigency shall be certified by the Director of the NHSS, after a review of the income and wealth status of the individuals of concern.

Members of the army and the public security forces would receive basic medical care hospital services free at military hospitals, and in certified private hospitals in the absence of the availability of military hospital services, with officers receiving levels and qualities of service commensurate with rank as is the case currently. Contract military and public security force employees and their dependents would be covered by the NHSS and thus be eligible for reimbursement for basic medical care services received in public, including military hospitals, and certified private hospitals at the same rates as all other Lebanese citizens.

Thus military officers and civil servant employees would be entitled to reimbursement of levels and quantities of services as current ranks and position warrant in the current system.

Outpatient services would be reimbursed at 70% of cost to all persons covered by the NHSS with service being rendered in public and private hospitals, clinics, health centers, dispensaries, or physician offices as patients may choose. Contract military or public security forces employees and their dependents would be eligible for reimbursement of 70% of out-patient services rendered at military medical facilities as well as at other public and private health services delivery units.

In true cases of medical indigency, full costs of outpatient medical services would be paid by the NHSS, if approved by the Director after a review of the income and wealth circumstances of the individuals of concern. Both the level of reimbursement of the costs for inpatient and outpatient services would be reviewed and possibly adjusted periodically.

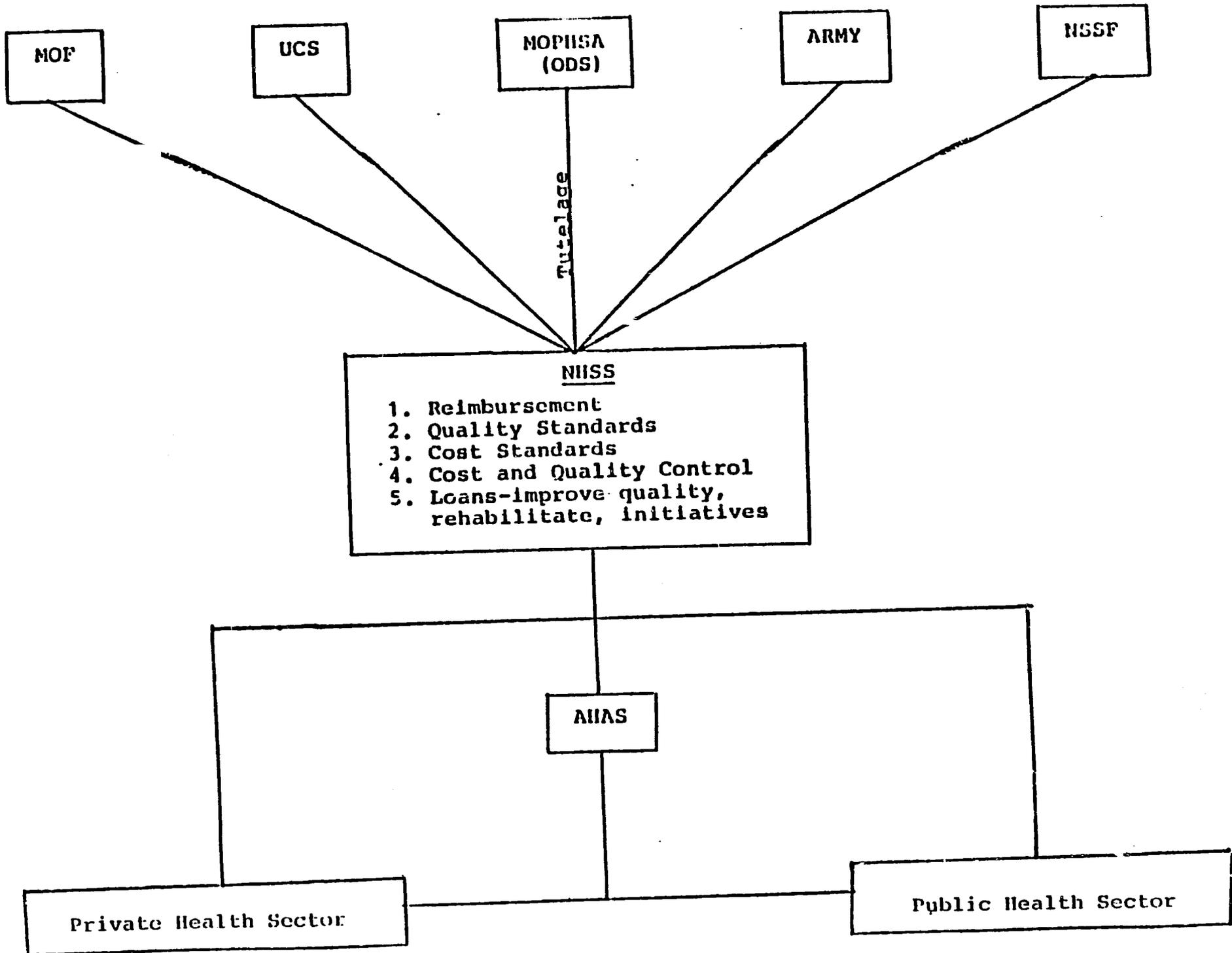
#### 4.2.3 Organization and Activities

The NHSS would consolidate and administer the medical cost reimbursement activities currently conducted by the Union of Civil Servants, the Army and Public Security forces, the MOH and the NSSF. Figure 4.2.3 below illustrates some of the salient features of the NHSS, proposed activities, and its relationship to the public and private health sectors.

The organization tasks and functions of the NHSS are briefly summarized below. However, before summarizing these matters, it should be noted that prior to establishing the NHSS, government should have adopted a uniform single standard fee and service tariff. Second, government must have demonstrated its will and commitment toward supporting the NHSS in enforcing the uniform tariff, improving the quality of medical care in both the public and private sectors, and to punishing private and public sector abusers of the uniform tariff by withholding reimbursement in such cases. Third, the government must also be willing to support the NHSS in denying reimbursement to medical services providers who do not meet minimum standards of services and medical performance.

Although not imperative, it would be helpful if Government were to commit itself to assisting private and public sector medical services providers to upgrade services and standards, offering loans for these purposes, if need be the case. It would also be useful if Government committed itself to fostering new private sector initiatives including establishing HMOs and innovative private health insurance plans that incorporate reasonable standards of quality and cost containment features. And it would be helpful if Government allowed the NHSS to reimburse medical services costs above uniform tariff rates in selected cases in

Figure 4.2.3 - Possible Organization and Activities of NISS



which public and/or private sector medical services delivery groups expand services of appropriate quality into areas currently medically underserved.

It should also be noted that Government should prescribe the appropriate staffing of the new NHSS in the law establishing the agency. This condition would be met by the development and necessary legal approval of a staffing plan or protocol that establishes the necessary posts and terms and conditions of employment and training that would be necessary to recruit and retain required staff in the NHSS. Some personnel and staff could be transferred to the NHSS from existing agencies or reassigned within their respective agencies, as appropriate.

The newly constituted NHSS should acquire appropriate staff and develop an organizational configuration that is adequate to perform its functions. The core of the new NHSS staff would be the existing staff of the NSSF. It is impossible for the team to design the new agency and to determine staff needs at this time. However, certain activities vital to the NHSS are very clear. The nature of these activities is discussed here in terms of possible offices or directorates that are likely to be established by law. Each of these key offices and principal activities are listed and briefly discussed below:

#### 4.2.3.1 Auditing and Cost Verification

This office would be staffed with medical inspectors, accountants, and clerical personnel, who would verify the appropriateness and accuracy of billings, identity of patients and their receipt of services, and other matters relating to auditing and cost control.

#### 4.2.3.2 Office of Facility Certification and Rate Setting

This office would certify eligibility of private hospitals for reimbursement, classify hospitals according to meeting medical standards for providing the basic medical care services and establishing rates of reimbursement for types of hospitals according to staffing patterns, availability of services, utilization and medical practice and performance standards.

#### 4.2.3.3 Quality Assurance

It is vitally important that reimbursement be linked to quality assurance of medical practice and performance. This requires that quality assurance programs be required and introduced gradually over time in order to develop and maintain medical performance and practice standards. Development and maintenance of such standards and their gradual improvement over time would be made a condition or requirement for institutional or individual physician eligibility for reimbursement by the NHSS. Example of medical practice and performance standards activities would include maintenance of standards concerning:

- adequate medical records
- reasonable length of stay
- reasonable numbers of various types of operations and procedures
- reasonable drug prescription by type and volume
- tissue committee and utilization review criteria and procedures.

#### 4.2.3.4 Data Collection, Analysis and Systems Monitoring

This office would be primarily concerned with regularly collecting data concerning numbers of beneficiaries, utilization, and costs of all elements of the system. This would include monitoring accurate cost information by each type of inpatient and outpatient medical service activity for all facilities and

individual providers both public and private. This group would work closely with the Health Planning Unit, the AHA Directorate and the Medical Care Directorate in the MOH. The NHSS would periodically publish and distribute analyses of data and information through government and private sector channels.

#### 4.2.3.5 Office of AHA Liaison

The NHSS, in some cases, would be involved in negotiating with and paying lump-sum payments to AHAs. In any case, information concerning the reimbursement of the costs of health services provided to public and certified private health providers located in a functioning AHA would be provided to AHA authorities to assist them in planning, organizing, and implementing comprehensive health programs in their areas. Also, the NHSS could encourage the formation of HMOs providing start-up grants and technical assistance within AHA regions if this is regarded as desirable. Such HMOs would involve prepayment for a comprehensive package of health services including preventive and promotive as well as curative services. This office also could make recommendations to the Director concerning the advisability of making loans to private medical sector groups to enable them to meet certification standards or to provide, within these standards, additional services deemed to be necessary and justifiable. It could also advise the Director on the advisability of paying higher than standard tariff rates to public and private health service providers who are expanding service delivery into medically underserved areas. This office would also advise the Director on the appropriateness of private sector initiatives generally, including innovative private health insurance policies and programs.

#### 4.2.3.6 Office of Loans for Quality Improvement and Rehabilitation

This office could be created if, and only if, it is judged to be desirable for the GOL to provide loans to the private sector to upgrade quality of care and to foster private sector initiatives. Such a loan program is not essential to the overall financial reform activity which would be the central thrust of the NHSS. If a loan program were established, this office would assist public and private sector providers to meet quality medical practice and service performance standards and to rehabilitate facilities and services damaged by war. In the event contracts (and certification) are cancelled between the NHSS and private providers, a determination would be made as to the need for a loan to the private provider which would enable it to meet the necessary standard in a reasonable time. Rehabilitation of either public or private facilities would be determined on the basis of strict assessment of needs for services in a particular area. When considering the rehabilitation of public sector facilities, attention would be given to existing private facilities and to the cost implications of subsidizing private sector initiatives as contrasted to rehabilitating existing public facilities.

#### 4.2.4 Costs and Revenues: Some Alternatives

##### 4.2.4.1 Estimation of Costs of Complete Coverage

Both cost and attendant revenue estimates are extremely difficult to provide at this time. However, in the interests of providing some rough figures to use as a basis for further planning and thinking toward establishment of the NHSS, the team provides some tentative cost projections based on data provided by the NSSF. The data are based on actual operating experience during 1982, adjusted to incorporate the effects of adopting the new uniform fee tariff developed by the Task Force on Health Care Financing, MOH.

The ultimate goal of the NHSS would be to extend coverage to roughly 35% of the population (1.0 million people) who currently are not directly covered by any public sector reimbursement agency other than, possibly, the MOH.

The NSSF data are based on the utilization and reimbursement experience of the 215,000 insureds in the program in 1982. The basic unit is the insured who is employed in the private sector and whose wage currently is assessed at the rate of 1.5%, while the employer contributes 5.5%. The maximum contribution required of an employee is LL 750 per annum. Dependents of insureds, including wife if unemployed, husbands of working wives if retired or invalid, children (attached to the husband's entitlement unless wife is working and husband is deceased), and aged dependents 60 years of age or older if living in the household of the insured, all are entitled to the same benefits as the principal insured. Taking account of all dependents in the system, on the average, there are two dependents who are additional beneficiaries to the total number of insureds, all of whom have the same coverage as insureds.

The total population of beneficiaries is 215,000 x 3 (insured plus 2 dependents) or 645,000 persons. This population represents 21.5% of a total estimated population of 3 million and 23.5% of the 2.75 million total number of Lebanese estimated currently to be living in-country.

Some have concluded that NSSF data indicating only two dependents per insured, are not representative of the total population. They seem to feel that the population is comprised essentially of families consisting of a working male, a wife and an average of 3.6 dependents.

This is a misconception. In fact, only a fraction of the eligible population is married, and the rate of marriage has been delayed drastically due to economic circumstances produced by the war. Also no one really knows what the demographic structure is currently. The social pattern that will emerge after eight years of war is not entirely predictable. Thus, if one takes into account that both working wives and husbands appear as individual insureds in NSSF data, the population representativeness of the NSSF is probably quite good.

The last point is rather compelling. Given that a family consisting of a working wife, and a working husband and three children would appear in the NSSF data as two insureds plus three dependent children, the average number of dependents per insured in this case would be 1.5. Given that there is a large proportion of unmarried persons of working age in the population, it is easy to see that on the average each working insured may well have only two dependents.

In actuality, workers covered under NSSF are 75% male and 25% female. Of the men, 43% are married with a wife and children. And overall, the average family does have five members.

While those covered by the NSSF consist largely of urban workers, the actual family composition appears to compare favorably with the general population with the exception of rural agriculturalists who are known to have more children per household than urban families. However, in looking at rates of medical services utilization by categories of individuals covered by the NSSF, the expected days of hospitalization are distributed as follows:

Insured men or women	.35
Dependent wife	.85
Dependent child	.14
Dependent parent or other relative	.82

Thus comparing rates of hospital utilization, children have very low utilization. Extrapolation of these data to cover all Lebanon including agriculturalists is likely to overstate utilization, not understate utilization as some fear.

While there may be other elements of non-representativeness in the NSSF data, these cannot be established. Any appropriate adjustments can not be made, due to the present lack of demographic and social pattern data which do not exist in Lebanon under current circumstances. Thus while there are some shortcomings in the NSSF data, they appear to be the best available on which to base projections of the costs of an expanded health care reimbursement system.

#### 4.2.4.2 Costs of NSSF System Extrapolated for All of Lebanon

A detailed breakdown of the costs of the NSSF 1982 population, adjusted to reflect the new uniform tariff, is presented in Table 4.2.4.2.1 below. This shows the costs of the NSSF in reimbursing its insureds in the year 1982, with cost adjusted upward to reflect the adoption of the new uniform tariff of fees, services and procedures. The data are presented on the basis of costs per insured (215,000 persons). The costs per insured are LL 760. Mr. Gaston Cordahi, Chief Actuary, NSSF and the Team Leader worked out the necessary calculations required to estimate the costs of providing third class coverage to the entire Lebanese population of 3 million persons, using costs and expected rates of utilization as presented in Table 4.2.4.2.1.

Rates of utilization in the 1982 NSSF population are 5.5 medical consultations or visits, .93 hospital bed days for illness, and .155 hospital bed days for maternity per insured, respectively. The cost of hospitalization is LL 282.9 per insured, which includes costs of wife (or husband) and other dependents (including children) who are covered at the charge of the insured. The total of hospital bed days is the sum of days of hospitalization for illness and the number of days of hospitalization for maternity. Hospital bed days for illness per insured plus hospital bed days for maternity per insured is .93 plus .155 or 1.085. Dividing the total cost of hospitalization per insured, LL 282.9 by the total bed days for illness and maternity per insured yields an average reimbursed cost per hospital patient day of LL 260.24 per insured. To this must be added LL 12.20 which is the cost per day of hospitalization per insured incurred in connection with persons treated abroad, yielding a total cost per hospital day of treatment per insured of LL 272.92. The result is a cost per hospital day per insured that includes the weighted costs of hospitalization for illness, maternity and treatment abroad of persons covered by the NSSF.

Two additional factors were taken into account in arriving at a final cost per day of hospitalization per insured. First, 7% was allowed for administrative overhead and 5% was allowed as a safety factor. The resulting figure, LL 272.92 x 1.05 x 1.07 yields LL 306.62 as the cost per day of hospitalization per insured. Dividing 1.085 (the total of hospital days for illness and hospital days for maternity per insured) by the average number of insureds plus dependent beneficiaries, 3, yields .36 as the average number of days of hospitalization per

Table 4.2.4.2.1 - NSSF Costs: 1982 (LL)

I. <u>Ambulatory Care</u>	Per Insured/year		
Consultations - Visits	24.04 x 5.5 c.v.	=	132.22
Medical procedure	3.5 x "	=	19.25
Drugs	46.0 x "	=	253.0
Laboratories	5.33 x "	=	29.32
X-Rays	4.07 x "	=	22.39
Various	0.15 x "	=	<u>0.82</u> 457.0
Maternity (outside hospital)	329.0 x "	=	<u>4.93</u> 4.93 <u>461.9</u>
II. <u>Hospitalization</u>			
<u>Care at the hospital</u>			
Bed.	60.44 x 0.93	=	65.51
Dr. Visit at hospital	17.40 x "	=	16.18
Drugs	36.92 x "	=	34.34
Laboratory	18.11 x "	=	16.84
X-Rays	13.77 x "	=	12.81
Serum	5.08 x "	=	4.72
Oxygen	2.68 x "	=	2.49
Cast	1.78 x "	=	<u>1.66</u> 154.55
<u>Medical Acts &amp; Surgery</u>			
Acts (surgery 43, 11 and Med 28, 27)	60.67 x 0.93	=	56.42
Operating Room	16.49 x "	=	15.34
Anesthesia-Reanimation	11.88 x "	=	<u>11.05</u> 82.81
<u>Maternity</u>			
Bed	70.44 x 0.155	=	10.92
Act in Maternity	144.10 x "	=	22.33
Various (delivery room Nursery)	79.32 x "	=	<u>12.30</u> 45.55 <u>282.9</u>
<u>Other</u>			
Treatment Abroad			13.24
Funeral Fees		=	<u>2.2/yr</u> <u>15.44</u>
Total Cost Per Insured			<u>760.24</u>

Source: NSSF

beneficiary based on the 1982 operating experience of the NSSF. Multiplying this rate of expected bed days per person times a population of 3 million people (.36 x 3 million) yields 1.08 million expected patient days of hospitalization for illness and maternity for the total population. (Note that assuming that hospitals operate at 80% capacity occupancy, each bed could provide .8 (365) or 292 patient days annually. Dividing 1.08 million annual bed days by 292 yields 3698 as the number of hospital beds needed to serve a population of 3 million in Lebanon assuming no differences in the pattern of illness and rates of utilization between the entire population and that experienced by the NSSF in 1982. Clearly, location factors, travel considerations, and pockets of need must be taken into account. However, it is very hard to make the case that the existing 6400 beds, fully and effectively rehabilitated and operating, could not meet the bulk of the needs of the Lebanese people for general acute hospital services).

Given that the cost per hospital day including costs of illness, maternity and allowing for administrative costs and an element of safety and treatment abroad is LL 306.62, multiplying this by 1.08 million annual bed days, yields LL 331 million needed for reimbursement for hospital inpatient services on behalf of the entire population.

Table 4.2.4.2.1 reveals that the NSSF population consumed 5.5 outpatient consultations or visits per insured in 1982. Dividing 5.5 by 3 yields 1.83 as the number of outpatient consultations or visits per beneficiary in the NSSF in 1982. Also Table 4.2.4.2.1 shows LL 457 as the cost of ambulatory care per insured with the exception of maternity. The NSSF pays 100% of the cost of maternity services, if rendered outside a hospital. This cost includes prenatal, antenatal, and delivery charges plus medicines prescribed by midwives, and on average is LL 329. This cost when multiplied by .015, the frequency of occurrence of this expense per insured, yields an additional outpatient cost per insured of LL 4.93. Adding LL 457 and 4.93 together gives the total of outpatient services per insured as LL 461.9. Total outpatient costs per insured of LL 461.9, when divided by 5.5, yields LL 83.98 as the average cost of outpatient medical services per NSSF beneficiary in 1982.

Multiplying 1.83 (the average number of outpatient visits per beneficiary) by a population of 3 million yields 5.5 million outpatient visits annually. Multiplying this number by LL 83.98 (the average cost per outpatient visit) yields LL 461.9 million as the total cost of outpatient care for a population of 3 million whose utilization, health needs, and rates of medical costs are the same as the NSSF population in 1982. If a contingency allowance of 5% and 7% administrative overhead is added, the resulting figure (LL 461.9 million x 1.05 x 1.07) is LL 517.9 million. The total cost of outpatient and inpatient medical services reimbursement that would be required to expand NSSF coverage to a population of 3 million (LL 331 million plus LL 517.9) rounded to the nearest million is LL 849 million.

However, the current population living in Lebanon is estimated to be 2.75 million, not 3 million. Thus the costs of expansion of coverage to the immediate population would involve less cost if 250,000 fewer persons need to be covered. The reduction in the costs of inpatient hospital services utilization would be .36 x 250,000 x LL 306.62, the average cost per day, or LL 27.6 million. The reduction in the cost of outpatient services cost reimbursement

would be  $1.83 \text{ expected outpatient visits} \times 250,000 \times \text{LL } 83.98$ , the average cost for outpatient visits, at LL 38.5 million.

An additional 35,000 persons would be covered strictly by the military health services. Contract employees and dependents only would be covered by the NHSS. This additional cost reduction on account of inpatient services would equal  $.36 \times 35,000 \times \text{LL } 306.62$  or LL 3.86 million. Cost reductions on account of reduced outpatient services on behalf of military would equal  $1.833 \times 35,000 \times 83.98$ , or LL 5.38 million.

While part of the outpatient medical services needs of an estimated 195,000 persons are served by dispensaries operated by the OSD, no subtraction is made due to the fact that while 8.0 million of state funds are spent on these programs, OSD units provide social services in addition to outpatient health services. Allowance could be made for outpatient services provided in municipal dispensaries, representing LL 20 million of outpatient services in 1982. However, the authors do not feel that they know enough about these facilities and dispensaries to take them into account at this time.

The sum of cost reimbursement needs to cover the nation through the NHSS would be reduced by 75.3 million (LL 26.5 and LL 39.5 million for inpatient and outpatient costs due to 250,000 Lebanese currently living out-of-country and LL 3.86 and LL 5.38 million on inpatient and outpatient services provided to 35,000 million and public security force direct hire).

One may conjecture as to the desirability of excluding the very rich estimated at 5% of the total population or 150,000 persons. If this were done, additional reimbursement cost savings of 16.6 million ( $.36 \times 150,000 \times \text{LL } 306.62$ ) on inpatient costs and LL 23 million ( $1.83 \times 150,000 \times \text{LL } 83.98$ ) on outpatient costs could be effected. Summary data of reimbursement cost estimates of the NHSS according to different levels of population coverage are presented in Table 4.2.4.2.2 below.

#### 4.2.4.3 Estimation of Revenues Needed and Sources

As presented in Section 3.2 of this report, the public sector and the private insurance sector, (the latter defined to include self-insured and private health insurance plans), spent an estimated 551 million in 1982 on health services. This figure includes the sum of the entire MOH budget, and outlays made by the NSSF, UGCS, Military, OSD, municipalities and the private insurance sector. However, for the purposes at hand, one must look at revenue sources available solely for reimbursement of third class health services delivered. Also we exclude municipalities, OSD, and the private insurance sector. Table 4.2.4.2 below presents a summary of revenues immediately available for reimbursement of third class health services.

In Table 4.2.4.2.3, the LL 160 million transferred from the MOF to the MOH as part of the latter ministry's budget is a clear-cut cost-pass-through from the public sector to the private health sector. The case of the NSSF is a bit more complicated. NSSF officials report that, under normal conditions, NSSF collection from wage assessments yields approximately LL 144 million annually. Unfortunately, due to war, the NSSF was not able to make full collections last year. However, indications are that by the end of the year monthly wage assessment collections were at the appropriate level and may be presumed to continue at the appropriate level rate to yield roughly LL 144 million on an

Table 4.2.4.2.2 - Summary of Estimates of NHSS Costs by Level of  
Population Coverage

	<u>Total Population(m)</u>	<u>Excluded Level of Population(M)</u>	<u>Inpatient Costs(LLM)</u>	<u>Outpatient Cost(LLM)</u>	<u>Total Costs(LLM)</u>
1.	3.0	0	331.0	517.9	849.0
2.	2.75	250,000 out-of-country	303.4	479.4	782.8
3.	2.40	250,000 out-of country plus 35,000 military and public security force direct hire	299.5	474.0	773.5
4.	2.25	All as in 2 and 3 above plus 150,000 "rich"	282.9	451.0	733.9

Source: Calculations of the authors primarily based on NSSF data.

Table 4.2.4.2.3 - Summary of Estimated Public Revenue Sources

<u>Agency</u>	<u>Revenue Sources</u>	<u>Volume of Revenues (LLM)</u>
<u>MOH</u>	MOF	160.0
<u>NSSF</u>		
A.	Payroll Taxes	144.0
B.	MOF	36.0
<u>Military</u>	MOD	50.0
<u>UGCS</u>	Payroll Taxes	<u>50.0</u>
		440.0

annual basis. The second element of NSSF revenue presented in Table 4.2.4.2.3 is paid by the MOF which by law is equal to 25% of NSSF expenditures. Given LL 144 million of expenditures the second NSSF revenue component is LL 36 million (.25 x LL 144 million).

Note that although actual expenditures of the NSSF were estimated at LL 144 million in 1982, the new uniform fee tariff adopted by the Task Force on Health, Financing, MOH, is estimated to add to NHSS expenditures by about LL 19 million in 1982 operating expenditure. Thus the total 1982 NSSF expenditures would have been LL 163, had the new fee schedule been in effect. Based on the theoretical expenditure of LL 163 the MOF would be obligated to pay the NSSF roughly LL 41 million (.25 x LL 163 million).

The level of revenue available to the new NHSS from military sources, LL 50 million, consists of an estimate of payroll tax assessments that would be required for the NHSS to reimburse the medical costs of contract employees, and dependents of both military and security force direct hire and contract employees. This could be paid by the MOD as a lump-sum annually to the NHSS, that is calculated on the basis of the average rate of revenue collection per NSSF beneficiary. For example, if the total payroll tax assessment of the NSSF is LL 144 million on behalf of coverage for 645,000 beneficiaries, the rate the MOD would pay for each military contract employee and/or dependent would be LL 223 annually (LL 144 million / 645,000) multiplied by the number of persons covered. Since the military services currently covers 250,000 persons of which 35,000 are military, a total of 215,000 persons would be covered by the NHSS at a rough cost of LL 50 (LL 223 x 215,000 plus an allowance of roughly LL 2 for extra allowances according to rank privileges).

The LL 50 million for UGSC could also be paid by the NHSS on the same basis as military contributions. The UGSC currently covers roughly 220,000 persons including civil service direct hire and dependents. Total contributions would be roughly LL 50 (LL 223 x 220,000 plus an allowance of roughly LL 1 million for amenity services commensurate with the high rank and status of certain civil servants).

#### 4.2.4.4 Revenue and Cost Imbalances and Some Options

The analysis of the two preceding sections reveal that there would exist imbalances between revenues and costs if the new NHSS were established immediately and coverage were expanded to include persons not covered by any existing system. These imbalances vary depending on the contemplated population coverage. The corresponding estimated levels of expenditures, costs, revenues, and estimated shortfalls (or deficits) are summarized in Table 4.2.4.4 below.

Table 4.2.4.4 reveals that there are significant shortfalls between costs and revenues if efforts were made to establish of NHSS immediately or even in the near future, unless ways can be found to either increase revenues or reduce costs. Various options are explored below.

##### 4.2.4.4.1 Coverage Options

Although it may not be politically feasible, cost reimbursement levels could be scaled down. Restrictions could be placed on the maximum number of days of hospitalization and outpatient visits for which reimbursement would be provided annually, and the number of maternity cases for which reimbursement is allowable per family, the latter restriction encouraging family planning. Restrictions

Table 4.2.4.4 - Cost, Revenues, and Deficits By Population

		Coverage of NHSS		
<u>Population Coverage(M)</u>	<u>Population Excluded(M)</u>	<u>Total Costs(LLM)</u>	<u>Revenues(LLM)</u>	<u>Deficit(LLM)</u>
1.	3.0	0	440.0	408.9
2.	2.75	250,000 out-of-country	440.0	342.8
3.	2.4	250,000 out-of-country plus direct hire Military and Public Security Forces	440.0	333.5
4.	2.25	All as in 2 and 3 above plus 110,000 "rich"	440.0	293.9

Source: Calculations of the authors based on preceding tables.

could also be placed on various types of services, dental care, prosthetic devices, eye glasses, etc. Reimbursement rates to hospitals could be reduced gradually according to days of care rendered beyond average lengths of stay for cases of given degrees of severity.

Population coverage should be expanded gradually with every individual being required to carry a health card indicating eligibility for coverage by the NHSS system. These cards could be validated annually by the NHSS upon individuals presenting proof of having contributed to the NHSS system. Civil servants and private sector employees covered by the NSSF could present documentation that they are employees in good standing and are paying payroll taxes. Employers themselves could be required to acquire certificates of compliance from the NHSS that they are currently complying with the payroll assessment law and supply lists of employees for which payroll taxes have been paid to the NHSS system.

The self-employed in commercial business, service sector and agriculture could gradually be brought into the system upon payment of a lump sum tax paid annually with a stamp being affixed to the NHSS eligibility card. In this way coverage could be extended gradually, with additional revenues brought into the system as coverage is extended.

#### 4.2.4.4.2 Revenue Enhancement Options

Currently, insureds covered under the existing NSSF are required to pay 1.5% of earnings, up to a maximum of LL 750 per annum, and the employer pays 5.5% on this same wage base. The maximum employee contribution is reached at LL 50,000 of wages per annum ( $.015 \times \text{LL } 50,000 = \text{LL } 750$ ). Thus to the extent that there are employees covered by the NSSF who earn in excess of LL 50,000 per annum, the current assessment scheme is regressive. Such a wage base assessment produces a tax that is regressive, because the total tax paid by high wage earners (earning over LL 50,000 per annum) is a smaller proportion of income than the proportion of tax paid relative to income of low wage earners.

A non-regressive, but proportional tax would exist if all insureds of the NSSF were assessed a flat 7% of wages. A 7% proportional tax on all wage income of insureds would provide a comprehensive tax assessment base. NSSF officials state that the average wage of all employees covered is LL 20,400 per annum. A 7% proportional tax on all wage income excluding allowances would provide LL 307 million ( $.07 \times \text{LL } 20,400 \times 215,000$ ) or LL 163 million in addition to the LL 144 million currently available to the system. To the extent that there are employees earning LL 50,000 or above, the law would have to be changed to require them to contribute 1.5% above all wages, and thus contribute more than LL 750 per annum, which is currently the legal maximum, or the LL 307 million figure would have to be revised downward to the extent that there are substantial numbers of NSSF employees currently earning LL 50,000 or above.

The NSSF has proposed a tax on electricity as a means of raising revenues to finance reimbursement of the costs of hospital services. The proposal is very appealing insofar as, on the surface, it would seem to provide a very comprehensive tax base, since 98% of the Lebanese have access to and use electrical services. However two considerations must be taken into account. First, every ministry would like to finance its operations by levying a tax on such a comprehensive tax base. Second, the electricity board currently is losing money (approximately LL 191 million annually). Thus taxing electrical services

to finance reimbursement of medical services does not appear feasible at this time.

"Health taxes" on cigarettes and alcoholic beverages would tend to reduce consumption and thus promote public health, but could be expected to raise only modest sums of revenue. For example, assuming that 1.5 million packs of cigarettes are smoked annually, a 10% tax on an average cost per package at LL 1.75 would yield less than LL .3 million annually (LL 1.75 x .1 x 1.5 million). If 100 million packs were taxed annually, the yield would be 17.5 million; or about 275,000 people smoking one pack a day.

A flat lump-sum tax on physicians who are operating private hospitals and/or clinics would perhaps be more useful as a revenue source. Also, currently income taxes on professional services are largely avoided in Lebanon. It is estimated that income taxes in total produce roughly only LL 200.0 million annually. A tax on private medical practice would also increase the attractiveness of public service from what is the case currently, since taxes of public servants are currently withheld from wages and thus are not avoided, while physicians in the private medical sector are able to avoid paying virtually any taxes. However, given the small numbers of physicians in the system, roughly 2,400, only a rather small volume of revenue could be raised in this fashion. A lump sum tax of LL 10,000 per physician would yield only LL 24 million (LL 10,000 x 2400). Such a tax would not be fair, particularly if levied on doctors in public service. However, this is not to say that physicians in private practice should not be taxed more heavily using lump-sum taxes, better enforced income taxes, or some combination of the two.

#### 4.2.4.4.3 Summary of Options

Summing up revenue enhancement options, revenue sources of greatest significance seem to exist in the area of levying a completely proportional tax on insureds covered by what is currently the NSSF and in the absence of a wage or income base on which payroll income taxes may be assessed in the case of new entrants. Newly covered persons brought into the expanded NHSS system would be assessed a lump-sum entitlement fee. Shortfalls in revenues and costs as presented in Table 4.2.4.4. above range from a high of LL 408.9 to a low of about LL 294 million, the latter figure excluding the 250,000 Lebanese living abroad and 35,000 direct hire military and public security force direct hire, and the 150,000 persons presumed to be rich.

These shortfalls would be reduced significantly if some of the reimbursement restrictions were enacted as suggested in Subsection 4.2.4.4.1 above. However, even with no reductions in services reimbursement levels, taxing all income of current NSSF covered insureds would yield LL 163 million of additional revenue. Subtracting this from the deficit occurring in the event that a population of 2.75 million persons were covered, LL 342.8 yields a deficit of roughly LL 180 million. Since the target population of expanded coverage consists of approximately 1 million persons, expanded population coverage entitlement fees of LL 180 per capita on the average would bring estimated revenues into balance with costs. Those currently living abroad could be similarly assessed upon their return to Lebanon, or at even a higher rate, if appropriate and possible.

Since many of those who are presently not covered may be presumed to be low income or even medically indigent, entitlement fees could not be uniform. Also, the State would have to provide additional funds to cover the costs of those who

are medically indigent. Thus the NHSS needs to operate with the anticipation of having a surplus over estimated costs with which to cover the cost of providing for the medically indigent.

By present law the State is obligated to pay 25% of NSSF expenditures which clearly would apply to the newly proposed NSSF. If NHSS expenditures increased by LL 163 million as a result of levying a flat 7% on all wages and salaries earned by employees covered by the system, the State's obligation would increase by roughly LL 41 million. This in principle would provide a modest surplus of revenue over costs in all cases of population coverage. The revenue, cost, and surplus implications of different levels of population coverage and assessments discussed above are presented in Table 4.2.4.4.3 below.

The analysis of revenue sources places principal reliance on private sector employers and employees to finance the expansion of the NHSS system. The authors do not advocate that this be done, because the burden on those currently in the system would be inequitable. A flat 7% tax on total wages would require contributions per insureds currently in the system of LL 1428, with  $.015 \times \text{LL } 20,400 = \text{LL } 360$  and  $.055 \times \text{LL } 20,400 = \text{LL } 1122$  on the average paid by employees and employers, respectively. The LL 1428 compares with anticipated expenditures of only LL 760 annually per insured. The analysis was undertaken for illustrative purposes only, showing that coverage could be immediately extended and financed, if the GOL desires to do so.

The burden on private sector employers and employees would be lessened if the State were able to enforce the current income law better and to assess those currently not covered by any assessment system, roughly 1.0 million living in country and .25 million living out of country, at a higher average rate than LL 175 annually as was assumed for illustrative purposes above.

The crux of the problem lies in the unavailability, under the current situation of tax law and lack of enforcement, of an adequate comprehensive tax base on which to make assessments. There is also a problem in the apparent reluctance or inability of government to determine individual levels of income and wealth as a basis for equitable lump-sum assessments.

Ideally, what the authors would advocate is either a uniform per capita assessment, or one graduated according to expected rates of utilization, either of which being tempered by considerations of ability to pay, such that the rich assume part of the burden of paying for benefits accorded to the poor. In light of the current fiscal structure of the GOL, such an ideal is impossible to obtain. Thus we again emphasize the advisability of only gradually expanding NHSS coverage over a period of 5-10 years, and continuing to seek ways to broaden the fiscal basis of the system in the interests of achieving greater degrees of equity.

Initially efforts could begin with merging the UGCS and the NSSF thus forming the nucleus of the NHSS and working out equitable benefit and revenue structures. This could be done very quickly, say within one year. The next step would be to shift the reimbursement activities of the MOH over to the NHSS. The final step would be to incorporate the reimbursement of the military into an entirely consolidated public sector medical sector cost reimbursement system which would constitute the fully formed NHSS.

**Table 4.2.4.4.3 Summary of Added Revenue Sources and Resulting Surpluses of NHSS  
Depending on Population Coverage**

(1) Population (M)	(2) Int'l Deficit + (LLM)	(3)* Add. Payroll Tax (LLM)	(4)** Lump Sum Tax (LLM)	(5) Add. Cont. by State (LLM)	(6) Total (LLM)	(7) Surplus (LLM) (6)-(2)
1. 3.0	408.9	163.0	a. 180.0 (in country) b. 45.0 (out of country)	41.0	429.0	20.1
2. 2.75	342.8	163.0	180.0 (in country)	41.0	384.0	41.2
3. 2.4	333.5	163.0	180.0 (in country)	41.0	384.0	50.5
4. 2.25	293.9	163.0	180.0 (in country)	41.0	384.0	90.1

Sources: Calculations of the authors.

\* Assumes a flat proportional payroll tax of 7% on private sector employees.

\*\* Assumes an annual lump sum assessment of LL 175 on persons newly joining the system: a) 1 million currently living in country, and b) 250,000 currently living out of country with a lump-sum tax levied upon return.

## 5.0 Recommendations for Follow-Up Technical Assistance

The authors of this report recognize that additional work needs to be done in order to facilitate the establishment of the NHSS. Technical assistance is needed in numerous areas as described below.

### 5.1 Establishing Minimum Data Base

Assistance is needed in establishing, maintaining and projecting a minimum consistent data base, including statistics concerning the following:

- Population
- Number in work force
- Gross domestic product
- Salaries and wages
- Number of doctors
- Number of hospital beds
- Number of hospital admissions
- Hospital average length of stay
- Number of outpatient attendances
- Hospital costs
- Total expenditures for health care

It is important that there be a single authoritative information source in the system management and a timely distribution of the information. With a single source for information gathering, processing and reporting, all managers and their staffs would have a common basis for planning and operating the system. Also, the other providers of health care should have access to the same authoritative information. This would be an important step in fostering understanding and coordination among the major providers.

### 5.2 Study of Determinants of Utilization

Of crucial importance is to develop methods for anticipating changes in utilization patterns. For instance, a change in utilization of any of the items below would have a substantial impact on the cost of health care in the future. The factors determining the following rates are:

- Number of doctors per 1,000 population
- Number of hospital employees per patient day
- Number of hospital admissions per 1,000 population
- Average length of stay in hospital
- Number of outpatient attendances per 1,000 population.

Expected changes in utilization which will be largely the result of changes in the disease patterns and the age-sex distribution should be built into five year projections.

### 5.3 Development of Standards for Health Facilities

The MOH should review its standards and procedures for inspection, certification and monitoring of medical care facilities, establish new ones and maintain them. Measures to force compliance must be strengthened. Major areas of concern include the following:

- Structural condition of buildings
- Operating safety of mechanical, electrical and other systems including use of explosive gases, radiation producing devices, etc.

#### 5.4 Develop Programs to Improve and Strengthen the Quality of Patient Care

Assistance is needed to develop and strengthen the quality of patient care with establishment of performance criteria and standards to achieve quality assurance, including the following:

- Tissue committees
- Chart review for:
  - Adequacy of medical records
  - Accuracy of diagnoses and appropriateness of diagnostic and therapeutic procedures
- Utilization review to assess whether level of care is appropriate for condition treated—i.e., length of stay, appropriate use of facility and other resources, cost of care, etc.

The Ministry of Health should encourage medical schools to take the lead in developing standards and practical ways to monitor and enforce compliance of those standards. Assistance can be provided to establish linkages between medical schools, the MOH and private facilities in order to provide training for students and house staff concerning the scope of services and quality of care to be maintained in these facilities.

#### 5.5 Assist in the Development of Programs Designed to Contain Costs

The following areas are vital:

- Computer based auditing and cost control.
- Performance cost standards relating to length of stay and proper patient management, including relating diagnosis, treatment, and discharge criteria.
- Standards concerning appropriate referral to hospitals
- Adherence to legal fee and fee tariffs
- Appropriate uses of ancillary medical services
- Development of certificate of need criteria
- Appropriate standards of cost for prospective reimbursement of private and public health facilities

#### 5.6 Establishment of a National Drug Plan

Approximately 40% of health care expenditures in Lebanon are for drugs. The present situation is chaotic with an enormous number of drugs available. Prices for the same generic drug vary greatly.

To rationalize the system, a national formulary needs to be developed and used. An educational campaign directed both at physicians and the public and covering the selection and use of drugs is necessary. Analysis of drug selection, procurement process, distribution and presentation of products, and drug use should lead to reforms and cost savings. Improvements in drug selection and management could save up to 30% of present drug costs to the consumer.

#### 5.7 Assistance in Exploring Possibilities for Private Sector Initiatives

Areas would include the following:

- Establishment of HMO's in AHAs
- Possibilities of expanded private health insurance involvement in the financing of medical services cost reimbursement.

#### 5.8 Recommended Project

In conclusion, the authors recommend that a Financial Management and Medical Quality Assurance Project be designed and implemented by the GOL with assistance and support from the USAID. This project would assist in consolidating all

public sector medical cost reimbursement agencies into the NHSS. Technical assistance under such a project would be provided by a combination of long-term and short-term United States experts working cooperatively with local experts affiliated with the MOH, local universities, and what is currently the NSSF. The project would be designed and implemented in close cooperation with the existing USAID assisted project establishing a planning unit in the MOH.

## LIST OF REFERENCES FOR STUDY

Several references were taken from the personal files of Lebanese health officials and consist of personal notes and memoranda, as well as formal documents. Unfortunately many of the references are undated and precise authorship could not be established. Copies of all documents listed below are on file at the USAID mission in Lebanon. The list of references presented below is in order in which documents were made available to and read by members of the team. Since authorship is not always known and documents are often undated, references are cited first by title (sometimes rather arbitrarily assigned by the authors as necessary), followed by authors, agency and date, if known.

1. General Information Concerning Lebanon Health Care Delivery System, (undated memorandum).
2. Number of Pharmacists, Pharmacies, Depots, Manufacturers, Drug Closets and Medical Laboratories in Lebanon, (undated memorandum), MOH.
3. The Health Care System of Lebanon: A Past, A Present and A Future, by His Excellency Dr. Adnan Mroueh, Minister of Health and Social Affairs, National Council on International Health, Washington D.C., December 1982.
4. Some Indicators and Statistics in Lebanon, (undated memorandum, referencing "World Bank Statistics - 1982").
5. Population and Family Planning in Lebanon: Problems, Perceptions, and Programs, by Samir Khalaf, AUB, May 1978.
6. Medical Care Utilization In the Village of Shinulan, by Nada Maroun, Hassan Ramadan, Antoine Salloum, Fayeck Shamma, Mona Shehab, and Roula Yasin, AUB Spring Semester, 1981/82.
7. Thoughts on Reorganization, MOH, November 1982.
8. Assessment of Rehabilitation Needs and Resources in Lebanon, by Joseph LaRocca & Sterling B. Brinkley, M.D., USAID, November 15, 1982.
9. Directorate for Area Health Systems, by Dr. Rachid Bashur, University of Michigan, January 28, 1983.
10. Report on a Visit to Lebanon, by Dr. D. Verdugo-Binimelis, WHO, November 1973.
11. Proposal to Tax Electricity Services to Finance Hospitalization for All the Lebanese, by Dr. Rida Wahid, NSSF, October 1980.
12. Lebanese Republic, Budget for Ministry of Public Health, 1981-1983, MOH translated in January 1983.
13. Hospital Statistics, Specialized Hospitals, 1979 and 1980, (undated memorandum).
14. Hospital Statistics, Medium Hospitals, 1978-1980, (undated memorandum).
15. Hospital Statistics, Large Hospitals, 1979-1980, (undated memorandum).
16. Urgent and Immediate Needs in the Health Services, (undated memorandum).
17. Hospitalization in Private Hospitals in Lebanon Financed by Ministry of Health, 1980, (undated memorandum prepared by Syndicate of Private Hospitals).
18. Employment Problems in Lebanon, National Office of Employment, January 1983.
19. Lebanese Health Sector Financing, Problems, Issues and Recommendations, by Dr. J. Jeffers, February 7, 1983, (Draft outline of study).
20. Health Assessment of Palestinian Refugees in Beirut and Southern Lebanon, by Bill G. Griggs, International Health Program Office, October 19, 1982.
21. Report on Foodborne and Waterborne Disease Surveillance in Lebanon, by Kamal T. Abou-Daoud, M.D., July 6, 1981.
22. The Lebanese Economy in 1981 - Middle East Economic Consultants, edited by Maroun Iskoubart and Elias Baroud, October 1982.

23. Anatomy of a Hospital in Distress, by Sameer I. Shehadi, M.D., Faculty of Medicine, AUB, reprinted from Bulletin of the American College of Surgeons, June 1977.
24. Hospital Statistics, Small Hospitals, 1979-1980, (undated memorandum).
25. Hospital System in Lebanon, (undated memorandum).
26. The Administrative Implications of the Agenda Papers on Health, by CDR Staff, March 1979.
27. Facts on NSSF, (undated memorandum).
28. Hospital Statistics, January 1980, (undated memorandum).
29. Report on the Activities of the Mobile Clinic, from Sept. - Dec. 1982, Red Cross of Lebanon, January 20, 1983.
30. Medical and Social Services, rendered by the Lebanese Red Cross during the Israeli War and the Seige of Beirut, Red Cross of Lebanon, August 6, 1983.
31. Health Situation in Lebanon, by Micheline Khalaf, CDR, (undated).
32. Drugs Statistical Studies, (undated MOH memorandum).
33. Hospital System in Lebanon, by Samira Janih, November 1982.
34. Distribution of Costs of Services and Maternity in the NSSF System, 1982, Adjusted to Reflect New Uniform Tariff, NSSF, February 1, 1983.
35. Statistical Realities of Medical Profession, National Office of Employment, February 1983, (in French).
36. Organogram of MOH, Republic of Lebanon, MOH, February 1983.
37. Foreign Economic Trends and Their Implications for the United States: Lebanon, American Embassy, August 1982.
38. The Upper Metn Health System, Project Proposal, submitted to USAID, October 1982, by AUB.
39. The Lebanese Economy in 1980, Middle East Consultants in Beirut, 1980.

## ANNEX A: SCOPE OF WORK

- A. Review available health financing information on the MOH, the NSSF, other ministries, the private sector, and third party insurers.
- B. Collect additional information as necessary to prepare a description of how health care is financed in Lebanon, describing the problems and weaknesses with the financing mechanisms currently in use.
- C. Propose alternative strategies and mechanisms for resolving these problems and produce a rational, cost effective financing plan compatible with the Lebanese context addressing:
  1. Fiscal accountability
  2. Training
  3. Cost containment
  4. Demand and supply factors
  5. Allocation of GOL resources, cost analysis, financial planning and information system requirements.
- D. Examine need for follow-on technical assistance and recommend candidates.
- E. Prior to departure, prepare draft of findings and recommendations and present seminar on these results to selected MOH personnel.
- F. Prepare and deliver final report to NE/TECH/HPN within two weeks of time of departure from Lebanon.

Division of Tasks between Drs. Jeffers and Zukin

- A. Dr. Jeffers (Team Leader)
  1. Make contact with all government and private health sector agencies relevant to the study.
  2. Draft detailed outline of report.
  3. Assemble documents and reports needed for the study.
  4. Draft major sections of the report pertaining to general characteristics of health sector, description of health financing mechanisms, and weaknesses of the current financial mechanisms in use.
  5. With Dr. Zukin, draft sections of the report proposing alternative strategies for resolving financial problems as detailed in I.C. above and needs for technical assistance and possible candidates.
  6. Together with Dr. Zukin, present seminar on findings of the study including possible needs for follow-on technical assistance, to USAID/Lebanon and selected MOH personnel.
  7. Take responsibility for preparing final draft of report and submitting it to NE/TECH/HPN, within two weeks of team's departure from Lebanon.
  8. Coordinate with WHO, IBRD, and other international agencies in Lebanon as necessary for achieving the objectives of the study and assisting in drafting strengthening financing mechanisms and administrative reform, PID.
- B. Dr. Zukin
  1. Follow-up on contacts with government and private health agencies relevant to the study, as necessary.
  2. Review and assist in revision of draft outline of the report and assemble additional data and information as necessary.
  3. Take major responsibility for assessing quality of health care provided, need for quality assurance programs, and drafting section of report dealing with these matters.

4. Take major responsibility for assessing financial implications of existing mechanisms for acquiring, registering, pricing and distributing pharmaceuticals as related to the study and drafting section of the report dealing with these matters.
5. With Dr. Jeffers, draft sections of the report proposing alternative strategies for resolving financial problems as detailed in I.C. above and needs for technical assistance and possible candidates.
6. Together with Dr. Jeffers, draft sections of the report proposing alternative strategies for resolving financial problems as detailed in I.C. above and needs for technical assistance and possible candidates.
7. Review final report and make final comments within two weeks after team's departure from Lebanon, prior to submission to NE/TECH/HPN.

## ANNEX B: PERSONS CONTACTED\*

Mr. Abiad, Director, Makassid Hospital  
 Mr. Abdel Loutfi Affiouni, Chief of Financial Department, Union of Civil Servants  
 Mr. Ajouz, V.P. Public Relations, MEA at the International Airport  
 Dr. Armenian, Dean, School of Public Health, AUB  
 Mrs. Claire Aweyjan, Director of Health, Insurance Plan, AUB  
 Mr. Abdallah Baltagi, Chief of Planning, Facility Design and Equipment Acquisition, Ministry of Health  
 Dr. Rachid Bashshur, Professor, School of Public Health, University of Michigan  
 Mr. Malcolm Butler, Director USAID Mission to Lebanon  
 Mrs. Letitia Bytler, Asst. Program Officer, USAID Mission to Lebanon  
 Mr. Chebara, Chief Pharmacist, MOH  
 Mr. Khattas Chebli, Director General, Ministry of Finance  
 Mr. Gaston Cordahi, Chief Actuary, National Social Security Fund  
 Mr. Claude Debs, Secretary, Syndicate of Private Hospitals  
 Hon. Robert Dillon, U.S. Ambassador to Republic of Lebanon  
 Mrs. Hayat El-Salh, Director of Health Department, Union of Civil Servants  
 Dr. Fadlallah, Chief of Union of Civil Servants  
 Dr. Antoine Farjallah, Director of Hospitals and Health Centers, MOH  
 Dr. Edgar Gedeon, Pathologist, Rizk Hospital  
 Dr. George Hakim, Director, Batroun Hospital  
 Mr. Ibrahim Hamdan, Director, Office of Public Relations, National Social Security System  
 Miss Nevine Hammud, MPH candidate, AUB  
 Mr. Jamil Hamra, American Life Insurance Company  
 Mr. Abbas Khalaf, V.P. of American Mutual Life Insurance Co. in Lebanon  
 Mr. Michel Khoury, Medical Director and Staff of Dahr-el-Bacheck, MOH Hospital  
 Mrs. Issa el Khoury, President of Lebanese Red Cross  
 Miss Claude Knesevitch, Economic Specialist, United States Embassy  
 Dr. Nabil Kronfol, Chairman of Department of Health Sciences, AUB  
 Mrs. Kronfol, Vice President of the Lebanese Red Cross  
 Mrs. Kuttaneh, Member of Central Committee, Lebanese Red Cross  
 Mr. M. Kuzayli, Director, AUH  
 Captain Alexandre Matta, Military Health Corp, Lebanese Army  
 Mr. William McIntyre, Deputy Director, USAID Mission to Lebanon  
 Mr. Assad Mobarak, Director of Budgeting, MOH  
 Mr. Jean Mourad, Director General, National Employment Office  
 Dr. William Moussy, Medical Director and Staff Physician, Batroun Hospital  
 H.E. Dr. Adnan Mroueh, Minister of Health and Labor and Social Affairs  
 Dr. Nabil Nassar, Director, University Health Services  
 Dr. Raif Nassif, Professor, Faculty of Medicine, AUB  
 Mr. Natour, General Director of Electricite du Liban  
 Dr. Fawzi Odeimi, Director, Jounieh Hospital  
 Dr. Qomeir, Director of Medical Services, Lebanese Army  
 Mr. Shaik Mahdi Sadek, Director General, Office of Social Development  
 Dr. Robert Saidi, Director General, MOH  
 Mr. Sawi Salame, Director, Employment Services  
 Dr. Salah Sawaya, Director of Statistical Services, NSSF  
 Mr. Kurt Shafer, Program Officer, USAID Mission to Lebanon  
 Dr. George Tabbara, V.P., Order of Lebanese Physicians  
 Dr. Ridah Wahid, Director, National Social Security System  
 Dr. Fred H. Zebouni, Medical Director, Union of Civil Servants

\*Colleagues who were members of the WHO/LRCS and World Bank mission are not included in this list.

**ANNEX C**  
**FEASIBILITY ASSESSMENT FOR A PREPAID HEALTH CARE PROGRAM \***

Several phases are involved in the development of a prepaid health care program, each following on the successful completion of the previous phase.

1. Pre-Feasibility Study to establish potential interest.
2. Phase I - Feasibility study to determine:
  - a. If all of the essential components of the proposed health program are present or can be assembled. Specifically we need to know: 1) whether a group practice can be established in this social milieu and situation and if not, whether some alternative arrangements can be made to provide physicians services without compromising the integrity of the system; 2) the level of expertise currently existing among management, paramedical and other personnel; and 3) the level of commitment existing or that can be generated to support the proposed program.
  - b. A preliminary market survey in which the following are estimated:
    - 1) The population base potentially to be served including assessment of its health status and the scope and amount of health services or other activities required to meet health care needs, including specification of basic services to be provided.
    - 2) The design of an appropriate health care delivery system.
    - 3) The size of the membership (the population actually to be served) and the membership premiums that must be charged in order for the program to reach a breakeven point.
    - 4) The expected membership premium rates that can be levied or collected from the various possible sources of funding (e.g., the population itself, levels of government, outside aid, social insurance, etc.).
    - 5) Probable market penetration and under what circumstances (e.g., differing levels of cost vs. package of services).

Phase I consists of collecting and analyzing essential data and estimating the potential success of the proposed program. Its output would be a preliminary design of the health care delivery system, a schedule of benefits (scope of services) to be offered, a forecasted per person, a per family, per month cost and projected source(s) of funds to cover the forecasted cost, based on the estimated size of the population to be served as derived from the market survey. This phase typically requires about three months, including the services of an experienced HMO physician, a statistically-oriented specialist in medical economics and marketing, and a health facilities/health plan expert. Not all of these individuals would necessarily be required at site for the full three months, however.

**3. Phase II**

Presuming on the basis of Phase I study, the program appears feasible; Phase II, the pre-implementation phase, would follow and would take an estimated four to six months to complete. In Phase II, the program components would be delineated, including:

- a) The identification of an initial enrollment group, the development of an enrollment strategy and the initiation of an enrollment program.
- b) The establishment of a medical group or other physician arrangement and the development of a time table for commencement of operations.
- c) The establishment of a financial group to bring together the required funds.
- d) The identification of facilities to be used and establishment of a facilities and operations management group.
- e) The development of an operational plan and a budget for the first twelve months of operations.

- f) The development of management and support systems, such as accounting, management control, operating and reporting systems, medical records, etc.
  - g) The recruitment and selection of employees and establishment of training programs.
  - h) Coordination of the enrollment, medical, financial and management groups to assure commencement of operations on the target date.
4. Phase III - Implementation
5. Technical Personnel Required to Assess, Develop and Implement the Program:
- a) For feasibility study, a physician experience in prepaid group practice, a statistically-oriented, medical economist/market researcher, a health plan/facilities manager.
  - b) For pre-implementation and implementation, a similarly qualified physician and health plan/facility expert.

\* Prepared by Paul Zukin, M.D., M.P.H., 1977.

**ANNEX D**  
**Information Required for NHSS**

**A. Facilities**

1. Name
2. Location
3. Owner
4. Services
5. Capacity
6. Classification
7. Classification Status
8. Authorized Charges for Services
9. Staffing
10. Utilization
11. Reimbursement

**B. Patients**

1. Name
2. Employment
3. Address
4. Relatives
5. Medical History
6. Diagnosis
7. Treatment
8. Medications
9. Charges
10. Eligibility for Reimbursement
11. Age (Date and place of birth)
12. Sex
13. Citizenship
14. Utilization
15. Reimbursement

**C. Practitioners**

1. Name
2. Address
3. Degree
4. License Status
5. Places of Practice
6. Specialization
7. Reimbursement

LEBANON HEALTH SECTOR FINANCING: ISSUES, PROBLEMS AND RECOMMENDATIONS

This report is also an annex to "Reconstruction of the Health Services of Lebanon; Report of the WHO/LRCS Health Assessment and Planning Mission," 6 February - 13 April 1983.

The WHO/LRCS report is in the Development Information Center, 1656 NS.