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## The Regulatory Environment in the Health Care Sector

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## The Regulatory Environment in the Health Care Sector

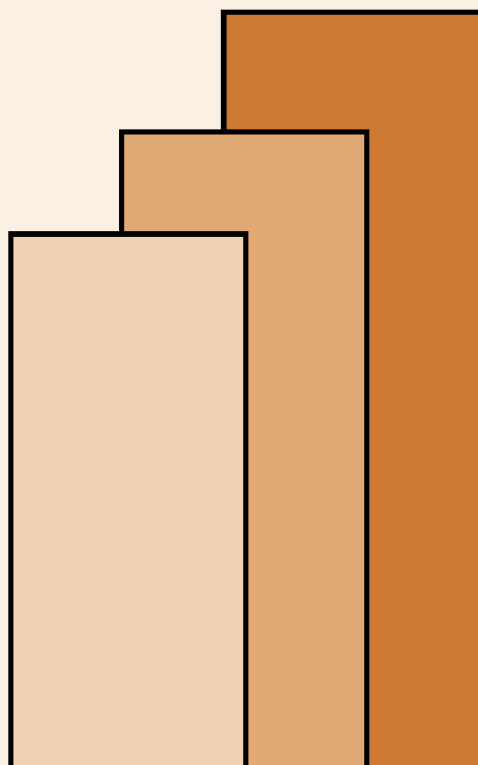
*Augusto S. Rodriguez, Roehlano Briones  
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THE REGULATORY ENVIRONMENT IN  
THE HEALTH CARE SECTOR

by

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## SUMMARY

Providing public health care involves many factors that are difficult to juggle. The Department of Health has initiatives to formulate and eventually implement health care financing strategies. While the objective is to increase efficiency and equity in the provision and funding of health care, there is a need to have baseline figures on the parameters of the entire health care environment. To achieve this objective, the following parameters of the health care sector were studied: (i) the regulatory institutions, (ii) the legal mandates of these institutions, (iii) the set of laws, executive orders, decrees, executive orders, and regulations affecting the health care sector and (iv) self-regulatory functions of health care institutions.

To achieve the objectives, this study has been organized in the following manner. The regulation of manpower entry into the health care sector and look at the self-regulatory role of professional medical associations is examined. This is followed by a look at the regulation of health care facilities, with special emphasis on control over hospitals. Regulation of pharmaceutical products and the Generics Act of 1998 and the regulation of health care financing institutions are also examined. Also studied are medicare, which is compulsory in nature, and the public provided health care insurance system. The next chapter examines the possible national government-LGU financing schemes for alleviating some of the problems arising from the devolution of health care facilities and capability of local government units to finance them. Suggestions regarding reform of the regulatory environment are made at the end of the study.

### \* Regulation of Health Care Professionals

A particular point of view raised when this area was examined is the generally adverse effect regulations have on the entry to the health care sector. Regulations covered in this study look particularly at those that take the form of schooling, licensing and certification requirements. Additional restrictions covering the substitution among closely allied specialities such as ophthalmologists and optometrists, as well as limitations on the delegation of functions as from dentists to dental assistants.

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In the current local health care environment, the migration of health care professionals overseas is a problem that the government has taken steps to address. For this reason, this chapter also takes a look at those regulations maintained either by the DOH or the other government agencies regarding overseas employment.

As mentioned, it is understood that the regulations applied increase barriers to entry in the health care environment. With this in mind, we chose to explore alternative institutional arrangements. However, these solutions must ensure the requisite level of professional competence while fostering a less than restrictive environment. Some of the alternatives studied were certification requirements, increased delegation and substitution possibilities and some form of taxation of overseas-bound health care professionals.

The look at regulation of health care professionals also examined the effect of professional medical associations. Such associations also play a role in limiting entry and competition as well as creating segmentation in the health care market and expanding demand for their services.

Regulations, however, result in a tradeoff between cost and quality. While the regulations assure the quality, it inevitably raises the cost and as such the access to affordable health care services. An alternative is certification. This means replacing some entry requirements with certification schemes that will assure the consuming public of a certain level of service without necessarily raising the cost to the same extent as regulations.

Other directions that may be taken involve doing away with the AMPC quota, increasing the scope of substitution and delegation among closely allied specialists, allowing market forces greater play in determining division of labor, and imposition of a brain drain tax. Participation of associations of health care professionals to raise awareness of particular ailments or just to "prolong" the lives of the general public may also be taken as efforts to increase their revenue streams by providing such a service.

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## Regulation of Health Care Facilities

Just as in the case of the health care professionals, regulations governing health care facilities also exist. Major emphasis was placed on hospitals. The regulations affecting hospitals are essentially two kinds: those affecting costs (through various standards requirements) and those affecting revenues.

While there exist numerous regulations to ensure that standards are maintained among hospitals, a quick look at the Department of Health's (DOH) budget would reveal that budgetary allocations would point to a relatively low priority for the enforcement of the said standards.

Likewise, regulations and activities such as competition from government hospitals, bedspace for indigent patients, non-deposit rule, and taxation on hospital revenue, all impinge upon the potential revenue of hospitals. The significant presence of the public sector in the hospital care provision, is enough to provide the competitiveness of private hospitals. Additionally, all private hospitals are treated as corporate institutions. As such they are all taxed the usual corporate rate of 35 percent.

In this environment the problem of trade off between quality and lower health care costs brings to fore the question of the cost effectiveness of these regulations. Furthermore, the enforcement of the regulations themselves require a cost that affect not only the hospital but ability of the DOH, for example, to enforce the regulations.

A possibility is to have a mechanism for self-regulation that follows the sort of certification scheme practiced by the professional medical societies. Failure to obtain the accreditation will not force the hospital to stop functioning. Market forces will determine ultimately the financial effect on the hospital for its non-accreditation.

## Regulation of Drugs, Equipment and Supplies

As in the case of the health care professionals and health care facilities, drugs, equipment, and supplies are likewise regulated. Again, these regulations have an effect on the quality and quantity of the supply provided.

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The registration and testing of a pharmaceutical product is often viewed as a time consuming activity. Furthermore, there is usually a lag between the time the drug is known to have been developed to the time of its release to the public. Of course the general health of the consuming public is the most common reason cited by this time lag.

With the implementation of the Generics Act, the question now raised is the effect of incentives provided by law as well as the effect of the law itself on drug prices.

Alternatives are offered that will address the information assymetry between the physician/drug company and consumer that will offer the consumer the possibility to make an affordable selection. Regulations may be enforced to address this information assymetry.

On the other hand, patents on pharmaceutical products, or the local patent market in general, is not yet fully developed. As a result, several instances of sidestepping patent or copyright laws are common although this may be curbed by international agreements.

As far as tariffs on medical equipment and supplies, the impact raises cost to the producer of health care and to the consumer of health care resulting in less health care services. on the other hand, pharmaceuticals generally face no non-tariff measures, with the exceptions of penicillin and its derivatives which face quantitative restrictions.

### Regulation of Health Care Financing

Of particular interest in this section is the regulatory environment surrounding market mechanisms of contingent finance of health care, i.e. of insurance and pre-paid health plans.

As in the case of pharmaceuticals, there is an assymetry of information as to the availability of such plans. However, in most cases, the consumer will naturally seek the provider who can deliver the best solution. Nonetheless, further studies should be conducted on having different compulsory packages, and legislation should be flexible enough to accomodate possible changes in the minimum mandatory package of benefits as a result of these studies.

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Still other issues should be considered. Among some of the shortcomings of the study covered by this section are the following: Medicare does not actually represent universal coverage, possible market power of insurers and HMOs; and possible undertreatment of HMOs. With a wide sector for coverage, including both the formal and informal sectors, the relatively large population outside the formal sector, the non-universality of the coverage raises several apparent issues though not necessarily real. Of equal concern may be the possibility that redistribution may be necessary to achieve the objectives of such programs. However, the political acceptability of these solutions gives rise to a whole set of other issues.

### Devolution

Devolution, or the transfer of power, functions, responsibilities, programs and projects, personnel and assets, from the National Government to the Local Government Units (LGUs) seems to have caught the DOH unprepared. Those to be devolved include: provincial, municipal, and city health offices, hospital and clinic facilities, equipment and supplies; personnel of these facilities; implementation and management of primary, secondary, and tertiary health service; records, assets and responsibilities corresponding to the listed devolved facilities, personnel and functions; and, public health programs on primary health care, maternal and child health care, dental health, nutrition, family planning, environmental health, and communicable and non-communicable disease control.

Many of the problems arising from devolution is the "mismatch" between the IRA share that some LGUs receive and the cost of devolved health care services that they had to absorb.

Nonetheless, initiatives are being undertaken to address the problems arising from devolution. Involvement includes the DOH itself, efforts from Congress, and the efforts of other institutions.

While the researchers support the efforts of devolution, a serious assessment of the fiscal position should be undertaken. Grants is one solution for the problems created by devolution.

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## Conclusions and Policy Recommendations

As a result of the study, the following steps are recommended:

1. For Health Care Manpower: The implementation of a certification scheme to supplement current schooling and licensing requirements. Additionally, the removal of enrollment quotas to increase competition among medical schools.
  2. For Health Care Facilities: The self-regulation of the facilities as a certification scheme with the DOH providing grants to the private hospital association to shoulder part of the cost of inspection and monitoring. Also some form of subsidy for the charity ward patients or emergency room care.
  3. For Pharmaceuticals: The DOH has to provide more resources for drug testing and registration to avoid long delays in the procedure. But decisions on intellectual property rights may render all these discussions moot and academic.
  4. For Health Care Financing: A number of policies are recommended in the presence of political will. However, more additional studies and wider ranging policies are needed to better understand this segment.
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## INTRODUCTION

Part of the Department of Health's initiatives in the health sector include the formulation and eventual implementation of a health care financing strategy. The overall objective is to increase efficiency and equity in the provision and funding of health care. The appropriateness of the planned reform package depends on, among other things, the legal and regulatory environment in which the package will be put in place. The regulatory environment may generate a set of incentives and resource flows that, in part or in whole, runs counter to the requirements of the package of reforms. Those who are in charge of shaping the reform package need to be provided with research input on the nature of this environment. This study aims to provide the much needed baseline information on the legal and regulatory environment affecting the health care sector. The paper's objective is to provide both a description of the current regulatory environment affecting the health care industry and a framework for analyzing the impact of the legal environment on the industry. It will provide baseline information on the following parameters of the health care environment, (i) the regulatory institutions; (ii) the legal mandates of these institutions, (iii) the set of laws, executive orders, decrees and regulations that affect the health care sector and (iv) self-regulatory functions of health care institutions. This study will provide an analysis of how the current legal and regulatory environment affects incentives, the supply of health care products, facilities and manpower, the efficiency of resource use as well as the distribution of financing costs and benefits.

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## CHAPTER ONE

### Conceptual Framework

The study looks at the health care sector as an economic system. Since this sector utilizes scarce resources in producing the mix of health care goods and services for society, it is amenable to the type of efficiency and welfare analysis that economists have utilized with success in other areas of social life. We do not pretend that this description is more legitimate or more valuable than that which would have been provided by a public health practitioner or a legal scholar. But clearly any vision of what an ideal health care system should do, an ideal towards which legislation and public regulation attempts to prod the system, must face the problem of achieving this goal with the least deadweight loss to society. At the end of this study, we will try to say something about whether the health sector needs more regulation or not<sup>1</sup> and what kind of regulation is needed. These prescriptions tend to be very broad and may best be seen as provoking debates rather than serving as detailed courses of action. Such detailed recommendations, we think, can only be legitimately made after precise and (necessarily) quantitative studies of costs and benefits have been performed.

We can characterize the health care system as a set of prices and health care products, an allocation of resources or inputs, public sector activity both in provision, financing and regulation of behavior of private agents and a pattern of health outcomes. The agents in this sector include government; owners of resources used in the industry: doctors, nurses, etc.; financial institutions like health insurance companies. And finally, it includes consumers, who may be differentiated by among other things, their levels of income and their susceptibility to different illnesses. The agents and institutions in this system are primarily motivated by economic incentives. For instance, an individual thinking of attending medical school will weigh the direct and indirect costs of schooling and compare this with the stream of income he will earn if he undertakes the investment in human capital. A hospital administrator, in

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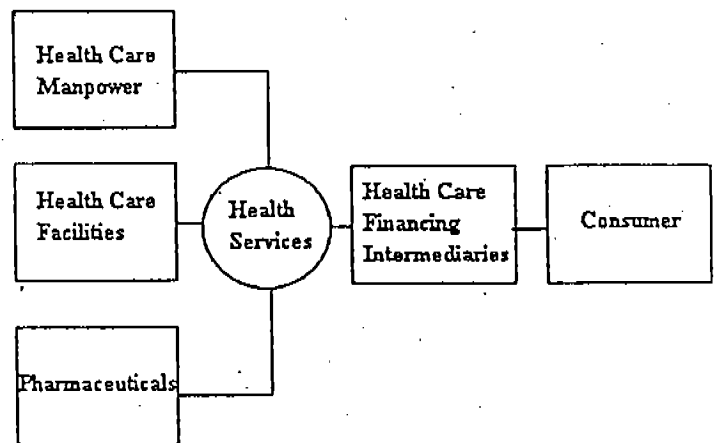
<sup>1</sup>Not surprisingly for economist, we have argued that in many cases it needs less regulation.

determining the proper mix of services will evaluate the potential net revenues the hospital will generate with this mix and compare it with the net revenues from choosing an alternative product or service line. A consumer makes decisions about health care expenditures based on a limited budget and the prices of health care and other commodities which provide him with satisfaction.

However, the health care system possesses some non-market features as well. These non-market institutions arise because of the unique features of the product being produced by the health care sector. In cases where regulation may be defended as an attempt to correct for market failures, the economist is interested in determining to what extent regulation represents the first-best solution and what are the trade-offs implied by government regulation of certain segments of the health care sector. Ultimately, if it turns out that government intervention is indeed warranted, we want to say something about the nature of the optimal public sector response - that is describe the principles that should guide its design and implementation.

Figure 1.1 shows the different institutions that make up the health care market. The inputs in the production of health care services include health manpower (doctors, nurses, dentists, etc.), facilities

FIGURE 1.1: Health Care Market



(hospitals, clinics and laboratories), equipment and pharmaceutical products. All these produce an output that we refer to as health service. The consumers may either buy these products directly (through out-of-pocket expenses) or indirectly through health care financial intermediaries. Or the consumer may be provided these services at a small cost by government.

As of 1988, the gross value added of private medical services was estimated to be around P 9.2



billion.<sup>2</sup> Close to half of this was accounted for by the National Capital Region (NCR). Based on figures from the Philippine Hospital Association (PHA), there are about 1,159 private hospitals in the country and 549 government hospitals (see Table 3.2). Total bed capacity is about 56,434 for government hospitals and 39,844 for private hospitals. As of 1985, total sales of pharmaceutical companies reached P 6.3 billion again with about half of this being accounted for by the NCR.<sup>3</sup> Based on the health manpower study by the Development Academy of the Philippines,<sup>4</sup> cumulative ever registrants with the Professional Regulatory Commission (PRC) included 75,299 doctors, 31,403 dentists, 193,797 nurses, 80,951 midwives, 31,770 pharmacists and 26,765 medical technologists. Out of these totals, there are 41,429 doctors, 16,957 dentists, 97,662 nurses, 39,696 midwives, 14,737 pharmacists and 14,479 medical technologists who renewed or are presently holding current IDs. As of 1987, the total amount of health insurance liabilities assumed by private health insurance companies amounted to P 111 billion. Medicare benefits paid out in 1987 amounted to about P 225 million. As of 1987, the budgetary appropriations for the DOH was about P 4.1 billion which represents about 2.6 % of the national government's total expenditures for that year.

### Regulation of Economic Agents in the Health Care Sector

Regulation refers to the control of certain aspects of behavior of a private entity by a public agency. That private entity may be a physician, a hospital, a health care insurance company, a pharmaceutical company, an employer, or any private citizen. The powers of the regulator may vary. It may just set prices. Or it can require participation by groups of individuals in programs like medicare. Or it can construct a screening process which must be followed by those seeking entry into a profession.

We can identify at least three different objects of regulation in the health care sector. The first and most obvious perhaps are suppliers of health care services or products. These include health care

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<sup>2</sup>From the Philippine Health Care Factbook 1990 (CRC).

<sup>3</sup>From the Philippine Health Care Factbook 1990 (CRC).

<sup>4</sup>Development Academy of the Philippines (1993). *Health Manpower Profile*.

professionals - doctors, nurses, dentists, medical technologists and the like. They also cover pharmaceutical products and medical equipment; health care facilities like hospitals, clinic, blood banks, etc. The second area of regulation is in health care financing. Here citizens are required to subscribe to this mandatory public health care insurance system and employers are required to finance part of the cost of insuring their employees. The government also regulates private financial intermediaries in the health care sector - health care insurance companies. Finally, there is regulation of private behavior for public health reasons. This include, for example, a ban on certain marine products (such as during red tide season), restrictions on tobacco smoking and advertising, immunization requirements, quarantine procedures and the like. The focus of this study will be regulation of health care providers and regulation of health care financing. Although regulation of private behavior for public health reasons are an important component of the entire regulatory environment, they are less interesting from this particular study's point of view and will not be covered.

There are four major groups of economic agents that will be the focus of this study. The first are the health care professionals - doctors, nurses and dentists. Second are the owners of health care facilities - mainly hospitals. Third are the providers of other major inputs such as pharmaceuticals and medical equipment. Finally we have the intermediaries that specialize in health care financing.

### Regulation of Health Care Professionals

The choice of entry to the health care professions depend on the costs of skill acquisition and the anticipated revenues from practicing the profession. If the discounted value of the revenues net of the entry cost is greater than the next best alternative, the individual will enter the profession.

The entry to the health care professions is strictly regulated by government. An important justification for government regulation of entry to the health care professions is the presence of information asymmetry. Information asymmetry occurs when consumers and producers do not have the same information with regards to the product or service being exchanged. Under a completely unregulated system, the consumer may be unable to tell the quality of the physician's services because

the cost of obtaining the information may be too high. The physician, on the other hand, can obtain rents from maintaining this imbalance or asymmetry in information sets. The market in this case does not provide any incentives for truth-telling to occur. It may then be desirable for the government to impose some form of control over the quality of health care providers by prescribing requirements for entry.

The regulation of entry into the profession by the state creates incentives for current practitioners to want to limit the entry of potential competitors. They may do this by pressing for stricter schooling and licensing requirements by the state or by product differentiation through certification by associations of existing health care professionals. Stigler (1971) has given a less benign cast to the nature of some public sector regulation. Providers may actually demand regulation as a means to charge higher prices, restrict output, limit entry and increase its profits. Without the presence of the regulator, the cost of collusion may be quite high. The resources needed to coordinate the behavior of many providers, monitor their behavior and enforce the pricing decision of the group may represent an insurmountable obstacle to the development of a cartel. Hence the presence of a regulator, who can control entry, fix prices and discipline erring members, all at public funds, may be a desirable outcome for some providers. There is then a demand for regulation by private enterprises. The supply of these regulatory agencies arise from legislators who are interested in obtaining political or economic support from vested interest groups.

### Health Care Facilities

Owners of health care facilities like hospitals are assumed to have the objective of maximizing profits. They generate revenues from selling hospital services to patients and incur costs from hiring staff, providing facilities, equipment and other inputs. Under a completely unregulated system, users of these facilities may be unable to tell the quality of the hospital's services because the cost of obtaining the information may be too high. The hospital owners can obtain rents from maintaining this imbalance or asymmetry in information sets.

It may then be desirable for the government to impose some form of control over the quality of

services provided by these health care institutions. Regulation in this case take the form of staffing, equipment and facilities requirement. Only hospitals who satisfy these requirements obtain a license to operate. These restrictions represent an attempt to specify some minimum standard of health care provision by hospitals. However, they do so by locking hospitals into input combinations that may not be consistent with the minimum cost set of inputs.

Other types of requirements on hospitals - such as setting aside charity wards, the no deposit rule for emergency cases, etc. - turn, not on any presumed market failure, but on equity considerations.

### Pharmaceuticals and Medical Equipment Providers

The pharmaceutical industry is characterized by the fast pace of product innovation. Most pharmaceutical companies invest heavily in research and development to produce new and more efficacious medical products. One important consequence of this is that pharmaceutical firms can develop market power in certain products or lines of products through successful R & D. This market power can be protected by patents or simply by better research. The firm will invest in the development of new products if the expected return (expected sales less the cost of product development as a proportion of the cost of development) equals the market rate of return plus some risk premium.

The stream of new products that emanate from the pharmaceutical industry and the (perhaps temporary) monopoly power that firms who produce these innovations can acquire tend to invite government regulation. This tends to take two forms. One form of government control is the testing and licensing of the new pharmaceutical products to ensure that they represent safe and effective treatments. The other form of regulation attempts to control monopoly power, commonly through pricing restrictions, but sometimes by eroding the firm's ability to differentiate their products through the use of generic names.

Both types of regulations tend to lower the expected return from product development. Product testing increases the risk that the new product developed by the firm may not be approved for sale. Generic branding may reduce the price that firms can charge on their products since consumers no longer are able to discern significant therapeutic differences among the products of different firms.

## Health Care Financing Institutions

Private providers of health care insurance are assumed to want to maximize their expected profits. Their revenues come from premiums charged purchasers of insurance while their expected costs are the average payments for the treatment of the illnesses of those who have purchased their contracts. Buyers of health care insurance contracts on the other hand are assumed to maximize their expected utility. The uncertainty here arises because the occurrence of a disease or of an accident is a random variable. Hence, these buyers do not know for sure at what time they may experience an increase in expenditures to cover the cost of their treatment and how much income they have to forego during the duration of their illness.

If insurance markets are complete, each individual can calculate the probability of this adverse health outcome and purchase the appropriate insurance contract to meet this contingency. However, insurance markets tend to be characterized by problems of both moral hazard and adverse selection which limit both the scope of coverage and the breadth of participation in private insurance markets.

Moral hazard refers to the perverse change in incentives faced by individuals once they are able to purchase insurance contracts. While an individual is still uncovered by health insurance, he has strong incentives to take care of his health and to take precautions against accidents. Once he is insured however, he can afford to be less careful since in the event of an illness or an accident, the insurance company will pay for his treatment. Because of this, almost all insurance contracts have copayment features or provide only limited coverage.

Adverse selection arises because individuals demanding health insurance may vary in their inherent riskiness. There are likely to be costs in screening those who demand insurance coverage so insurance providers will never be able to correctly assess everyone's inherent riskiness. Even individuals who are observationally the same may turn out to have different risk characteristics. The problem of adverse selection arises when the riskiest cases are induced to apply for insurance coverage. Any attempt by the insurance company to increase its insurance premium will only drive out good risks and attract the worse cases. Because of this insurance providers may choose to deliberately exclude whole groups of people

from coverage because it is perceived that there is sufficient heterogeneity in the group to make it likely that adverse selection will occur with that group.

A market-based health insurance system is then likely to be pareto-inefficient in the face of adverse selection and moral hazard problems. The market outcome may result in very large groups of people being excluded from health insurance. Mandatory health insurance may increase societal welfare above that achieved with the market outcome and may explain why governments in many countries require and provide almost universal health insurance.<sup>5</sup>

### Market Failure and Government Failure

Economists are generally of the mind that market-determined outcomes produce the social maximum. Hence government attempts to alter the mix of products and the output level determined by the marketplace will result in a reduction in welfare. There are certain important features of the health care market though that may provide a rationale for some form of government intervention. All these features can generally be swept under the rug of that convenient catchall we call "market failure." Over the years, economists have developed an understanding of these market failures and provided some conditions under which government can intervene and what forms of interventions are most cost-effective. Government intervention to provide public goods, to correct for externalities through an appropriate tax/subsidy scheme, or regulate monopolies through marginal cost (MC) pricing increases society's welfare. However, when the market failure arises from moral hazard, adverse selection, or generally from information asymmetry problems, it is not clear what form of regulation is first-best. Hence it is important to provide an assessment of the tradeoffs, the gains and the losses that emanate from various types of regulations or restrictions imposed on private sector behavior. This sort of assessment may be taken as an attempt to guard against government failure; that in the attempt to correct for market failure, regulation does not lead to a greater deadweight loss for society.

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<sup>5</sup>There is likely to be large equity considerations as well.

## Outline of the Study

This study is organized in the following way. In chapter 2, we examine the regulation of manpower entry into the health care sector and look at the self-regulatory role of professional medical associations. In chapter 3 we turn to the regulation of health care facilities, with special emphasis on the control over hospitals. In chapter 4, we look at regulation of pharmaceutical products and the Generics Act of 1988. In chapter 5, we tackle regulation of health care financing institutions - health care insurance companies as well as HMOs. The chapter also takes a look at medicare as a compulsory and public provided health care insurance system. The passage of the Local Government Code spells some adjustment problems for the DOH regarding devolution of health care facilities and the capability of local government units to finance them. So chapter 6 examines possible national government-LGU financing schemes for alleviating some of these problems. Finally chapter 7 offers a number of suggestions regarding reform of the regulatory environment.

## CHAPTER TWO

### Regulation of Health Care Professionals

In this chapter we cover the major classes of regulations that apply to health care professionals. These take the form of schooling, licensing and certification requirements. There are also restrictions on substitution of services among closely allied specialties, e.g., ophthalmologists and optometrists, and limitations on the delegation of functions such as from dentists to dental aides. Because of the persistent outflow of health care professionals overseas, we shall also look at policies and regulations maintained by either the DOH or other government agencies regarding overseas employment.

In our view, the most deleterious effect of the regulations is to increase barriers to entry in the health care sector. Hence, in the text, we explore alternative institutional arrangements that assure some level of professional competence while creating a less restrictive environment. These alternative institutions take the form of certification requirements, increasing delegation and substitution possibilities and some form of taxation of overseas-bound health care professionals.

Finally we examine the activities of the professional medical associations and their role in limiting entry and competition, creating segmentation in the health care market and expanding demand for their services.

#### I. SCHOOLING, LICENSING AND CERTIFICATION OF HEALTH PROFESSIONALS

Included in health care professionals are doctors, nurses, dentists and medical technologists. The availability of this input to the domestic health care sector depends on the number of students admitted into medical, nursing or dental schools, and the stringency of the schooling and examination requirements. The number of specialists is further dependent on the strictness of the residency and certification system maintained by hospitals and the professional medical associations. Finally, we have to account for leakages to foreign labor markets.



### Regulatory Agencies: DECS and the PRC

The Department of Education, Sports and Culture (DECS) regulates the admission and curricular requirements of medical, nursing and dental schools as well as a host of other health care practitioners, midwives, medical technologists, etc. The DECS also regulates the physical and staffing requirements of these schools through its various boards - the Board of Medical Examiners, the Council of Dental Education and the Board of Nursing.

The mandate for these regulatory activities are provided by Republic Acts 2382 (Medical Act of 1959), 7164 (the Philippine Nursing Act of 1991), 4419 (The Philippine Dental Act of 1965) and 5527 (Medical Technology Act of 1969). These laws create and staffs various education boards which, in turn, perform the stipulated functions. These boards are normally filled by representatives from DECS and the various professional health care associations such as the Philippine Medical Association (PMA), the Philippine Nursing Association (PNA), the Philippine Dental Society (PDS), etc.

The Board of Medical Education has the following functions: (1) determine and prescribe the requirements for admission into recognized colleges of medicine; (2) determine and prescribe requirements for minimum physical facilities of college of medicine; (3) determine and prescribe the minimum qualifications of teaching personnel, including student-teacher ratio; (4) determine and prescribe the minimum required curriculum leading to the degree of Doctor of Medicine; (5) authorize and implement experimental medical curriculum; (6) accept application for certification of admission to medical school and keep a register of those issued certificates; and (7) select, determine and approve hospitals for training.

Among the functions of the Board of Nursing are the following: (1) supervise and regulate the practice of the nursing profession; (2) prescribe the subjects in the licensure examination and score and rate the examination papers; (3) examine the prescribed facilities of universities or colleges seeking permission to open new nursing departments; and (4) require nurses who graduate from state colleges and universities to render, after being issued the necessary board licenses, at least one year of nursing service in the Philippines before they are allowed to leave for overseas jobs.

The Council on Dental Education has the following functions: (1) recommend the minimum requirements of a pre-dental course; (2) recommend the minimum requirements for the regular dental course; (3) determine and prescribe the minimum requirements for the physical plants and other facilities of schools or colleges of dentistry; (4) determine and prescribe the minimum number and qualifications of the teaching personnel including the student-teacher ratio; and (5) inspect or visit schools or colleges in connection with the functions of the Council.

The Professional Regulation Commission (PRC), on the other hand, is in charge of the licensing examinations and constitutes various Boards of Examiners which direct and supervise this activity.

*Physicians* To enter medical school, one needs a bachelor's degree and successful completion of the National Medical Aptitude Test (NMAT). The examination is a mandatory test administered nationwide to determine the medical aptitude of those who aspire to undertake the study of medicine. This was first instituted in 1985 under DECS Order No. 52. The cut-off point for admission prescribed by the Bureau of Medical Education is the 45th percentile. However, medical schools have the discretion to set their own (higher) NMAT cut-off score.

A medical student must complete a 4-year medical course leading to a degree in Doctor of Medicine. A twelve-month internship, a technical training course with whole day and night duties in different departments of a hospital is undertaken after the course work. The Association of Philippine Medical Colleges (APMC) takes charge of the intern-matching program where interns are assigned to an approved hospital. Accreditation standards are set by the Board of Medical Education. To practice medicine, a candidate must pass the board examination which is given twice a year for four days in the last two weekends of February and August. To pass the examination, an examinee must obtain a general average rating of at least 75 % with no rating below 50 % in any subject. The professional medical associations in turn set up their own certifying boards to control the inflow of specialists, e.g. cardiologist, surgeons, obstreticians, etc. Table 2.1 provides some idea about the length of training required by various specialization. The duration varies from 2 years to a maximum of 7 years.

TABLE 2.1

## Duration of Some Selected Residency Programs

Field of Specialization	1	2	3	4	5	6
1. Family Medicine	x	x	x			
2. Internal Medicine	x	x	x			
A. Allergy				x	x	
B. Pulmonary				x	x	
C. Diabetes				x	x	
D. Endocrinology				x	x	
E. Gastroenterology				x	x	
F. Cardiology				x	x	
G. Hematology				x	x	
H. Oncology				x	x	
I. Infectious Diseases				x	x	
J. Nuclear Medicine				x	x	
K. Nephrology				x	x	
L. Rheumatism				x	x	
3. Pediatrics	x	x	x			
4. Radiology	x	x	x			
5. Rehabilitative Medicine	x	x	x			
6. Neurology	x	x	x			
7. Pathology	x	x	x			
8. General Surgery	x	x	x	x		
A. Plastic & Reconstructive	x	x	x	x	x	x
B. Orthopedic	x	x	x	x	x	
C. Pediatric	x	x	x	x	x	
D. Thoracic	x	x	x	x	x	
E. Urologic		x	x	x	x	x
F. Neurosurgery	x	x	x	x	x	
9. Anesthesia		x	x	x		
10. Obstetrics		x	x	x		
11. Ophthalmology	x	x	x			

Source: DAP (1993). Health Manpower: Profile and Market Analysis.

There are about 26 medical schools in the country today. The APMC sets up an enrollment quota for medical schools, with the quota setting the maximum number of freshmen students that each

medical school can accept (see Table 2.2 for the breakdown). The enrollment quota for all medical schools is about 4,432. Now given that average freshmen enrollment during the 1980s never added up to this total (see Table 2.3), the idea behind the quota system seem to be to preserve as many of the medical schools as possible by preventing more "desirable" medical schools from expanding enrollment at the expense of the "less desirable" schools.

TABLE 2.2  
Freshmen Enrollment Quota By Medical School

AGO Medical and Educational Center	160
Angeles University Foundation	150
Cebu Doctors College of Medicine	160
Cebu Institute of Medicine	260
Davao Medical School Foundation	160
Divine Word University of Tacloban	60
DLSU-Emilio Aguinaldo College of Medicine	200
Fatima Medical Science Foundation	176
Far Eastern University	360
Iloilo Doctor's College of Medicine	160
Lyceum Northwestern Foundation	160
Manila Central University	210
Mindanao State University	100
Pamantasan ng Lungsod ng Maynila	110
Perpetual Help College of Medicine	176
Remedios T. Romualdez Medical Foundation	100
St. Louis University	160
Southwestern University	210
UE Ramon Magsaysay Memorial	360
University of the Philippine (Manila)	NA
University of the Philippines (Leyte)	NA
University of Santo Tomas	420
University of Visayas	160
Virgen Milagrosa Educational Institute	160
West Visayas State University	160
Xavier University	100
TOTAL	4,432

Source: Health Manpower: Profile and Market Analysis, 1993.

Table 2.3 also gives figures on new licensees each year for the past three years. An average of about 3,000 new physicians are licensed each year. At the same time, the country loses about 400 physicians each year to emigration and temporary overseas employment (see Table 2.3). This represents about 15 % of new entrants.

Year	Freshmen Enrollees	New Licensees
1987-88	2,135	2,553
1988-89	1,367	2,789
1989-90	1,666	3,911

Source: DAP (1993).

Year	Emigrants	OCWs
1988	300	41
1989	269	40
1990	337	50
1991	350	63

Source: DAP (1993)

*Nurses* The Nursing Law (RA 4704) requires a four-year collegiate education in nursing and successful completion of the board examination. Over the last decade about two-thirds of all enrollees in nursing courses were ultimately able to finish their education; and of these, the proportion who passed the board examinations was about 70 %.<sup>1</sup>

<sup>1</sup> From *Health Manpower: Profile and Market Analysis* (DAP, 1993).

Table 2.5 gives figures on first-year nursing enrollment and new licensees each year for the 1986-90 period. Freshmen nursing enrollment has averaged about 21,000 each year while an average of about 4,500 new nurses enter the profession. At the same time, the country loses about 6000 nurses each year to emigration and temporary overseas employment (see Table 2.6). This number is pretty large and represents about 125 % of new entrants over the last five years.

Year	Freshmen Enrollees	New Licensees
1986-87	20,546	3,877
1987-88	19,514	4,910
1988-89	24,043	4,355
1989-90	21,517	9,110

Source: DAP (1993).

Year	Emigrants	OCWs
1988	1,239	5,628
1989	1,202	5,424
1990	1,326	6,847
1991	1,134	4,068

Source: DAP (1993).

**Dentists** The Dental Act of 1965 requires a two-year preparatory dentistry course and then a four-year dentistry proper course. In order to practice the profession legally, the graduate must successfully pass the dental board examination.

Table 2.7 gives figures on first-year dental school enrollment and new licensees each year for the

1986-90 period. Freshmen enrollment has averaged about 2,700 each year while an average of about 1,400 new dentists enter the profession. At the same time, the country loses about 220 dentists each year to emigration and temporary overseas employment (see Table 2.8). This number is pretty insignificant representing just about 15 % of new entrants.

Year	Freshmen Enrollees	New Licensees
1986-87	4,457	1,245
1987-88	2,411	1,090
1988-89	2,854	2,123
1989-90	1,090	1,267

Source: DAP (1993).

Year	Emigrants	OCWs
1988	182	30
1989	202	21
1990	196	30
1991	196	17

Source: DAP (1993).

## II. WELFARE ANALYSIS OF REGULATORY ENVIRONMENT

By raising the requirements for entry to the medical professions, we thereby improve the average quality of the medical workforce, but at the same time, we also raise the cost of medical care. For prospective doctors, nurses, dentists, etc. to be willing to undertake the long and uncertain process of schooling, internship, board examination and residency, the expected remuneration must be high enough to equal the return on an investment in the next best alternative. If these prospective entrants are also risk averse, then the expected remuneration must be higher than the return from the next best

alternative, with the risk premium varying directly with the degree of risk aversion. These higher professional fees are then passed on to consumers of health care.

### Certification as an Alternative

This tradeoff between cost and quality of the health care manpower is addressed directly in the idea of certification as an alternative. We believe that replacing some current entry regulations with certification schemes may provide both better information for consumers as well as affordable health care.

The rationale for imposing licensing and other requirements rests on the welfare loss from the uncertainty faced by consumers of health care services regarding the capabilities or proficiency of producers. By requiring all health care providers to acquire a basic set of skills, this uncertainty in health care quality is suitably diminished. The licensing requirement however requires all prospective suppliers of labor services to spend a greater amount of time in school. With entry restricted, the health care sector also underprovides a variety of services that consumers would have been willing to purchase if only these were available and not regulated out of existence.

Arrow (1963) had raised the idea of certification as an alternative system for dealing with the information asymmetry issue in the health care sector. The attraction of certification as a regulatory mechanism is that it reduces the information asymmetry between health care providers and consumers while avoiding most of the deadweight losses that come from imposing significant costs of entry. Basically, in a certification scheme, there will be no barriers to entry to the health care sector. However, health care providers will be differentiated by the certification that they will obtain from the regulator. These certificates will inform the consumer that specific providers have attained a particular level of training or proficiency. The certification scheme leaves the choice about the appropriate amount of investment in human capital to the health care providers themselves. Health care providers are free to select the niche in the care sector that they want to occupy. There will be a greater variety of health care providers giving the consumer a wider range of options appropriate for his level of income and taste.



The professional medical societies already implement certification schemes at the high end of the health care manpower market, i. e. for specialists. A certification scheme at the lower rungs of this ladder may be superimposed on the current system too.

medical education in the country. It is difficult to understand, therefore, why the DECS does not attempt to do away against these artificial impediments to choice.

### Substitution and Delegation Restrictions

The functions of health care professionals are defined and circumscribed by legislation, the Medical Act of 1959, the Nursing Act of 1991 and the Dental Act of 1965 to cite a few examples. Because legislation defines each medical professional's functions, any health care professional then that performs functions not legally prescribed may be prosecuted criminally.

In reality however, excess demand for the services of particular specialists may provide incentives for others with closely allied capabilities to perform nearly the same procedures. Examples of specializations where substitution possibilities have been felt most strongly are between medical technologists and pathologists and between optometrists and ophthalmologists. Many clinical or laboratory analysis are performed by medical technologists with pathologists acting in a supervisory role. However, these clinical reports cannot be issued by medical technologists without the signature of a pathologist. There are those in the medical technology profession who would like to be able to issue clinical diagnosis without waiting for the approval of a pathologist. The turf battle between optometrists and ophthalmologists center on the desire of the former to be able to prescribe or apply medication on patients during the process of diagnosis, a practice that so far has been confined to ophthalmologists.

In the case of physicians and nurses, there are many functions - such as the application of medication and the care of patients - that are traditionally delegated to nurses. The law is pretty definite about how the lines are drawn between physicians and nurses. However, in practice, this line is likely to be blurred. Everything being held equal, the more functions physicians delegate to nurses or nurses' aides, the higher the supply of physician's services that can be made available to health care users.

To know whether easing substitution-delegation restrictions between different health care groups is desirable, one needs to know how much substitution-delegation possibilities there are. Many works on health manpower requirements have employed task and time utilization techniques to estimate the number of health care personnel for any given epidemiology of disease. The health manpower requirement is adjusted for the proportion of cases requiring care, norms of care, proportion required for non-patient care, i. e., research and teaching, and the possibility of delegation and substitution. The U. S. Graduate Medical Education National Advisory Council (GMENAC) requirements model provides an idea of how much leeway is given by the possibility of delegation and substitution for different specialties (See Table 2.9). It is important to note that these possibilities are estimates made by medical "experts" and they reflect possibilities allowed by legislation, and may therefore underestimate what the market itself would allow.

For some professions (dentists for example) or specializations (surgeons for example), there are very little substitution possibilities. In other professions (nurses for example) and specialization (pediatricians for example), the possibilities are significant. In the absence of even rudimentary task and time data for the Philippines, we do not know to what extent these limits are approached here. However, the legislative tussle between local ophthalmologists and optometrists seem to suggest that there are strong market forces felt by some suppliers of health care services to overstep legislated boundaries.

There is good reason for easing legislated fragmentation of health care functions among specialists at least for closely allied specializations. The argument may be framed in terms of Adam Smith's familiar observation that the division of labor is limited by the extent of the market. In practice though, this greater flexibility may be difficult to achieve since it entails enacting or amending legislation with, presumably, tremendous political pressure from traditional providers against the contemplated change.

TABLE 2.9

## Delegation and Substitution Possibilities

Specialization	Percentage of tasks that can be Substituted and Delegated
PHYSICIANS	
1. General Practitioners	25%
2. Cardiologists	5%
3. Pediatricians	37%
4. Ophthalmologists	
Ocular morbidities	10%
Blindness prevention	30%
5. Surgeons	n. s.
6. Obstretician-Gynecologist	n. s.
7. Pulmonologists/Chest Specialists	
Preventive	30%
Restorative Care	15%
8. Psychiatrists	16%
9. E.E.N.T.	5%
10. Rehabilitation Medicine	n. s.
NURSES	
1. Minimal Care Patients	45%
2. Moderate Care Patients	40%
3. Intensive Care Patients	25%
DENTISTS	3 % to 10 %

Source: DAP (1993).

TABLE 2.10

## Partial List of Professional Medical Associations

1. Philippine Academy of Ophthalmology and Otolaryngology.
2. Philippine Association of Plastic Surgeons, Inc.
3. Philippine College of Chest Physicians.
4. Philippine College of Physicians.
5. Philippine College of Radiology.
6. Philippine College of Surgeons.
7. Philippine Dermatological Society.
8. Philippine Heart Association.
9. Philippine Neurological Association.
10. Philippine Obstetrical and Gynecological Society.
11. Philippine Orthopedic Association, Inc.
12. Philippine Pediatric Society, Inc.
13. Philippine Psychiatric Association.
14. Philippine Society of Allergology and Immunology.
15. Philippine Society of Anatomists.
16. Philippine Society of Anesthesiologists.
17. Philippine Society of Endocrinology and Metabolism.
18. Philippine Society of Gastroenterology.
19. Philippine Society of Hematology and Blood Transfusion
20. Philippine Society of Nephrology.
21. Philippine Society of Neurological Surgeons.
22. Philippine Society of Nuclear Medicine.
23. Philippine Society of Oncology.
24. Philippine Society of Ophthalmology.
25. Philippine Society of Pathologists.
26. Philippine Urological Association.
27. Prosthetics Association of the Philippines.

Source: DAP (1993).

### Overseas Employment

Overseas employment of health care professionals is supervised by the Philippine Overseas Employment Administration (POEA). The POEA was created in 1982 by Executive Order 797 which merged the old Overseas Employment Development Board (OEDB), the National Seamen Board (NSB) and the overseas employment program of the Bureau of Employment Services of the Department

of Labor and Employment (DOLE) into a single institution.

Surprisingly, there are no special requirements that the POEA imposes on health care professionals. They can be recruited by licensed agencies or through name hiring.<sup>2</sup> They are only required to provide copies of their PRC card, board certificate and rating and CGFNS certificate (for U.S. bound workers).

There are two ways of looking at the POEA. On the one hand, the POEA may be seen as a government monopoly that intermediates unnecessarily between people who wish to obtain overseas work and foreign employers who are looking for Philippine labor. The activities of the POEA will lead to an artificial scarcity of Philippine overseas labor. On the other hand, it could be argued that the existence of the POEA reduces substantially the search cost of overseas employment as well as reduces uncertainty in the overseas employment market. Uncertainty in the overseas labor market comes in the form of fly-by-night recruiters who victimize individuals wanting to work abroad. With POEA's system of accreditation of recruitment agencies, this risk is minimized. The overall result is a rate of labor outflow which would exceed what would have arisen in a completely deregulated overseas employment market.

Since a significant amount of human capital is invested in these medical professionals, emigration represents a reduction of the country's human capital stock. Studies dealing with the effect of overseas employment on health manpower availability generally have not been able to find statistically significant increases in health care cost as a consequence. Nevertheless, it may be time to implement some measures to stem this continuing brain drain. At the moment, the health care establishment seems content on "moral suasion" to persuade medical graduates to stay or to render health care service in the rural areas. Nurses who wish to work abroad have, however, to satisfy a one-year domestic employment requirement. There seems to be more efficient ways of responding to this problem though. For example,

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<sup>2</sup>A name hire is a worker who is able to secure a contract for overseas employment on his own without the participation of any recruitment agency.

taxation of immigrating medical workers can be justified on the grounds of increasing national welfare.<sup>3</sup> Ideally, the tax should be applied only to permanent immigrants and not to overseas contract workers (OCWs) since remittances from the latter represents some form of benefits from their services that still accrue to the country. Another alternative would be to reduce the subsidies to medical education provided by schools, especially by the state-supported institutions, or at least repackage the subsidies so that they are targeted to those willing to render work at home for a specific period of time. There is plenty of anecdotal evidence which suggests that more than half of the UP's graduating medical students ultimately end up working abroad. Since the discrepancy between the incomes of health care workers at home and abroad is likely to persist for some time, the incentive for emigration will continue to be very high. It seems ludicrous then to appeal to the students' sense of duty while state subsidies make it less costly for them to do precisely the opposite.

### III. PROFESSIONAL MEDICAL ASSOCIATIONS

The objective in this section is to describe the activities of professional medical societies and associations (a partial list is provided in Table 2.10) and to provide a framework for explaining these activities. These activities are in the area of legislation, public health programs, and their interaction with regulatory agencies. Feldstein (1977) has argued that the behavior of many professional health associations can best be explained as the maximization of the income of its *current* members. And hence, their activities in demanding legislation, interacting with regulatory agencies or involvement with public health programs is to realize outcomes that they could not have achieved by relying purely on market forces. These activities are designed to (1) increase the demand for their services, (2) cause an increase in the price of services which substitutes for those that they produce, (3) limit the entry of new suppliers and (4) enable them to price discriminately.

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<sup>3</sup> Of course, emigrants no longer count as part of the national society. Hence the deadweight loss from taxing them is not considered in the national cost-benefit calculus.

### Regulatory Agencies and Professional Medical Associations

The areas where these organizations are most active are in the Board of Medical Examiners, which administers the examinations for physicians, the accreditation of hospitals' training programs and the acceptance of specialists into their respective societies. One of the interesting ironies of the situation is that for professional associations whose attention is so focused on the capabilities of new entrants into the medical field, there is very little concern with upgrading the skills of current members, specially those who have been practicing for a long time. This suggests that a major objective of the medical profession is the restriction of entry. The involvement of the professional medical associations in the regulation of entry through examination and other licensure requirements were documented above.

### Market Segmentation

Our focus here will be on the activities of the professional societies like the College of Surgeons whose members belong to the same medical specialization. The idea behind these professional societies is to act as screening mechanisms for members in the same specialization. Only those specialists who have satisfied the rigorous requirements maintained by the society can become fellows. Fellows have to undergo their residency only in hospitals that have been accredited by these societies. Hospitals have an incentive to set up these residency programs and hence bear the cost of training because residents are a source of "cheap labor".

We can look at the activities of these professional societies as an attempt to segment or to differentiate the market for medical specialists. Certainly, members of these professional societies predominate in the best tertiary hospitals. In one sense, the fellowship requirement sets up an entry barrier to employment in the best hospitals for non-members. The market power enjoyed by these societies will obviously vary by specialization. It is hard to provide a clearcut answer to the question of how successful this segmentation might be but it is likely that there is significant variation. We have found for example that except for the very large societies like the Philippine College of Surgeons, it is

very difficult to obtain information on the size of membership of these professional societies. Although in some cases, this reluctance to provide information seems intentional, in other cases, it simply reflected a lack of information. The smaller societies seem to function more like social clubs with a floating membership. Frequently, society offices are housed in the clinic of whoever is currently the head of the society.

We have already touched on the issue of substitution and delegation possibilities among closely allied specializations. Each specialization will endeavor to preserve its turf from encroachment by others while trying to expand its range of functions. The recent professional tussle between optometrists and ophthalmologists on whether the former may be allowed to use certain drugs during diagnosis reflects the reality of this tension among the different societies.

#### Involvement in Public Health Programs

Even the involvement of professional medical associations in the area of public health may be put in the framework of the pursuit of self-interest (Tollison and Wagner, 1991). This framework predicts that the efforts of professional medical associations will be concentrated in those areas in the public health arena that tend to increase the present value of their income streams.

Efforts to prolong the longevity of the population, which is often a principal concern of public health policy, may increase the present value of the incomes of medical workers. This can happen if the age structure of the population changes so that there is more mass in the upper tail of the distribution and the aged have a far greater need for medical services. Consequently, the participation of professional medical groups in this area is not surprising.

Or public health efforts designed to bring down the incidence of certain diseases, may have non-neutral effects on the incomes of medical specialists. For example, suppose disease A is medically more intensive than disease B. And suppose that a reduction in the incidence of disease B leads to an increase in the incidence of disease A in the population (for example, a lower incidence of heart attacks leads to a greater incidence of cancer). Then there will be an incentive for professional medical associations



to lobby for greater public health effort in controlling disease B rather than A since an effective health program will lead to an increase in the demand for their services.

The activities of such organizations as the Philippine Heart Association, Philippine Diabetes Association, and the Philippine Society of Oncology which conduct information campaigns on the incidence and likely causes of heart disease, diabetes or cancer may be seen as part of an effort to increase demand for the services of these specialists. Hence specific groups (the so-called "high-risk groups") are targeted and advised to obtain periodic checkups. These information campaigns raise the profile of the specific ailments these associations are concerned with and have very much the same effect as advertising campaigns for non-medical goods or services.

## CHAPTER THREE

### Regulation of Health Care Facilities

This chapter discusses the major regulations affecting health care facilities: hospitals, blood banks, x-ray facilities and laboratories, although the major emphasis will be on hospitals. We can classify these regulations on hospitals into two types: those affecting costs (through various standards requirements) and those affecting revenues. We shall also provide some welfare analysis of the effects of both standards and revenue regulations. Based on this, we will consider alternative mechanisms for reducing uncertainty about the quality of health care facilities..

#### I. STANDARDS REGULATIONS ON HOSPITALS

Republic Act No. 4226 requires the licensure of all hospitals in the Philippines and authorizes the Bureau of Medical Services (now the Bureau of Licensing and Regulation) to serve as the licensing agency. The Bureau of Licensing and Regulation (BLR) sets the technical standards and the basic requirements for licensing of hospitals (see Appendix 1A and 1B for the most recent technical standards applicable to tertiary hospitals).

These rules and regulations are applicable to any hospital, and any institution such as those for convalescence or sanitorial care, infirmaries, nurseries, clinics or dispensaries where there is at least six (6) beds or cribs or bassinets installed for twenty-four (24) hour use by patients. The rules and regulations on hospitals vary according to the type of hospital considered, whether it is government or private; general or special; primary, secondary, or tertiary; and according to whether they are training or non-training hospitals. The Bureau of Licensing and Regulation has the authority to conduct an inspection and examine hospital records to determine compliance with its rules and regulation.

## Efficacy of Enforcement

It is difficult to tell how well these standards requirements are being enforced by the Bureau of Licensing and Regulation. The data suggests that a large proportion of hospitals are able to renew their licenses every year. In Table 3.1, we provide some information on the number of hospitals given licenses by the BLR. Between 1989 and 1990, this averaged close to 1,700 hospitals. This is a large chunk of the hospital system in the country since the Philippine Hospital Association (PA), which is the largest association of hospitals in the country, lists a total of about 1708 member hospitals (see Table 3.2).

PRIMARY HOSPITALS			
Year	Government	Private	Total
1989	155	644	799
1990	154	623	777
SECONDARY HOSPITALS			
Year	Government	Private	Total
1989	294	343	637
1990	276	331	607
TERTIARY HOSPITALS			
Year	Government	Private	Total
1989	115	145	260
1990	111	138	249

Source: Bureau of Licensing and Regulation, Department of Health.

REGION	Government		Private		Ratio of Govt. to Total	
	HOSP	ABC	HOSP	ABC	HOSP	ABC
CAR	30	1,470	34	995	46.88%	59.63%
I	31	1,775	71	1,979	30.39%	47.28%
II	31	1,225	46	968	40.26%	55.86%
III	51	3,260	125	2,910	28.98%	52.84%
IV	79	3,983	151	4,238	34.35%	48.45%
NCR	37	18,005	131	11,231	22.02%	61.59%
V	38	2,074	102	1,866	27.14%	52.64%
VI	42	2,175	36	2,200	53.85%	49.71%
VII	38	2,173	52	2,000	42.22%	52.07%
VIII	47	2,020	24	637	66.20%	76.03%
IX	30	1,765	51	1,073	37.04%	62.19%
X	46	2,195	107	2,711	30.07%	44.74%
XI	30	1,459	135	4,597	18.18%	24.09%
XII	19	12,855	94	2,439	16.81%	84.05%
TOTAL	549	56,434	1,159	39,844	32.14%	58.62%

LEGEND: HOSP - Number of hospitals; ABC - Actual bed capacity.

Source: Philippine Hospital Association

It is impossible, however, to know the amount of scrutiny and care that went to the examination of these facilities. The budgetary allocation for the Bureau over the 1989-91 period averaged less than a tenth of a percent of the Department's total budget (see Table 3.3), which suggests that enforcement of these standards is not particularly high on the DOH's priorities.

#### Regulations Impinging on Hospital Revenues

There are also regulations and public sector activity that have an important bearing on hospital revenues. These are: (1) competition from government hospitals, (2) bedspace for indigent patients, (3) no-deposit rule and (4) taxation of hospital revenues.

There is a significant public sector presence in hospital care provision, which undercuts the ability of the private hospitals to compete and reduce their profitability. The number of beds allocated to private patients in public hospitals can be as high as 30 % to 40 % of total beds. In Table 3.2, we present the distribution of hospitals, private as well as public, across different regions of the country. Note that the public hospital system represents about 58.6 % of total bed capacity of the hospital system. In the NCR region, it makes up 61.6 % of total bed capacity which seems to represent a gross imbalance in the distribution of public health care facilities across regions. Public sector facilities should presumably be made available to those who can ill afford to utilize the more expensive private health care facilities. Since the urban centers, specially the Metropolitan Manila area, have higher per capita incomes one would suppose that the populace there would be more willing and capable to pay for private health care.

		1989	1990	1991	1992
Personnel	1.905	1.913	1.913	3.207	
Others	1.540	1.006	0.974	0.923	
Total	3.645	2.919	2.887	4.130	
	(0.06 %)	(0.03 %)	(0.03 %)		

Note: Figure in parenthesis indicates the budget of the BLR as a proportion of entire DOH budget

Source: Bureau of Licensing and Regulation, Department of Health.

Hospitals are also required to set aside some of their bedspace for "indigent" patients. If these private hospitals are located less than twenty kilometers from a government hospital, they are entitled to government subsidy. The principle behind this subsidy is that if there is a nearby government hospital, then that is where the "indigent" patients should have received medical service. The cost of any medical service extended by a private hospital which is within the prescribed distance from a government

hospital must therefore be partly borne by the national government. The amount of the subsidy is however limited to ten beds.

In emergency cases, defined as a state of the patient "where there is immediate danger and which delay in initial and appropriate treatment may cause loss of life,"<sup>1</sup> private hospitals cannot turn away patients. Hospitals are required to abide by the no-deposit rule in emergency cases. Billing and collection should commence only after "essential appropriate treatment" has been completed.

Private hospitals, whether organized as profit or non-profit institutions, are treated as other corporate institutions. Hence their revenues are taxed at the usual corporate rates, which is 35 % as per the Internal Revenue Code.

## II. LABORATORIES, BLOOD BANKS AND X-RAY FACILITIES

The Bureau of Research and Laboratories (BRL) regulates the activities and functions of clinical laboratories, and these activities include the examination and analysis of any or all samples of human or animal tissues, fluids, secretions, excretions, radio activity, or other material existence of pathogenic organisms; pathologic processes or conditions in the person or animal from which such samples are obtained.

Standards in laboratories vary according to their classification. For purposes of their functions, they are classified as either Clinical Pathology, Anatomic Pathology or Forensic Pathology. They are also classified by their affiliation: hospital laboratories or free-standing (non-hospital) laboratories. Finally, in terms of the range of services extended, they are classified as either primary, secondary or tertiary.

The principal legislation governing regulation of blood banks is Republic Act 1517 (otherwise known as the Blood Bank Law). Blood Banks are classified for the purposes of setting the technical standards for licensing requirements. Blood banks are either primary, secondary or tertiary. In terms

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<sup>1</sup> From DOH Administrative Order No. 89, Series of 1990.

of affiliation, blood banks are either hospital blood banks or free-standing (non-hospital) blood banks.

Each blood bank is required to maintain a permanent record to show the donor's name, card number, data pertaining to the donor's result of blood grouping, serologic and other screening test, for whom the blood was issued, and the date of issue. Blood banks must also provide for recording reactions if any have occurred, the quantity of blood in storage, disposed or transferred daily and the temperature of storage. Each blood bank is to report annually the volume of blood collected and utilized or otherwise disposed of and any adverse reaction that may have occurred. All blood banks must show compliance with the technical standards with respect to its head, personnel, physical facilities, equipment/furniture and glassware/Reagents/Supplies.

The DOH through the Bureau of Licensing and Registration also imposes registration and licensure requirements on dental prosthetic laboratories through Administrative Order 117-B, series of 1992, (*Revised rules and Regulations Governing the Registration, Licensure and Operation of Dental Prosthetic Laboratories in the Philippines*) and X-Ray facilities, through Administrative Order 124, series of 1992, (*Rules and Regulation Governing the Establishment, Operation and Maintenance of an X-Ray Facility in the Philippines*).

### III. WELFARE ANALYSIS

We shall focus our analysis of the efficiency effects of regulation on health care facilities on hospitals. As was discussed above, regulations covering hospitals can be classified into those affecting revenues and standards requirements that impinge on costs.

The regulations to provide bedspace for indigent patients ("charity wards") and emergency care raises a number of important issues. First, the added costs incurred by the hospitals in servicing indigent patients or providing emergency care will simply be passed on to paying health care consumers.<sup>2</sup> Ideally, assessment of cross subsidies across various income groups is best done within a comprehensive national

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<sup>2</sup>This is true if the industry were perfectly competitive. If hospitals have some market power, then some of the additional costs of treating indigent patients will be borne by hospital owners.

health insurance program. Under the current scheme, hospitals effectively select who bears the burden for its provision of emergency care or treatment of indigent patients.

A more efficient scheme would be for some form of direct subsidy to the hospitals for providing this kind of care. Already, something like this exists for private hospitals within a certain radius of government hospitals. The subsidies are drawn from general tax revenues and hence reflect the average tax rates levied on the citizenry. They may not be the tax rates that would have been levied by an ideal national health insurance program but is likely to prove superior to the current system. This subsidy may take the form of tax credits on all expenditures devoted to charity ward patients or emergency room care.

### Some Welfare Considerations in Assessing Standards Requirements

Standards requirements are usually seen by regulators as a necessary tool for assuring quality medical care. But they are also likely to increase the cost of incorporating a new hospital, as well as hinder hospitals from choosing the set of facilities and staffing pattern consistent with their case mix and market niche. There are two major arguments that may be raised against such regulations.

The more important objection has to do with consumer sovereignty. Regulations raise the quality of health care services although consumers may be willing to trade off quality for lower cost of health care provision. Let  $Z = [z_1, z_2]$  be some health care service with characteristics

given by the individual  $z$ s. The idea behind this specification is to recognize that the output  $Z$  produced by the health care sector really represents a bundle of different characteristics. Hence the first coordinate of the vector  $Z$  may represent quantity while  $z_2$  may represent quality. In Figure 3.1, we will measure quantity along the horizontal axis and quality along the vertical axis. The indifference curves of the representative consumer is given by the curves ( $IC_1, IC_2$ , etc.). The resource and technology constraints

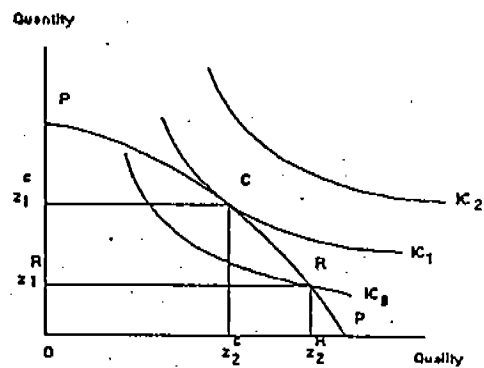


Figure 3.1 Consumer Sovereignty



faced by society allow it to produce and combination of quantity and quality along the bowed out curve PP. The market outcome will be represented by the point C where the PP curve is tangent to the highest indifference curve it can reach. Quantity is at  $z_1^c$  and quality is at  $z_2^c$ . Now government may desire that producers be at point R instead. At point R more quality is provided ( $z_2^r$ ) but at a cost of lower quantity ( $z_1^r$ ). In this example, consumers value the lost quantity more than the increase in quality, and hence, society's welfare is diminished by mandating that health care producers supply  $z_2^r$  amount of quality.

Second, even assuming that there is a legitimate public role for trying to raise health care quality, regulations need not be the most cost effective means of achieving that objective. To carry on with our previous example, suppose that to produce the  $z_1$  s we require a vector of inputs,  $a_{11}$  through  $a_{1m}$ . The set of production functions which describes the technology in the health care sector is then given by:

$$(3.1) z_1 = z_1(\dots, a_{1m})$$

$$(3.2) z_2 = z_2(\dots, a_{2m})$$

Now let us assume a set of resource constraints so that:

$$(3.3) \sum_{i=1}^2 a_{ij} = a_j, \quad j = 1, \dots, m$$

Let society's welfare function be given by  $W = W(z_1, z_2)$ .<sup>3</sup> Then maximizing this with respect to the  $a_{ij}$  subject to the technology and resource endowment constraints give us the first-order conditions:

$$(3.4) (dW/dz_1)/(dW/dz_2) = (dz_2/da_{1j})/(dz_1/da_{1j}) \quad j = 1, \dots, m$$

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<sup>3</sup>We can think of the  $W$  function as the welfare function of the benevolent social planner.

In Figure 3.1, the social indifference curves are given by curves ( $SC_1, SC_2$ , etc.). The social optimum is at point R where the PP curve is tangent to the highest social indifference curve it can reach. Suppose we start out at the competitive outcome (point C in Figure 3.2). Now imagine a move towards this socially desirable mix of quantity and quality. These first-order conditions tell us how the

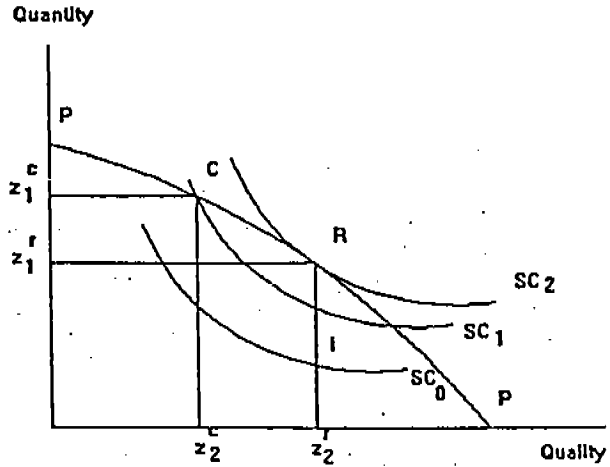


Figure 3.2 Welfare Effects of Facilities Requirements

change in resource allocation has to be effected. For any  $a_{ij}$ , the tradeoff between reducing quantity and increasing quality must satisfy (4). This represents the pareto-optimal way of moving from one configuration of quantity and quality to another. It is doubtful whether the plethora of standards requirements will move resource allocation along this trajectory except by a coincidence of the most immense magnitude. In general, regulations that stipulate the mix of inputs or facilities that health care producers have to utilize to increase quality would have the effect of locating producers not on PP but inside the PP frontier. Hence the effect of regulation would be not to move society from C to R, but from C to a point like I, a point which is inside society's production possibility frontier.

A pareto-superior way of effecting the move towards greater quality will be to face producers of these services with the "correct" relative prices (given by the welfare weights  $dW/dz_1/dW/dz_2$ ). In Figure 3.2, this is represented by the slope of the social indifference curve  $SC_2$  which is tangent to PP at R. Hence, government may need to subsidize the production of quality health care services. The advantage of a system of subsidies to regulation is that by facing producers with the "correct" prices, they are allowed to choose that set of input combinations that raise their quality in the least cost manner.

The analysis has proceeded so far on the assumption that quality is observable, and given a specified price vector, that producers can be trusted to deliver exactly that quality of health care services promised. Of course the entire problem with information asymmetry is that prices alone may not induce

the proper response from producers of health care services, i. e., may not induce them to produce at point R. The basic reason has to do with the cost of monitoring and verifying adherence to the specified level of quality. To make a system of subsidies workable in an environment where information is imperfect, one has to be able to quantify the production of quality health care. Assuming that a workable index can be constructed, the subsidy system must be able to accurately assess the claims of health care providers about the quality of their output. Such a monitoring and verification system may be very costly to manage.

The point of regulation is to provide a mechanism other than prices for assuring that level of quality desired by society. Regulators pick a set of facilities, or level of schooling or examination requirement and make that variable identical with quality medical care. This almost surely guarantees a violation of the pareto-efficient conditions outlined by (3.4). The tradeoff with regulation is that we force production to take place within rather than on the frontier. At the same time, one must remember that there are also costs to enforcing government regulations. It is not clear to us why *ex ante* the costs of a subsidy program and the monitoring-verification scheme that has to be constructed alongside it should necessarily exceed the deadweight and enforcement costs of regulation. Surely, this is an empirical issue.

#### IV. SELF-REGULATION BY HOSPITALS

The apparent inability of the DOH to provide the necessary resources for careful examination of health care facilities may provide some impetus for alternative institutional arrangements to arise. Here we consider the costs and benefits of self-regulation by an association of private and public hospitals. Such a system may ultimately be politically more workable than the pure subsidy scheme outlined in the last section hence is worth exploring in greater detail.

The mechanism for self-regulation may follow the sort of certification scheme practiced by the professional medical societies.<sup>4</sup> The Philippine Hospital Association will, after a thorough inspection

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<sup>4</sup>The hotel industry is a good example where the firms in the industry conduct their own certification scheme. Hotels are classified on a star rating from one to five.

## CHAPTER FOUR

### Regulation of Drugs, Equipment and Supplies

We shall consider four sets of regulations in this chapter. The first is the requirement to test and register pharmaceutical products before they can be issued in the market place. The second is the Generics Act of 1988 (RA 6675) which attempts to promote the use of "generic" drugs through public information campaigns, labelling, and restrictions on the prescriptions that may be issued by physicians. The third is the provision of patent protection to producers of pharmaceutical products. Finally, we shall touch on regulations involving the importation and use of medical equipment and supplies.

The structure of the discussion is the similar. We look at the rationale behind each of the policy interventions. Second we look at how these interventions have been carried out. And finally we provide an assessment of the effects - both the benefits and costs.

#### I. TESTING AND REGISTRATION OF PHARMACEUTICAL PRODUCTS

Before a pharmaceutical product can be marketed in this country, it has to be registered with the Bureau of Food and Drugs (BFAD). The process of registration will require some testing of the product to make sure that the drug introduced into the market is safe for patients. A second purpose of the procedure is to ascertain that the claims made about the product have merit. There is a presumption here that market forces alone will not induce drug producers to choose the socially desirable tradeoff between safety and cost hence the need for a regulatory body with these powers of testing.

The BFAD acts as the policy formulation and monitoring arm on matters pertaining to foods, drugs, traditional medicine, cosmetics and household products containing hazardous substances. It prescribes general standards and guidelines with respect to the veracity of nutritional and medicinal claims in the advertisement of foods, drugs and cosmetics in the various media. It also provides consultative, training and advisory services to all agencies and organizations involved in food and drug manufacturing and distribution with respect to assuring safety and efficacy of foods and drugs. Finally it conducts studies and research related to food and drug safety.

It may be difficult to imagine why objections can be raised against the testing of new pharmaceutical products. If the testing is able to weed out potentially dangerous products or is able to deflate false claims made by some manufacturers, surely all of society is benefitted. However, ranged against these benefits are equally significant and real costs. First testing may take time and hence there is a lag before new and valuable medicines can be made available to patients. Second, testing requirements and the consequent delay in the introduction of products raises the cost of product innovation. Apart from the resources that manufacturers have to allocate to do R & D, they now face the risk that some of their products will be weeded out by the BFAD. And even if these drugs are found to be safe, there is still a cost of waiting. At the same time one must note that this component of the social cost of product registration and testing may be greater in the developed countries, where most significant R & D takes place, than in a country like the Philippines.

The costs and benefits of product testing have been studied by Peltzman (1974) in the case of the United States. Interestingly he finds that social costs outweigh the benefits by a factor of nearly fivefold. No one has so far attempted to do a similar study for the Philippines. Such an undertaking may be a worthwhile effort to quantify the net gain or loss to society of drug testing and may provide policymakers some idea about how to make the process of drug testing and registration less socially costly.

The Pharmaceutical & Healthcare Association of the Philippines (PHAP), which is an umbrella group for the major pharmaceutical companies in the Philippines, has expressed its concern with what they perceive to be the very slow pace of product registration by BFAD. They estimate that it takes one year on average to have a product's registration renewed while it takes two years on average to get a new product registered.<sup>1</sup> Consequently, Memorandum Circular No. 5, series of 1990, (*Facilitating Action on Registration of Certain Pharmaceutical Products*) was issued in response to the need to establish a separate and speed-up process (called the "Special Lane") for the evaluation and registration of pharmaceutical

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<sup>1</sup>This was conveyed to the authors during our interviews with representatives of the organization.

products. Seven product categories were identified for inclusion in the special lane and it is estimated that processing under the special lane will take no longer than three months.

Currently, BFAD has three lanes for drug registration and laboratory testing. These are the regular, special and urgent lanes. The time frames for each lane are:

LANE	TIME FRAME
1. Regular Lane	18 Months
2. Special Lane	3 - 6 Months
3. Urgent Lane	1 - 3 Months

Source: BFAD

Table 4.2 also gives the number of registration applications that were either approved or denied in 1991.

	APPROVED	DISAPPROVED
Initial Application	1,296	18
Renewal	901	43

Source: BFAD

We have not been able to obtain any other independent estimate of the average length of time it takes to have a pharmaceutical product tested and approved for registration apart from the PHAP estimates. The BFAD has all the data to be able to generate this type of information since registration application and approval dates are all logged by the Bureau. This will be helpful in generating estimates of the costs of delay incurred in drug testing and registration.

## II. GENERICS ACT OF 1988 (RA 6675)

Our emphasis will be primarily on the so-called "Generics Act of 1988" (RA 6675) and its impact on the cost of drugs in particular and health care provision in general. The fundamental purpose of RA 6675 is "to encourage the extensive use of drugs with generic names" and "to ensure the(ir) adequate supply ... at the lowest possible cost." This was to be achieved by mandating the use of generic terminology by medical practitioners, pharmaceutical companies and outlets. Towards this end, the law required the DOH to publish the generic and corresponding brand names of all drugs and medicines available in the Philippines. It further required the DOH, DECS, DILG and the Philippine Information Agency to conduct an information campaign to promote the use of generic drugs as an alternative to brand name drugs. Where the law did spark an uproar were in the additional requirements that pharmaceutical companies produce and market the medicine they make in the form of generic drugs and medical practitioners include in all prescriptions (under the threat of punitive sanction) the generic names of the prescribed drugs.

We can view the role of government here as providing information concerning alternatives to particular brand name (hence reducing information asymmetry between doctor and patient or between consumer and pharmaceutical producer). There is a public good aspect in providing this type of information although one could disagree on how this function is being implement by the Department of Health under RA 6675. The incidence of that cost seems to be borne more by the private sector (drug industry or physicians).

With the passage of the "Generics Act of 1988", the Bureau of Food and Drugs (BFAD) has devoted substantial resources and attention to implement the provisions of the law. The prominent features of this campaign are illustrated by the following Administrative Orders. AO No. 65, series of 1989, (*Guidelines on Advertisement and Promotion to Implement Generics Act of 1988*) stipulates that all advertising and promotional materials, whether print, visual or auditory, shall feature prominently the generic name of the drug product designated by Bureau of Food and Drug Administration. In the case of branded products, the prominence of the generic name shall be ensured in all print, visual or auditory

materials that features the brand names.

AO No. 63, series of 1989, (*Rules and Regulations to Implement Dispensing Requirements under the Generic Act of 1988 (Republic Act No. 6675)*) requires all drug outlets are to practice generic dispensing.

AO No. 62, series of 1989, (*Rules and Regulation to Implement Prescribing Requirements under the Generics Act of 1988 (R.A. 6675)*) provides guidelines to be used in all medical prescriptions. The generic name must be written in full and must be written on the prescription immediately after the Rx symbol. The AO also threatens sanctions against erring physicians, since a report of violation is to be sent to the Professional Regulation Commission or the Fiscal's Office for appropriate action. The Secretary of Health shall recommend the imposition of appropriate administrative action without prejudice of instituting criminal proceeding against the physician.

Most studies on generics have concentrated on consumer awareness and knowledge of generics. Table 4.3 shows the results of a 1991 survey on this. The figure shows that from a 32 percent level of awareness and knowledge on generics in September 1989, it went up to 68 percent in April 1991. An IMS survey in May, 1990 finds that 81.31 % of total prescriptions in Metro Manila and 52.92% of total prescriptions in Cebu include generic brands. However, the overall share of generics only prescription is 8.83% in Metro Manila and 8.66 in Cebu. The survey also found that the proportion of generics only prescription is much higher for certain TCs like those shown in Table 4.4 below.

TABLE 4.3  
Comparison of the 1989-91 Surveys on Consumer Awareness and Knowledge of Generics

	September 1989	September 1991
Aware	32 %	68 %
Not Aware	68 %	32 %
	(Metro Manila)	(Urban Philippines)
Knowledge		
Correct	59 %	Very Good: 5 %
Name Only	30 %	Good: 42 %
Incorrect	11 %	Fair: 40 %
		Poor: 13 %

Source: IMS Survey.



TABLE 4.4

## Proportion of Total Prescriptions that Prescribe Generic-Only Drugs

DRUG	Metro Manila	Cebu
Laxative	17.74	17.11
Vitamin C	24.62	14.81
Labour Inducers	15.90	13.89
Plain Corticosteroids	38.69	27.42
Tetracyclines	16.01	9.16
Chloramphenicols	16.02	10.63
B.S. Penicillins	14.29	13.60
M.N. Penicillins	19.94	9.77
Aminoglycosides	50.43	35.19
Rifampicin/Rifamycin	14.89	14.81
Antitoxic Sera	57.63	97.01
Hypotensives/Sedatives	30.33	44.29
Tranquilizers	11.48	14.74

Source: IMS Survey.

The key questions with regards to RA 6675 are the effect of the incentives provided by law on generic drug production as well as the effect of the law itself on drug prices.

The Essential Drug Price and Monitoring (EDPAM) project under the DOH monitors the price and availability of a basket of "essential" drugs. The results for the period covering February 1991 to February 1992 are presented in Table 4.5 for fifteen drugs. They show the difference between the highest-priced brand names and the lowest-priced generic drugs. They indicate some possibility for consumers to avail themselves of cost savings by switching to generic drugs.

Under the investment priority plan of 1990, the focus of incentives provided by the BOI are antibiotics (penicillin, streptomycin, tetracycline) acetylsalicylic acid and herbal medicines. We know little about the effect of these incentives on production of generics drugs yet. Figures on generics production since the enactment of the law in 1988 are hard to come by. It has been impossible to obtain data on sales, production or market share of generics from either the pharmaceutical umbrella group

PHAP or the BFAD. There are some data though on the number of firms producing generic drugs (see Table 4.6). As of the 1992, BFAD reports a total of 47 firms engaged in the manufacture or importation of generics.

TABLE 4.5  
Price Differentials for Brand Names and Generic Drugs  
(February 1991-February 1992)

Generic Name	Brand Name	Feb. '91	Feb. '92
1. ASPIRIN (325 mg tablet)	Cortal UL Aspirin	P0.33	P0.31
2. PARACETAMOL (500 mg tablet)	Tempra Forte UL Paracetamol	P0.66	P0.72
3. MEFENAMIC ACID (250 mg capsule)	Mefenamic Acid (USA) Aprostal	P0.15	P0.03
4. CHLORAMPHENICOL (250 mg capsule)	Kemicetine Chloramol	P1.05	P2.10
5. ERYTHROMYCIN (250 mg capsule)	Ilosone UL Erythromycin	P5.61	P4.67
6. AMOXYCILLIN (250 mg capsule)	Amphidroxyl UL Amoxicillin	P2.83	P3.12
7. PHENOXYMETHYL PENICILLIN (500 mg capsule)	Betapen (UK) Medoxyphen	P2.62	P2.45
8. COTRIMOXAZOLE (400 mg) SULFAMETOXAZOLE (80 mg tablet)	Bacidal Microbid	P4.07	P3.63
9. RIFAMPICIN (450 mg capsule)	Rimactane UL Rifampicin	P8.71	P9.76
10. SALBUTAMOL (2 mg tablet)	Ventolin Librentin	P0.65	P0.52
11. NIFEDIPINE (10 mg capsule)	Adalat Calcibloc	P8.06	P5.69
12. ISONIAZID (400 mg tablet)	BOIE Isoniazid IPI Isoniazid	n.a.	P0.42
13. GLIBENCLAMIDE (5 mg tablet)	Euglucon Daonil	P0.19	P2.34
14. AL(OH) <sub>2</sub> & MG(OH) <sub>2</sub> (250 ml suspension)	Maalox	n.a.	n.a.
15. DIPHENHYDRAMINE (50 mg capsule)	Benadryl	n.a.	n.a.

Source: RDU Update, January-March 1992, Vol. 2, No.1.

TABLE 4.6

## Registered Companies Supplying Generic Drugs

1. Abbott	25. Lejal
2. Ace	26. Lab. Intl.
3. Am-Europharma	27. Lloyd
4. Ashford	28. Lumar
5. Biogenerics	29. MCA
6. Biodrug	30. McGwen
7. Boie	31. Medwell
8. Buenar	32. Myrex Ethica
9. China	33. PAMACO
10. Compact	34. Pascual
11. Danlex	35. Pharmafere (importer)
12. Delamo	36. Phil Genethics
13. Diamond	37. Philusa
14. Drugmakers	38. Pharmatechnica
15. Doctors	39. Roseville
16. AD-Drugstel	40. San Marino
17. Duopharma (importer)	41. Square
18. Euromed	42. St. Martin
19. Eves'ford	43. Theracor
20. First Fil-Bio	44. Virgo
21. G. Nell	45. Von Welt
22. Hizon	46. Yung Shin (importer)
23. Kanfu (importer)	47. United
24. Kramer	

Source: Bureau of Food and Drugs

### Assessing the Generics Act

Consider the following canonical scenario. The pharmaceutical companies possess significant market power. Through advertisement and extensive product differentiation, they have made it impossible for the consuming public to tell that brands XYZ and ABC really have the same active ingredient paracetamol. Hence the public is willing to pay a higher price for brands XYZ and ABC than for the drug paracetamol. At the same time, physicians who can tell that there is no essential difference between the branded products and the ingredient paracetamol are imperfect agents of the principals (patients). Physicians are able to receive some inducements from the pharmaceutical companies for prescribing the company's brand to their patients. Because of this, physicians may be willing to prescribe the more expensive drug to their patient even though this may run counter to the patient's desire for an inexpensive treatment.

In this canonical setting, there exists significant information asymmetry between the pharmaceutical company and the consumer and between the patient and the physician. Both the companies and the physicians are able to capture rents from this advantage. There can be important welfare gains for society from eroding the information advantage enjoyed by the drug companies and by physicians. There is a

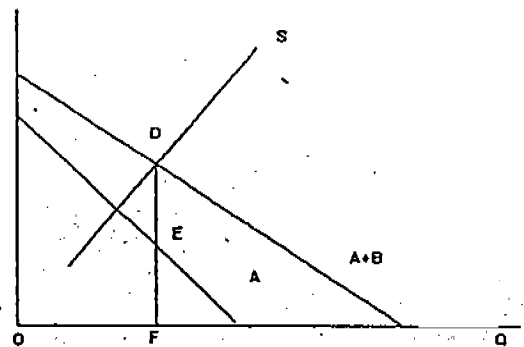


Figure 4.1 Tax Assessment for a Public Good

public good aspect to the information that brands XYZ and ABC have the same active ingredient paracetamol. Social welfare is increased by disseminating this information up to the point where the marginal cost of information dissemination just equals the sum of the marginal benefits of this public good (see Figure 4.1).

Since the information about generic drugs will provide a benefit to the consuming public, they will be willing to pay for this information (of course whether they will actually do so is the free-rider problem). Now it is important to realize that because of this, there is an optimal way of distributing the

cost of producing the public good. In Figure 4.1, consumer B has to be assessed a tax equal to DE per unit of the public good while consumer A has to be assessed a tax equal to EF per unit of the public good. Total taxes collected from A and B will then pay for the cost of the public good. Because the free-rider problem makes it impossible for the policymaker to correctly assign the tax rates on the consuming public, general tax revenues can be utilized to finance the creation of the public good and remains the second-best solution to the financing question.

In the canonical setting, the information asymmetry is handled without putting restrictions on the behavior of either physicians or drug companies even though the former may not always act in behalf of their patients or though the latter may act as oligopolists. This is not to say that regulations will never be an integral part of the general policy response to curb oligopoly in the pharmaceutical industry or to make physicians act in greater consonance with their patients interests. Only that in this particular case, regulation is not essential to erase the informational advantage over consumers enjoyed by the drug firms and physicians.

Consider an alternative scenario in which we put restrictions on the behavior of both the pharmaceutical companies (by requiring them to put the generic names of the drugs on product labels) and physicians (by requiring that all prescriptions include the generic name of the drug). This is the approach followed by RA 6675 (The Generics Act of 1988). In this way the law address the sources of informational asymmetry between the physician and his patient and between the pharmaceutical company and the consumer. As a result of the restrictions, the consumer should be able to benefit through a more informed choice in the purchase of pharmaceutical products, branded or generic, available in the market place.

Now the consumer surplus generated by the law does not come for free. First, there are the costs of

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<sup>2</sup>PHAP estimates that they lost hundreds of millions of pesos as a result of the relabelling deadline imposed by the DOH.

implementing the law. This entails monitoring adherence to the provisions of the law by drug companies and physicians as well as enforcing the provisions of the law. The latter may involve the filing of cases in court in case of violations and finding legal resolutions to these cases. Second, there is the cost of relabelling. The major cost of relabelling is the once-and-for-all increase in costs which occurs at the outset when old labels (with the generic names not yet printed on them) have to be discarded.<sup>2</sup> Since all pharmaceutical products have labels anyway, the use of the generic name rather than the branded name entails no addition to subsequent costs of production. The law also leads to a redistribution from physicians and drug companies selling branded products to consumers of pharmaceuticals, which explains both the PMA's and the PHAP's resistance to the implementation of RA 6675. But this is just a transfer of income between physicians and drug firms to consumers.

Assuming that the two approaches are equally effective in providing information to the consuming public, then the welfare analysis must hinge on a comparison of the costs generated by each. Note that both will entail dipping into general tax revenues either for information dissemination (in the canonical representation) or for monitoring and enforcement (in the regulatory scenario). The regulatory solution will also add a once-and-for-all cost of relabelling. To the extent that the drug industry is oligopolistic, this may well be considered a tax on profits with little or no resource allocation effects (and therefore will little or no deadweight losses for society). The societal gains from the *Generics Act of 1988* will therefore be higher (a) the more effective the information dissemination technology represented by labelling and prescription restrictions, (b) the lower the costs of effective monitoring and enforcement, (c) the lower the once-and-for-all costs of relabelling and (d) the relabelling costs entail no resource allocation effects.

### III. PATENTS ON PHARMACEUTICAL PRODUCTS

The provision of patent protection represents a balancing of two societal interests: providing incentives for inventive activity, which creates new and better medical products that enhance or prolong human life, and assuring consumers of affordable prices for these life-saving drugs. Clearly to

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encourage the flow of new products, the inventor has to be able to recoup his investment and earn a rate of return that is at least equal to the risk-free rate and a risk premium. At the same time, the existence of patent protection, which confers temporary monopoly power on the producer, tends to drive up the cost of pharmaceutical products.

There is a strong incentive for countries like the Philippines, where development activity is taking place, to want to free ride on the outcome of other countries' inventive activity. This is rational behavior on the country's part specially if its own market is small and hence unlikely to merit attention from the large multinational drug companies. The idea is that lost revenues from this part of the world is unlikely to affect the level of inventive activity taking place in the developed countries. Hence there may be large welfare gains accruing to poor third world citizens from being able to purchase low-cost medical products while there will be very little lost in terms of new products flowing down the pipeline.

Another argument for weakening patent protection to individual producers is that some product development efforts really do not represent "legitimate" research activity but are meant to differentiate products and confer upon its manufacturers some monopoly power. Product differentiation like this is socially inefficient and the cost of this type of activity should not be borne by consumers. By weakening patent protection we open up the field to potential entrants who can compete away any market power that may be lodged initially in the hands of the patent holders.

Under these two conditions, there would be strong grounds for weakening patent protection. The social planner is after all not concerned with world welfare, which will be nonincreasing with free-riding, but with maximizing national welfare. However, this policy option is likely to become less feasible in the future. The developed countries have already moved to put the issue of intellectual property rights at the center stage of international economic discourse. It is one of the major areas that the current Uruguay Round wants to bring under the umbrella of the General Agreement on Tariffs and

Trade (GATT). Even in the event of a failure of the Uruguay Round due to the contentious issue of farm supports, the matter of intellectual property rights is likely to be pursued in other international fora and would limit the ability of countries like the Philippines to willfully sidestep patent or copyright laws.

#### IV. TARIFFS AND OTHER DUTIES ON MEDICAL EQUIPMENT AND SUPPLIES

Medical equipment, supplies and pharmaceuticals are intermediate inputs to health care. Hence it is important that they be available to the health care sector at reasonable cost. There is virtually no domestic industry producing medical equipment although there is a sizeable import-substituting pharmaceutical industry in the Philippines. However the latter consist mostly of licensees of multinational pharmaceutical giants and have not constituted a major lobby for domestic protection. While the trade regime confers both tariff and non-tariff barriers on these items, with some rare exceptions, they appear not to be severe.

*Medical Equipment and Supplies* There are both tariff and non-tariff barriers on the importation of medical equipment and supplies. They appear not to be prohibitive though. Except for radiological equipment, the DOH does not require any special permits for the operation of medical equipment. Tariff rates on all types of medical instruments and equipment (belonging to the Harmonic System category of 90.18 to 90.23) vary between 10 % to about 20 % *ad valorem*. Non-tariff barriers take the form of discretionary import licensing (see Table 4.7). However, there are no studies to indicate how significant the non-tariff measures are in affecting the cost and availability of medical equipment.

Medical equipment and supplies are intermediate inputs for health care providers (such as hospitals, laboratories, clinics and the like). The impact of trade protection, both tariff and non-tariff, on intermediate inputs is to create negative effective protection to the users of these products. They raise costs to the producer of health care and to the consumer of health care so that the health care sector produces less health care services. To the extent that the distortion in input prices between imported vs. domestically-produced equipment or between medical equipment and other primary factors of production result in a choice of inappropriate techniques, this increases the loss in efficiency and hence welfare.



*Pharmaceuticals* Pharmaceuticals (Harmonic System Code 30) face tariff rates ranging from 30 % to 10 % *ad valorem*. For the most part, the sector faces no non-tariff measures. However, penicillin and its derivatives (Harmonic System 541.31-00, HS 542.13-01 and HS 542.13-09) face quantitative restrictions. Permission must first be secured from the BFAD before these can be imported into the country. Part of the rationale for this restriction seems to be the desire to protect the state-owned Chemphil, which imports and packages penicillin and penicillin-derivatives. Chemphil is actually scheduled for privatization by the DOH, but the Department seems to be reluctant to dispose of the company.

TABLE 4.7  
Non-tariff Measures on Medical Equipment and Supplies

PRODUCT DESCRIPTION	RATE OF DUTY (MFN Rate)	NON-TARIFF MEASURE
Medical, dental, surgical and veterinary instruments and appliances (including electro-medical apparatus and ophthalmic instruments).	10%	Discretionary import licensing.
Apparatus based on the use of x-rays or of the radioactive substances (including radiography and radiotherapy apparatus); x-ray generators; x-ray tubes; x-ray screens; x-ray high tension generators; x-ray control panels and desks; x-ray examination or treatment tables, chairs and the like.	10%	Discretionary import licensing.

Source: Consolidated List of NTMs Maintained by ASEAN Countries.

## CHAPTER FIVE

### Regulation of Health Care Financing

Concern with health care finance is associated with the conventional notion of health care as a "right" of society's members. More subtly, a focus on *financing* of adequate levels of health care presupposes a policy framework which accepts the market system as the means to provide health care; nevertheless its tendency to exclude some (or many) members of society from access to health care should be corrected through government intervention.

Health care payments can be financed in many ways. We can distinguish between private and public means of financing. Private instruments include personal savings, loans, insurance, or pre-paid health plans. Public instruments cover subsidies and compulsory insurance, such as medicare. Often the instrument takes the form of contingent financing, where a means of payment is arranged beforehand, usually at some cost.

This chapter focuses on the regulatory environment surrounding market mechanisms of contingent finance of health care, i.e. of insurance and pre-paid health plans.

#### Contingent Health Care Financing from the Private Sector

*Insurance.* In the Philippines, health benefits are often closely intertwined with casualty and accident insurance; life insurance policies frequently also carry riders which provide compensation for health expenses. Data from the Commission on Insurance indicates a stable number of companies offering health and accident insurance since 1975 (Table 5.1). Only few of these companies are foreign-owned. Growth in nominal terms of the sector to measured by total premiums collected, risks accepted and benefits given has been consistent (Tables 5.2-5.4). More interesting is Table 5.5 which shows the amounts of benefits paid out per peso premium collected, and roughly measures the profitability of insurance (gross of operating expenses).

TABLE 5.1  
Number of Companies Involved in Accident Insurance  
(1975-1987)

Year	NONLIFE			LIFE			GRAND TOTAL
	Domestic	Foreign	Total	Domestic	Foreign	Total	
1975	83	15	98	7	2	9	107
1976	76	13	89	6	0	6	95
1977	85	13	98	7	0	7	105
1978	86	13	99	7	0	7	106
1979	76	12	88	7	0	7	95
1980	81	13	94	7	0	7	101
1981	6	12	18	3	0	3	21
1982	78	13	91	7	0	7	98
1983	78	13	91	7	0	7	98
1984	79	13	92	6	0	6	98
1985	60	11	71	7	0	7	78
1986	82	12	94	8	0	8	102
1987	82	11	93	10	0	10	103

Source: Commission on Insurance.

The regulation of health insurance companies (HICs) is done by the Office of the Insurance Commissioner, which implements the Insurance Code of 1974 (P. D. 1814). While the Code is only the statutory form of health insurance regulation (it is a different matter to investigate the implementation, of the Code), it is nevertheless a useful starting point in studying the regulatory environment surrounding insurance.

In the Code health insurance is classified under casualty insurance, as distinct from life insurance. In detail the Code spells out the format of a legal insurance contract, and various restrictions on the status and activities of insurance companies. Most interesting from the economic standpoint are the various provisions on "The Business of Insurance" (Chapter III). Appendix 3 is a summary of requirements for licensing of domestic insurance companies. The reader is referred to the Code for details of margin-of-solvency requirements, limits of possible investments, limits on risks

TABLE 5.2  
Gross Premiums Taken by Health Insurance Companies, 1974-1987  
(In Thousand Pesos)

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
<b>NONLIFE</b>														
Domestic	16,867	23,602	22,906	28,516	39,893	47,271	63,780	76,501	82,408	99,875	128,619	164,928	182,294	168,825
Foreign	5,308	14,031	17,038	20,049	21,926	23,251	26,132	33,317	39,815	45,717	54,121	60,235	66,710	72,275
Total	22,175	37,633	39,944	48,565	61,819	70,522	89,912	109,818	122,223	145,592	182,740	225,163	249,004	244,100
<b>LIFE</b>														
A. By Location:														
Domestic	15,693	19,183	22,667	29,727	35,890	41,940	50,271	58,517	72,952	79,486	71,253	118,164	146,011	181,216
Foreign	818	87	0	0	0	0	0	0	0	0	0	0	0	0
B. By Type:														
Ordinary	9,815	10,670	12,403	13,690	15,547	17,580	19,398	20,869	27,342	24,149	27,426	30,762	37,580	42,700
Group	6,696	8,600	10,264	16,037	20,343	24,360	30,873	39,648	45,610	55,337	43,827	87,402	108,429	138,516
C. Total:	16,511	19,270	22,667	29,727	35,890	41,940	50,271	58,517	72,952	79,486	71,253	118,164	146,011	181,216

Source: Commission on Insurance

TABLE 5.3  
Gross Risks taken by Health Insurance Companies, 1977-1987  
(In Thousand Pesos)

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
NONLIFE											
Domestic	27,830,355	24,878,571	29,159,137	52,974,417	56,280,308	40,140,915	48,818,154	63,231,382	65,036,310	61,655,095	64,745,899
Foreign	5,320,273	11,711,169	1,990,259	14,965,328	18,759,975	15,023,188	5,879,794	14,371,093	15,529,589	12,724,133	46,284,025
Total	33,150,628	36,589,740	31,149,396	67,939,745	75,040,283	55,164,103	54,697,948	77,602,475	80,565,899	74,379,228	111,029,924

Gross Risks Taken = total amount of health insurance liabilities assumed by insurance companies based on their existing policies and reinsurance agreements.

Source: Commission on Insurance.

TABLE 5.4														
Losses taken by Health Insurance Companies, 1974-1987														
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
<b>NONLIFE</b>														
Domestic	4,945	4,210	7,387	7,554	8,836	20,712	18,785	18,344	21,863	28,167	47,293	36,133	51,415	63,323
Foreign	2,014	4,631	5,312	8,707	7,707	8,858	7,711	10,188	11,687	17,148	16,915	25,830	33,862	40,755
Total	6,959	8,841	12,699	16,261	16,543	29,570	26,496	28,532	33,550	45,315	64,208	61,983	85,277	104,078
<b>LIFE</b>														
A. By Location:														
Domestic	5,314	2,594	9,001	13,030	16,034	19,672	0	31,958	40,096	0	64,393	83,624	101,193	130,612
Foreign	543	0	0	0	0	0	0	0	0	0	0	0	0	0
B. By Type:														
Ordinary	16	2,203	0	7,679	9,610	10,677	0	0	0	0	61,457	0	65,735	4,234
Group	5,690	391	9,001	5,351	6,424	8,995	0	31,958	40,096	0	2,936	83,624	35,458	126,378
C. Total	5,706	2,594	9,001	13,030	16,034	19,672	0	31,958	40,096	0	64,393	83,624	101,193	130,612

Losses Taken = Total amount of health insurance benefit payments from existing policies and from reinsurance given to valid policy claims.

Source: Commission

taken, reserves, examination and licensing of insurance agents, and so forth. The rationale for these regulations is suggested in section 187, where the Insurance Commissioner is empowered to withhold the licensing of an HIC until he or she can "reasonably assure the safety of the interests of the policyholders and the public." Thus the numerous requirements and restrictions attempt to minimize chance of nonperformance of contract by insurer (i.e. default) by reducing the chances of insolvency and the riskiness of the activities and investments of the HIC. Moreover, foreign-owned HICs face additional requirements, as deemed appropriate in the code and by the Insurance Commissions "in the light of local economic requirements" (Section 187).

TABLE 5.5  
Loss Ratio of Health Insurance Companies, 1974-1987

Year	Domestic	Foreign	Life	Non-Life	All Companies
1974	31.68	41.74	35.47	31.82	33.12
1975	15.90	32.80	13.46	23.49	20.12
1976	35.96	31.17	39.71	31.79	34.66
1977	18.17	43.42	43.83	33.48	37.41
1978	32.81	35.15	44.67	26.61	33.34
1979	45.04	38.09	46.90	41.93	43.87
1980	16.47	0.00	0.00	29.46	18.90
1981	51.16	30.58	54.61	25.98	35.72
1982	39.97	29.35	54.96	27.45	37.73
1983	15.70	37.51	0.00	31.12	20.13
1984	55.88	31.25	90.37	35.14	68.47
1985	42.30	42.88	70.77	27.52	42.41
1986	46.48	50.49	69.30	34.25	47.30
1987	55.40	54.14	72.07	42.63	55.18
AVERAGE	35.61	35.61	45.43	31.62	37.74

Loss Ratio = losses Taken/Gross Premiums  
Source: Commission on Insurance.

*Health Maintenance Organizations (HMOs)*. HMOs are characterized by the following (Luft, 1981):  
1) HMOs are contracted to provide a set of health services; 2) subscribers pay a periodic fee independent of the use of services; 3) the HMO assumes at least part of the financial risk in service provision; and

4) often there are case managers to oversee the entry of patients and the use of resources. The role of HMOs in health care financing become significant only recently (Tables 5.6-5.7). Company size, in terms of facilities, primary personnel, and accredited physicians is noticeably large for some HMOs (Table 5.8). Information on premiums is available in Table 5.9.

HMO	DATE OF INCORPORATION	START OF OPERATIONS	ORGANIZATIONAL AFFILIATION
Blue Cross			Insurance-based
Family Medicare		8-87	Insurance-based
Fortune Care	2-12-85	6-85	Insurance-based
Health Care and Development	3-28-80		
Healthkard International Inc.	1-12-87	5-26-87	Hospital-based
Health Maintenance Inc.	4-29-81		
Health Plan Phil. Inc.	4-86	6-86	Hospital-based
Intercare	2-25-78		
Lifecare	4-4-86	7-86	
Maxicare	4-28-87		Hospital-based
Medicard	11-27-86		
Pamana Golden Care	12-87		
Philam Care	6-17-82	85	Insurance-based
St. Patrick's	2-25-65	86	Clinic-based
St. Vincent	7-18-88	65	Clinic-based
Waterous Medical Corp.	4-2-81	65	Hospital-based

Source: Ma. Concepcion P. Alfiler, "Health Maintenance Organization As an Alternative Mode of Financing and Delivering Health Care in the Philippines: Some Preliminary Findings," Paper presented in a seminar sponsored by the Philippine Institute for Development Studies, May 9, 1989 at the NEDA sa Makati Building.

As of now they exist in a legal vacuum. The provisions of the Insurance Code are not applied to HMOs, thus, they fall outside the jurisdiction of the OIC. Incorporated HMOs are simply subjected to the usual SEC requirements for corporate entities, but their activities are not singled out for special regulation.



TABLE 5.7  
HMO Clientele: Eligibilities, Approximate Enrollment, and Client Mix  
(As of May 1989)

HMO	MEMBERSHIP ELIGIBILITIES	ENROLLMENT	APPROXIMATE NUMBER OF CLIENT MIX
Blue Cross	15 days to 65 years, provided they enroll before 60	5,000	
Family Medicare	a) 30 days to 55 years (terminates at 60 years) for individuals b) 30 days to 60 yrs. (terminates at 65 years) for group	10,500	Almost all corporate accounts
Fortune Care	3 months to below 65 years	25,000	40% corporate 60% individual/family
Health Care and Development	3 months to below 65 years	4,000	100% corporate
Healthkard International Inc.	3 months to below 60 years (terminates at 65)	1,000	
Health Maintenance Inc.	3 months to below 65 years	78,000	85% corporate 15% individual/family
Health Plan Phil., Inc.	3 months to below 65 years		
Intercare 60 years	15 days to below 60 years	5,000	100% corporate Just Starting
Lifecare 65 years	3 months to below 65 years	30,000	
Maxicare	less than 65 years		

Medicaid 60 years	3 months to below	18,000	
Pamana Golden Care	3 months to below 60 years	90,000	More than 90% corporate; Less than 10% individual/family
Philam Care	15 days to below 65 years	80,000	60% corporate 40% individual/ family
St. Patrick's	Corporate employee	10,000	100% corporate
St. Vincent	3 months to below 65 years	5,000	80% corporate 20% individual/ family
Waterous Medical Corp.	Corporate employee	14,000	100% corporate

Source: Ma. Concepcion P. Alfiler, "Health Maintenance as an Alternative Mode of Financing and Delivering Health Care in the Philippines: Some Preliminary Findings," Paper Presented in a seminar sponsored by the Philippine Institute for Development Studies, May 9, 1989 at the NEDA Makati Building.

**TABLE 5.8**  
**HMOs: Professionals and Facilities**  
**(As of May 1989)**

HMO	Primary Physicians	Accredited Doctors (MM Only)	HMO Clinics Accredited Hospitals	(Metro Manila) Medical Service
Unit (MSU)				
Blue Cross (3 outside MM)	13		8 in Metro Manila (MM)	8 MSUs
Family Medicare (64 outside MM)			21 in MM	2 Clinics/21 MSUs
Fortune Care	10 Clinic Physicians	94	19 in MM (8 outside MM)	4 Clinics/19 MSUs

Health Care and Development	10	154 (2 outside MM)	10 in MM	10 MSUs
Healthkard International Inc.	17	89 (1 outside MM)	15 in MM	14 MSUs
Health Maintenance Inc.	26	400 (2 outside MM)	13 in MM	3 Clinics/13 MSUs
Health Plan Phil. Inc.	45	165	9 in MM (14 outside MM)	1 Clinic/19 MSUs
Intercare (12 outside MM)	32	232	16 in MM	13 MSUs
Lifecare	8	156	10 in MM	7 MSUs
Maxicare	9	135	9 in MM	1 Clinics/9 MSUs
Medicard	19	235	18 in MM (9 outside MM)	21 MSUs/8 Satellite Clinic
Pamana Golden			16 in MM (12 outside MM)	1 Clinics/16 MSUs
Philam Care	23	262	17 in MM (23 outside MM)	5 Clinics/12 MSUs
St. Patricks Physicians	30 Clinic	8 in MM		8 MSUs
St. Vincent (5 outside MM)			8 in MM	1 Clinic/8 MSUs
Waterous Medical Corp.	12	93 Consultants	7 Clinics in Metro Manila	

Source: Ma. Concepcion P. Alfiler, "Health Maintenance Organization as an Alternative Mode of Financing and Delivering Health Care in the Philippines: Some Preliminary Findings," Paper presented in a Seminar sponsored by the Philippine Institute for Development Studies, May 9, 1989 at the NEDA sa Makati Building.

TABLE 5.9  
Average Premium Rates for HMOs  
(As of May 1989)

	WARD	PRIVATE	SEMI-PRIVATE	SUITE
<b>INDIVIDUAL:</b>				
Annual	830.52	990.40	1,424.23	2,750.10
Semiannual	442.10	521.10	748.93	1,463.40
Quarterly	225.40	267.60	385.39	749.85
Monthly	77.50	93.75	115.83	255.00
<b>FAMILY OF SIX:</b>				
Annual	4,219.20	5,323.90	7,591.33	14,980.85
Semiannual	2,319.00	2,857.80	3,754.05	8,112.14
Quarterly	1,185.90	1,469.60	1,914.76	4,079.91
Monthly	406.25	492.50	631.57	1,375.50
<b>CORPORATE:</b>				
Annual	623.26	751.98	1,093.28	2,163.35
Semiannual	333.56	396.79	577.48	1,135.15
Quarterly	170.85	204.28	286.34	582.98
Monthly	56.25	67.42	99.11	190.00

Source: Ma. Concepcion Alfiler, "Health Maintenance Organization as an Alternative Mode of Financing and Delivering Care in the Philippines: Some Preliminary Findings," Paper presented in a seminar sponsored by the Philippine Institute for Development Studies. May 9, 1989 at the NEDA-sa Makati.

This status has drawn clamor from certain sectors to begin as stringent a regulation of HMOs as of HICs. Meanwhile HMOs, organized under the Association of HMOs in the Philippines, have advocated industry self-regulation.

#### Medicare

Public sector provision of health care financing is largely done through The Philippine Medical Care Plan, or Medicare. Enacted in 1969 by RA 6111, it is the country's national compulsory health insurance scheme. The avowed purpose of the Plan is to extend "medical care to all residents ... within our economic means and capability as a nation" and to provide the population "practical means of helping themselves pay for adequate medical care." In the Declaration of Policy, the total coverage of medical

ervice, as well as freedom to choose the appropriate service, is emphasized. This mix of values - reflecting self-reliance, health care as a basic need, individual freedom, and economic feasibility - all contribute to the salient features and objectives of the Plan.

Essentially medicare is a system of publicly provided universal insurance financed through a payroll tax. The tax is progressive and is equally shared by employer and employee. The tax is collected into a distinct Health Insurance Fund, which is used to pay for some medical expenses of medicare members. Beneficiaries are free to choose among the Medicare-accredited health care providers. Inasmuch as the Fund is collected from members themselves, the program may be regarded as self-financed. Unused amounts in the Health Insurance Fund may be invested so as to generate additional income for the Fund. And to keep the program economically feasible, benefit limits are set; any expenses beyond these limits becomes the liability of the member.

For the public sector collection and disbursement is carried out by the GSIS, while the SSS extends coverage to the formal private sector. Overall administration of the program is vested on the Philippine Medical Care Commission.

### Conventional Framework for Evaluation

A prerequisite for a complete and coherent evaluation of health care financing programs is the identification of social objectives behind these programs. As we have seen, the professed general objective is to ensure that the population, within a mixed market system of health care provision, is able to obtain adequate levels of health care. Thus the regulation of health insurance can be interpreted in this framework, as a means to enforce health financing contracts; on the other hand, medicare can be interpreted as additional supply of health care financing, on the presumption that voluntary private contracts are inadequate.

As the price system of providing health care for a large part denies access to low-income groups, a social objective closely related to the one just mentioned is equity. We therefore expect public health finance programs to show a preference for lower-income groups, in terms of incidence of benefits and

costs. Going by this objective, we would want insurance benefits to accrue proportionately more to the poor, while they shoulder proportionately less of the financing.

This brings us to the issue of cost: while it is very ideal to imagine complete financing of all health care needs, the reality is achieving this ideal requires scarce resources to be diverted from other valuable uses. The best of these alternative uses represents the opportunity cost (or simply the cost) of the reallocation. The economic objective, in general terms, entails finding the best possible allocation or to ensure that the benefit of a reallocation exceeds the opportunity cost.

Of course no one will disagree with such a broad statement; it is when benefits and costs are measured and compared that sharp disagreement arises. The economic perspective, which we shall presently examine, provides a framework for evaluating benefits and cost, and for achieving maximum social (net) benefit. While society might not select a strictly economic approach to health care financing, at least the framework furnishes an awareness of the costs of such compromises.

### An Economic Framework

The neoclassical perspective regards the competitive market as a means to arrive at an efficient allocation of resources. Efficiency is determined according to the Pareto criterion (or an appropriate derivative), which requires unanimous agreement on the superiority of one allocation as against another.<sup>1</sup> As individuals through the market would by themselves acquire the (Pareto) optimal quantities and forms of health care financing, there is no need for public policy to single out the finance of health care for subsidy or regulation, as long as the market is perfectly competitive. Under ideal conditions, Arrow (1963) asserts that social policy would be confined to "altering the distribution of purchasing power", through income or asset transfer. Thus efficiency is separated from the issue of equity; combining both achieves maximum social welfare.

Under less than ideal conditions, however, social policy may take on the role of addressing market imperfections. However, not just any intervention will do; among the possible measures the most cost-effective one will have to be selected.

The foregoing sketches our plan of discussion: first the ideal conditions for contingent financing are described then the likely departures from the ideal, and finally the appropriate interventions given the identified shortcomings of the market.

*Contingent financing under ideal conditions.* We assume competitive markets, but with agents facing uncertainty with regard to natural events or "states of the world". In particular, competitiveness entails all available information relevant to economic choices be known by all agents - that is distribution of information is symmetrical. Individuals derive their satisfaction or utility from income net of medical expenses, but are averse to facing risk. Since medical expenses are unpredictable, this implies that some means of reducing uncertainty of net income would benefit the individual. We underscore the fact that the benefit is enjoyed *ex ante*, at the present time, regardless of whether or not the individual actually incurs the expenses - and not *ex post*, upon realization of the medical expense. The basic idea behind contingent financing is the stabilization of net income flows.

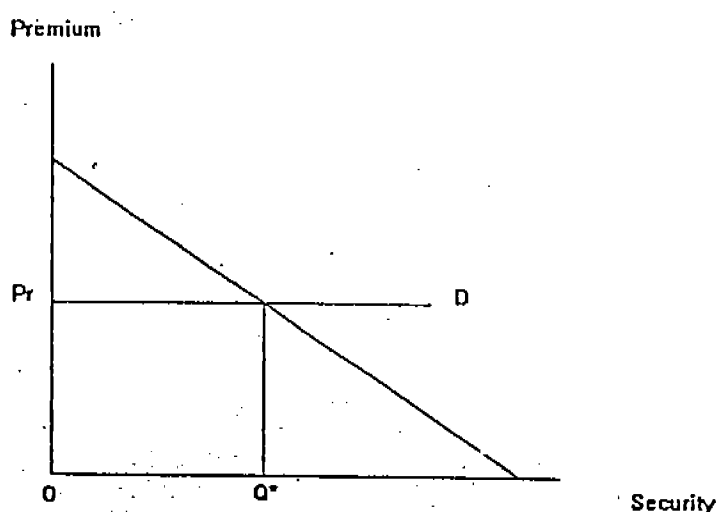


Figure 5.1 Demand for Health Contingent Securities

This stabilization may be achieved through a mechanism of and cost spreading whereby the medical expenses of individuals are shared by the population. The statistical law of large numbers permits this spreading of risk, for while the medical expenses of an individual are predicted only with great variance, the expenses of the population can be predicted quite accurately most of the time.

How will this mechanism be efficiently organized? Economic theory can demonstrate how perfect competition answers this question precisely (yet unintentionally), by forming an insurance market. The demand for insurance comes from the individuals' willingness to pay to realize the benefits of risk reduc-

tion; as long as the premium they wish to pay of the margin exceeds the actuarial (and operating) costs of the scheme and still leave a normal profit, firms will come up with the requisite supply. Meanwhile price competition among suppliers will ensure that premiums are kept near the actuarially fair level.

Figure 5.1 illustrates this graphically. Let there be a contingent security yielding a unit of value (say one peso) when a certain adverse health event occurs, none otherwise. Supposing there are no operating costs, the cost of the security will simply be the actuarial probability of the occurrence of the event, which would also be the market premium  $P_r$ . But for the first several units the individual's willingness to pay is greater than the premium<sup>2</sup>, but is marginally falling. Therefore the demand for the contingent security is negatively sloped. The total amount of insurance purchased, equal to the amount of contingent securities bought, is  $Q^*$  (where willingness to pay equals the premium). Market supply and demand are obtained as horizontal summations of the individuals' curves.

In equilibrium efficiency in risk-spreading is achieved. Thus we can apply Arrow's redistribution mandate: to maximize social welfare under some basis of interpersonal comparison, all the State will need to do is to redistribute incomes, without at all intervening in the insurance contracts reached among private agents given their respective endowments.

*Asymmetrical Information.* Moving from the ideal to the real we discover that information is

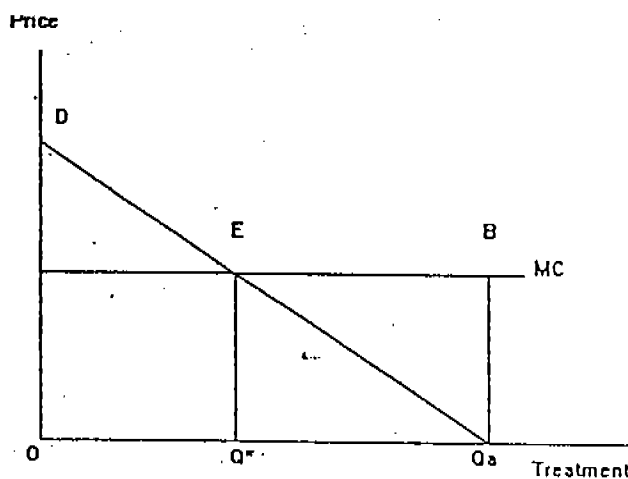


Figure 5.2 Analysis of Moral Hazard under Full Coverage

asymmetrically distributed: some data known by one agent can only be known by others at a cost. For one, an insurer knows its willingness and ability to honor its own contracts, but the same information may be unavailable to insurance buyers. This exposes the latter to default risk.

A more complicated problem is referred to as "adverse selection" (Akerloff, 1973). In a population, individuals face varying de-



rees of risk of having to incur medical expenses - for simplicity, we distinguish a low risk person from high risk person, or a "lemon". The insurer has far more difficulty estimating individual risk, compared to the relative ease of observing the population average. But the actuarially fair premium, based on the population average, may be too high for the low risk individuals, preventing them from purchasing insurance. If insurers realize this, they will recompute the average based on the greater proportion of "lemons" in the remaining population of potential buyers. Thus the premium reflects, not the fair level plus economic costs, but the effect of adverse selection of lemons. Thus quality dispersion among individuals reduces the benefit from market-organized contingent financing. The lemons impose an externality on the rest of the population.

The extreme outcome is for the insurance market to shut down entirely - for example, no health insurance may be sold for persons 65 years old and above, no matter what the price. This may take place if every increase in premium leads to enough adverse selection to raise premiums even higher. Eventually only lemons are left, and insurance is no longer supplied.

Adverse selection furnishes a conceptual tool to help us re-examine the effects of possible contract nonperformance. In the market there are contracts laden with default risk, and there are safe contracts, but the buyer is unable to tell the difference. Thus the risky contracts impose an externality on the market for insurance contracts, because all are charging similar, actuarially fair premiums.

Another problem related to asymmetrical information is "moral hazard". Marshall (1978) points out that defining states of the world in sufficient detail so as to rule out the influence of individual action (and so arrive at a purely natural event) raises the cost of contract writing and enforcement. To save on contracting costs insurance contracts are defined only for "result states" described by value of loss. But of the probability of occurrence of result states is dependent on the action of the insured - this action being (in the first place) unobservable by the insurer. For example, insured persons may undertake major treatment expenses for minor illnesses' because the insurer had sold them full coverage contracts but is unable to monitor their behavior. The significance of moral hazard in health care demand has been empirically confirmed in numerous studies, such as Keeler and Rolph (1988).

*Market adaptations to asymmetrical information.* In the same way that the market creates insurance as an adaptation to uncertainty, so the market can evolve adaptations to asymmetrical information. Regarding default risk, Doherty and Schlesinger (1991) show how this can be characterized as part of the quality of an insurance contract. Thus individual insurance demands alter (though not necessarily decrease), in the presence of risk. However, the effect of default risk on market demand, premiums, and contract terms is unclear, but can hardly be dismissed if the probability of default risk is significant.

Regarding adverse selection, it is possible for HICs to charge one premium for the low-risk group, and a higher one for the lemons; this is called sorting, or rating, and is done by using readily observable characteristics which indicate proneness to disease, such as age, kilograms over/underweight, medical history, etc. However complete and accurate sorting of a population is too costly; there would remain heterogeneous groups (with good risks and lemons still mixed together) being charged by the insurance company a common price, above the fair price.

With regard to moral hazard, one method is by avoiding full coverage, and enforcing copayment of the medical expense by the insured. This of course reintroduces income variability and reduces the benefit of risk reduction. In terms of Figure 5.1, purchasers are not allowed to consume  $Q^*$  of the contingent security, even though they may be paying the fair premium. This quantity rationing of the security introduces surprising complications in the description of market equilibrium. For as Rothschild and Stiglitz (1976) point out, price-quantity competition (in contrast to pure price competition) may result in the unattainability of competitive equilibrium in the insurance market. Unfortunately, theory has not yet adequately described what market outcome will be reached under these circumstances.

Another way is for the insurer to reduce its costs is by monitoring and controlling the consumption of health service. The most direct way it can do so would be to provide the health care service itself, to limit financial benefits to these services. In other words, the insurer could organize itself as an HMO. Pre-paid health plans may be regarded as insurance contracts with vertical integration or market interlinking.

The cost containment of an HMO would depend heavily on the following factors (Scheeler and Nauenberg, 1991): 1) whether physicians are paid on the basis of fee-for-service, fixed salary, capitation, or receive performance-related bonuses; 2) whether physicians provide services as a group in a single facility, or individual physicians provide their own facilities; and 3) the degree of autonomy of the physician regarding resource use. That HMOs do contain costs is quite well documented (Pauly, 1986).

The reduction of treatment expenses opens up another avenue for opportunistic behavior as a result of asymmetrical information, this time with consumers at a disadvantage. The latter are uncertain as to the quality of the treatment supplied by a health care provider. Thus up to a certain point an HMO can provide low cost, low quality care and escape immediate detection from clients. This issue has already been explored in a preceding chapter, but for an HMO, there is an especially strong incentive to undertreat, because increasing the level of treatment of HMO clients does not significantly increase its revenues. This possibility is evident when the HMO pays its own or affiliated physicians according to a fixed salary.

Ordinarily consumers will deal with this asymmetry by searching for the "best" provider.<sup>3</sup> Rochaix (1988) models the search behavior of a consumer based on the assumption that he already has a preformed expectation of the severity of his illness. A search for another provider would be undertaken if the latter's prescribed treatment is sufficiently different from the preformed expectation. Her model implies that a very small population of knowledgeable persons (say, doctors who are also patients) would drive prices down to their competitive levels.

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Limiting insurance coverage to treatment from only one provider is undesirable from the viewpoint of an insurance buyer, if the latter is unfamiliar with the quality of treatment from the designated provider.<sup>4</sup>

Thus pre-paid health plans often contract several hospitals and physicians, so as to expand the scope of providers from which the consumer may wish to choose. Of course the enlisted health care provider must have been previously screened regarding its ability to contain cost and its attractiveness to consumers. (Organizations offering such plans are sometimes called Preferred Provider Organizations, or PPOs; however, in our terminology PPOs are subsumed under HMOs).

*Barriers to Entry and Market Power.* The common economic entry barrier is erected by increasing returns technology. In the insurance market Arrow (1963) points out the possibility of scale economies in insurance because of the law of large numbers.

Not much work has been done to investigate these scale economies but such are likely to be insignificant. For pre-paid health plans, monopoly power in the health care services market may effect outcomes in the health financing market. Market power of health care sup-

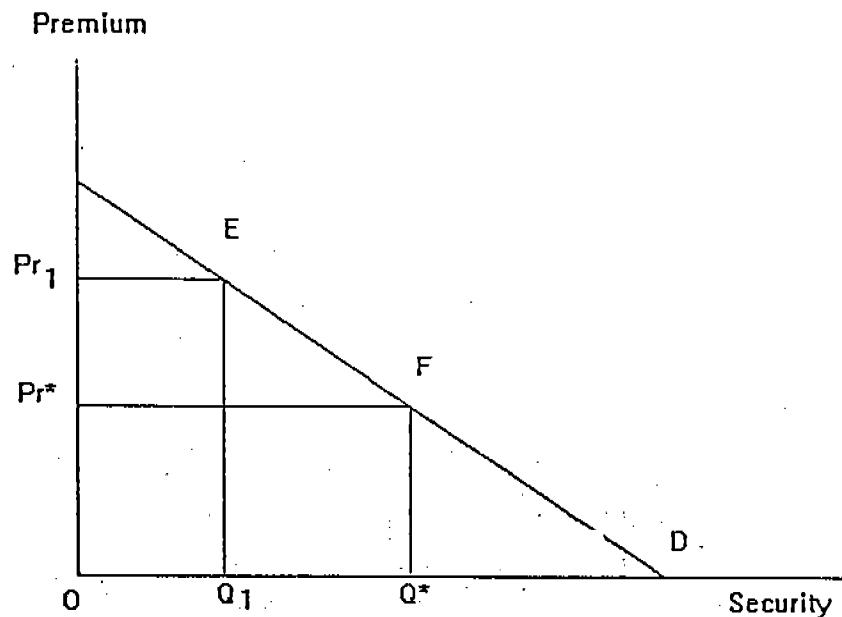


Figure 5.3 Minimum Compulsory Insurance (1)

pliers may inefficiently reduce not only the supply of health care, but also of HMO services; but the significance of suppliers' market power is unclear, and evidence has been found on its being eroded - for example, Feldman and Dowd (1986). On the other hand, the size of some HMOs is large enough for health care providers to be spurred to price competition - an empirical study of this effect is Feldman, et. al. (1990). Pauly (1986) carries this proposition so far as to examine the effect of a monopsony HMO. Meanwhile Welch (1986) finds that empirical evidence on price elasticity of demand tends to show the

ability of the market to discipline insurers. Apparently market power is not recognized as a problem worth regulating premium controls, anti-trust action or limitations on firm size the usual regulatory responses to perceived market power are about. Instead regulation of health insurance itself constitutes an institutional barrier to entry which is likely to be more significant than economic entry barriers.

### Policy Evaluation Using the Conventional Framework

In our actual policy evaluation we apply first the conventional framework, i.e., using the objectives broadly referred to as “adequate health care financing for the whole population” along with “equity” and “economic feasibility”. This characterizes the bulk of current evaluation of interventions in health care financing, such as that of Gamboa (1991), Griffin (1985, 1992), Alano (n.d.), and Beringuela (1991). The conventional framework also serves as a contrast to the economic evaluation which follows.

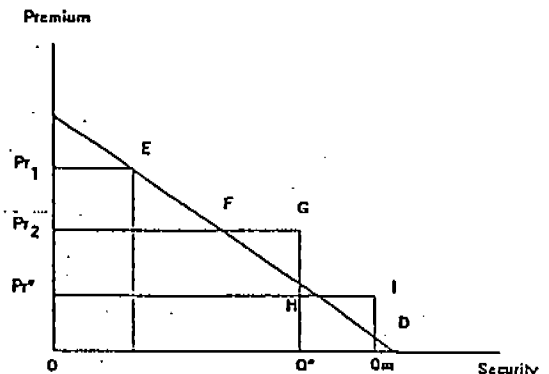


Figure 5.4 Minimum Compulsory Insurance (Z)

*Health Insurance Regulation.* The Insurance Code, while attempting to promote “Public Safety” by reducing default risk, inadvertently erects entry barriers. Whether or not this increases the expected supply of contingent financing is unclear. In fact, beyond some rough indicators such as stability of the number of HICs’ their relatively large size, their consistent as low loss ratios, and so on, there is little solid evidence that regulation has a significant effect on the supply of insurance and market competitiveness.

*Medicare I.* Support value is the proportion of medical expenses of beneficiaries paid for by Medicare. The program’s target is 70%. Table 5.10 reveals that support value is far short of the target but is growing over time. This is attributed to the limits set on the benefits of medicare - a structure which also allows premiums to be kept low and avoid external financing and preserve “economic feasibility” (Table 5.11). Thus the phenomenon of escalating medical costs charged to the public sector, observed in developed countries, is hardly a problem here.

TABLE 5.10  
Medicare: Service and Financing Profile, 1983-1988  
(In Millions, Unless Otherwise Stated)

	1983	1984	1985	1986	1987	1988
1. Coverage	21.10	27.40	28.80	29.60	21.70	21.70
a) Members	5.40	5.60	5.90	6.10	4.60	4.70
b) Dependents	15.70	21.80	23.50	23.50	17.10	17.70
2. Beneficiaries Served	1.50	1.40	1.50	1.50	1.60	1.36
3. Program Utilization	7.10	5.10	5.20	5.06	7.37	6.27
4. Collection (P)	553.20	576.30	514.30	525.90	824.30	861.53
5. Disbursement (P)	400.30	414.50	439.10	451.20	574.80	714.35
6. Fund Utilization (P)	72.36	71.92	85.37	85.79	69.73	82.92
7. Investment Income (P)	135.40	218.90	384.60	378.40	338.70	464.51
8. Operating Expenses (P)	14.60	19.50	22.50	34.60	39.90	48.41
9. Reserve Fund (P) (as of December)	1,018.40	1,379.60	1,852.70	2,271.20	2,819.50	3,378.68**

\*\*Adjustment included.

Note: Fund Utilization - the the percentage of Medicare contribution collected spent for payment of benefit claims.

Source: Philippine Medical Care Commission

The table also shows greater levels of support value for public and primary hospitals. Equity-wise this is a good sign because it is the poor who make use of this type of facility, for to them it is relatively more accessible. A more specific measure of the equity of medicare is the cross-subsidy ratio, the share of an income group's contributions in total contributions divided by its share in the benefits. Table 5.12 shows that only the first quartile receives subsidy, and most of this subsidy comes not from the higher quartiles, but from the next lowest quartile. With these results Beringuela (1991) concludes that medicare has not achieved its desired cross-subsidization.

As for economic feasibility, data on premiums, investment earnings, disbursements and fund

TABLE 5.11

Medicare Benefit Limits by Hospital Category, 1989

BY HOSPITAL CATEGORY	PRIMARY				SECONDARY				TERTIARY			
	EO 106 SSS	GSIS	Actual Cost*	EO385 SSS/GSIS	EO 106 SSS	GSIS	Actual Cost*	EO385 SSS/GSIS	EO 106 SSS	GSIS	Actual Cost*	EO385 SSS/GSIS
1. Room and Board	30	20	33	30	35	24	47	45	45	33	55	60
2. Medical Expenses												
2.1 Ordinary Cases	250	200	395	350	350	250	580	560	650	350	760	725
Drugs & Medicines	175	150	300	265	200	175	390	350	300	250	405	375
X-ray/Lab/Others	75	50	95	85	150	75	190	200	350	100	355	350
2.2 Intensive Care	500	350	760	680	600	425	1,180	1,060	1,000	600	1,980	1,780
Drugs & Medicines	375	250	560	500	400	300	670	600	500	350	1,200	1,080
X-ray/Lab/Others	125	100	200	100	200	125	510	460	500	250	780	700
2.3 Catastrophic Case	-	-	-	1,200	550	2,500	2,250	2,000	750	4,083	3,675	-
Drugs & Medicines	-	-	-	800	400	1,500	1,350	1,000	450	1,713	1,540	-
X-ray/Lab/Others	-	-	-	400	150	1,000	900	1,000	300	2,370	2,165	-
3. Operating Room Fee based on Commission's Relative Unit Value (RUV) Scheme												
3.1 RUV 5-below	30	30	97	90	35	35	185	165	65	65	290	260
3.2 RUV 5.1-10	-	-	-	-	120	120	308	280	165	165	370	333
3.3 RUV 10-1 above	-	-	-	-	170	170	712	640	225	225	955	860

PROFESSIONAL FEES												
1. Medical/Denta Fee												
1.1 Ordinary Case	200	200	140	-	200	200	200	-	200	200	320	-
General Practitioner	-	-	-	200	200	-	-	-	200	-	-	-
Specialist	-	-	-	300	-	-	300	-	-	300	-	-
1.2 Intensive Care	200	300	210	-	300	300	330	-	300	300	400	-
General Practitioner	-	-	-	300	-	-	300	-	-	300	-	-
Specialist	-	-	500	-	-	-	500	-	-	500	-	-
2. Surgeon's Fee	650	650	2,622	4,700	650	650	2,622	4,700	650	650	2,622	4,700
3. Anesthesiologist's Fee	195	195	787	1,410	195	195	787	1,410	195	195	787	1,410
<b>AVERAGE COST</b>	<b>340</b>	<b>300</b>	<b>590</b>	<b>679</b>	<b>542</b>	<b>354</b>	<b>1,335</b>	<b>1,161</b>	<b>652</b>	<b>454</b>	<b>1,975</b>	<b>1,520</b>
<b>MEDICARE Support Value (%)</b>	<b>57.6</b>	<b>51.0</b>		<b>88.7</b>	<b>40.6</b>	<b>26.3</b>		<b>88.7</b>	<b>330</b>	<b>23.0</b>		<b>90.2</b>

EO = Executive Order

\*Based on private hospital ward accommodation 1987 Survey

Hospital Benefits.

\*\*The support values under E.O. 365 are based on SSS computations not on the above figures. Based on 1988 on Professional Fee.

Source: Social Security System and Philippine Medical Commission.



INCOME GROUPS	I Below P2,000	II P2,000-P4,000	III P4,000-P6,000	IV Above P6,000
<b>GSIS</b>				
Number of Members	801,956	241,709	49,652	31,205
Average Annual Income	10,745	33,996	58,160	110,833
Total Income	8,617	8,217	2,888	3,459
Average Annual Benefits	1,419	1,885	2,311	2,586
Annual Benefits	247	67	16	11
Percent of Benefits	72.48 %	19.74 %	4.58 %	3.20 %
Number of Claims	173,765	35,622	6,743	4,207
Annual Contributions	215	145	30	19
% of Total Contributions	52.68 %	35.46 %	7.28 %	4.58 %
Cross Subsidy	0.73	1.80	1.59	1.43
<b>SSS</b>				
Number of Members	96	454	322	
Average Annual Income	15,912	40,032	58,596	
Total Income	1,527,552	18,174,528	18,867,912	
Average Benefits/Claim	3,327	3,329	2,746	
Annual Benefits	19,962	79,896	148,284	
Percent of Benefits	8.04 %	32.20 %	59.76 %	
Number of Claims	6	24	54	
Annual Contributions	11,484	105,336	136,496	
% of Total Contributions	4.53 %	41.58 %	53.88 %	
Cross Subsidy	0.56	1.29	0.90	

Source: Beringuela, M. L. I (1992).

utilization show consistently that Medicare is self-financing. However, this compares unfavorably with the loss ratio of private insurers.

A usual criticism against medicare is its limited coverage. The informal sector largely escapes SSS. Unfortunately a large proportion of the poor earn their living in the informal sector, and therefore fail to enjoy the benefits of medicare. The Philippine Medical Care Plan includes Program II, which aims at to remedy this lack of coverage, but at present extension of the program to the informal sector has been limited.

From an economic viewpoint, the conventional criteria of equity and adequacy in health care financing faces the following problems: first is vagueness of terms. What is meant by "adequate" whole population "or for that matter "equity"? Second, the cost of attaining adequacy and equity must be faced squarely. Third is the ex post approach taken: thus the concern with support values and cross-subsidies, which already represent realized rather than contingent financing. The correct approach would be to estimate benefits and cost, and even adequacy and equity, from an ex ante viewpoint.

Even some standard welfare analysis of insurance is misleading if the ex ante caveat is ignored. Consider the usual treatment of moral hazard (Figure 5.2). Let  $D$  be the individual demand for medical treatment,  $MC$  the constant marginal cost. Under full coverage, the unmonitored consumer would use up to  $Q_a$  of the treatment, which is "excessive" compared to  $Q^*$ , consumption under zero coverage. Of this excess paid for by the insurer, equal to  $EQ^*Q_aB$ , the equivalent of  $EQ^*Q_a$  is transferred to the consumer in the form of medical treatment; social loss equals  $EQ_aB$ . This analysis underlies various empirical estimates of the welfare losses from insurance (specifically medicare), such as in Feldstein (1973) and Feldman and Dowd (1991). It has also been the foundation of consequent theoretical studies of optimal insurance, where the marginal gain from risk spreading equals the marginal economic loss (Besley, 1988).

However, Marshall (1978) points out that the alleged welfare loss, modelled from the theory of price subsidy, occurs only at the point of utilization. Welfare loss ex ante has not yet been convincingly dem-

onstrated. A welfare evaluation must also consider the avoided costs of contracting (which give risk to "moral hazard"), an angle which the literature has yet to explore.

Medicare, just like private insurance can be considered a price subsidy on medical care. As public funds are fungible, we can disregard the revenue collection and focus on the welfare effect of the subsidy. Following Marshall, *we cannot apply the usual model of deadweight loss arising from subsidy, because of its ex post viewpoint*. Furthermore, when we take into account the Rothschild-Stiglitz price-quantity competition, we cannot even examine the effect of the government subsidy on the market for contingent financing, as no coherent theory of competitive equilibrium can be found. In short, we don't even have a theoretical handle on the welfare effects of the subsidy. The most we can hazard to comment is that, unless we attribute superior, cost-gathering technology to the government as against rational market agents, the chosen subsidy level will not likely be Pareto superior to market-determined insurance subsidies.

At this level of realism of our framework, we have lost the ability to positively assert statements relevant to policy. Thus we are forced to make our framework simpler, by momentarily assuming away moral hazard and price-quantity competition-keeping in mind that whatever results obtained or recommendations made are based on a stronger set of assumption.

*Medicare II* The informal sector largely escapes coverage by Medicare, although its mandate is universal health care financing. To remedy this, Medicare II aims to expand coverage to this sector, although there are no definite plans yet for its implementation.

As we have seen, some level of subsidy to health care may *ex ante* be welfare-improving. This policy is indistinguishable from compulsory health insurance financed from general tax revenues. However these might be fiscal constraints compelling the program to obtain financing from other sources. Moreover, the program may be intended to fulfill the social objective of providing broad-based access to health care, rather than abstract efficiency considerations. Which is not to say these considerations are worthless; they must act as guidelines to social service provision.

*A priori* there is no reason to discriminate between formal and informal sectors, whether from the

welfare viewpoint or from the health care access viewpoint. But the fiscal constraint is binding. Clearly, a payroll tax as in Medicare I is impossible. The problem is that the informal sector by its very nature escapes government supervision and regulation. Even universally mandated personal documents, such as residence certificates, may not be commonly obtained by this sector. Empirical research has to bear this out. If so then even a system of Medicare fees based on the procurement of these documents becomes impractical.

Financing therefore has to come either from the formal sector, or voluntarily from the informal sector. If from the former, the additional burden has dubious implications on equity and efficiency. Additional taxes on income levied progressively, while representing a compromise between equity and efficiency are subject to tax evasion; easily collectible taxes, such as excise taxes, are however more distortive and inequitable. Moreover, it is difficult to rationalize imposing most of the burden of health care finance of the informal sector on the formal sector, which is already subject to much distortion and to which belong many low salaried employees.

Meanwhile, voluntary financing of expanded coverage is also problematic. As the private sector has largely bypassed the informal sector, the presumption is that realizable profits are less than normal, so that some form of subsidy explicit or implicit will have to be extended. That is minimal fees will be charged in exchange for insurance coverage; hopefully, the subsidy will only be implicit (i.e. no financial losses but below normal rates of return) so to avoid the fiscal bind - but there is no guarantee of this occurring. In any case, a voluntary insurance program may lose some of the reduced adverse selection quality of compulsory insurance, while subjecting resource allocation to the inefficiencies of public provision.

Despite these difficulties, suppose it is decided that Medicare II will be implemented and financed by formal sector taxes. A further step is to decide on the level of decentralization. There are proposals for community-based implementation, and examples of province-based implementation of informal sector coverage. Apparently, administrative cost is reduced by such measures; on the other hand, economies of risk pooling are lost. The appropriate level of program implementation can be determined

only by comparing the savings in administrative cost and the costs of shrinking the coverage base.

It seems then, that there are significant roadblocks along the way whatever avenue is explored. This points to the existence of a bigger problem — in this case the large size of the informal sector. Medicare II, while well-intended, should be shelved until the formal sector expands sufficient to absorb informal employment. In fact allocatively and managerially speaking, it is more prudent to address the inequities and insufficiencies of Medicare I first, before ambitioning to capture the informal sectors.

*Policies on contract performance.* The entry barriers imposed by insurance regulation can be economically “justified” only if long-run market equilibrium would have performed identical results; e.g., HICs exceeding the mandated limit of a single risk (section 215 of the Insurance Code) could not have survived in the market even in the absence of such a regulation. This confers on government an extraordinary degree of foresight. Thus the ex ante expected cost of the regulations is having too much quality (insurance contracts which are “too” reliable) at the expense of quantity (not enough insurance being supplied).

This expected cost can be easily eliminated, while still making use of the information inherent in insurance regulation, by replacing the entry restrictions with market signals (considering that, information is a public good.) While HICs can “rate” buyers, buyers cannot similarly “rate” insurers with regard to default risk - this rating can be done by the government through some system of HIC certification. A very simple system would be to take the present regulatory standards as given and certify only those who meet these standards. Thus consumers, with the benefit of the certification signal, can not proceed with their search and selection of insurers without having to face reductions in insurance supply. An information spreading system makes the attack on asymmetrical information is, direct and focused. This is a first step; the eventual policy outcome is the proper specification of standards and rates so as to come up with the optimal certification system.

*Compulsory insurance.* While the sorting of HICs by the government may be feasible, a similar sorting of insurance buyers may not. A more roundabout tack of dealing with the asymmetrical information as it relates to lemon buyers is compulsory insurance. Akerloff (1973) suggests that “on

a cost-benefit basis, medicare may pay off". Pauley (1974) argues that while "a movement from a competitive solution to a compulsory one is not a Pareto optimal one, it might represent a movement to a Pareto optimal point, so that in this sense competitive equilibrium is not Pareto superior to the compulsory insurance." His paper contains a geometric demonstration of this (making use of a graph similar to Figure 5.2 here); for a case of a market with overinsurance and limited but compulsory coverage.

Figure 5.3 applies to a policy of minimum compulsory insurance, without specifying maximum coverage. Initially, the lemon-biased premium is at  $Pr_1$ , and security purchases are at  $Q_1$ . Suppose the minimum purchase is set exactly at  $Q_1$ , for all individuals. Thus the compulsory insurance serves as an existing restriction, reducing the adverse selection of lemons. This would tend to reduce the premium; the optimum decrease is achieved when market premium falls to the fair premium  $Pr^*$ , where added consumer's surplus of the amount  $Pr_1EFP_r^*$  is generated.

Of course, the generated consumer surplus may not be this large, for two reasons: the market premium may not fall to the fair premium, and the minimum purchase may exceed the demanded quantity at the new premium. In Figure 5.4, we have in one case an individual whose  $Q^*$  coincides with the mandated minimum, but where market premium falls from  $Pr_1$  to  $Pr_2$ . The net added benefit is  $(Pr_1EFP_r_2 - FGH)$ . But if the mandated minimum is  $Q_m$ , even if the premium falls to  $Pr^*$  the excess compulsion  $HID$  must be subtracted from  $Pr_1EHP_r^*$ .

To realize these benefits, the policy need only be compulsory insurance, not publicly provided insurance. Lack of incentives and bureaucratic frictions point to the comparative disadvantage of the public sector in supplying private (compulsory insurance) goods, an example of which is insurance. Moreover, compulsory insurance need not be implemented equally across the whole population. That private insurers practice rating implies that the population can be broken down into less heterogeneous groups, with varying degrees of risk dispersal. For homogeneous groups the lemon bias of the premium may be minimal and so compulsory insurance largely unnecessary. For heterogeneous groups adverse selection might be serious, compelling a more fixed and higher level of compulsory insurance. For very

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heterogeneous groups who have already been excluded in the market due to adverse selection (but for whom a fair premium should have existed otherwise), the level of compulsory insurance may be yet higher and more fixed. A prominent example would be the age group consisting of persons 65 and above. Thus for various groups in the population there would be different amounts of minimum benefit packages. Studies should be conducted on having different compulsory packages, and legislation should be flexible enough to accommodate possible changes in the minimum mandatory package of benefits as a result of these studies.

### Other Issues in Contingent Health Care Financing

*Further welfare considerations.* The above evaluation may be faulted for its disregard of (i) the fact that Medicare does not actually represent universal coverage, (ii) possible market power of insurers and HMOs; and (iii) possible undertreatment by HMOs. As for (i) inasmuch as the formal and informal sectors constitute from the viewpoint of insurers, two population growers, those "healthy" enough to obtain employment, and those outside the formal sector whose risk profile is far more uncertain. Thus the welfare implication of non-universal coverage to compulsory insurance is more apparent than real. As for (ii), if indeed the premise of this chapter is correct, that regulatory barriers are the true cause of market power, the certification proposal takes care of this equally well. And lastly, the theoretical aspects of (iii) has been dealt with in other chapters of this paper. There need be no special regulation of HMOs as such, to control undertreatment; what may be called for is a greater concentration of resources towards counteracting undertreatment, say through contract enforcement in sectors where these are more likely to arise—presumably, in the HMO sector.

*Political and redistribution constraints.* In developing our economic framework, we cited Arrow's assertion that maximizing social welfare will only entail redistribution. But if redistribution is costly, some efficiency-equity compromise might be called for. A related objection is that there is little policy value in such politically unacceptable proposals such as privately provided compulsory health insurance and certification of HICs.

The economist as economist need only point out that his technocratic work is accomplished by simply pointing out the costs of deviating from strictly benefit-cost-based prescriptions. However, from the viewpoint of rational advocacy, the existence of these constraints deserve enough of our attention to suggest some "optimal" compromises. For medicare, if complete privatization is impossible, then at least the program should be treated not as publicly provided insurance, but rather as a subsidy to health care. As such, whatever target support levels are set, some idea has to be obtained of the deadweight tax collection losses, as well as the ex ante contingent financing gains, from such a support level. Moreover, Medicare should be financed not by a payroll tax, but rather it should be part of a rational process of budget allocation across all public functions. Thus the unhealthy practice of earmarking revenue is avoided. As for the regulation of HICs and HMOs, the prevailing regulation structure discriminating against HICs is surely distortionary. If HICs, cannot be wholly deregulated, perhaps a more moderate regulatory regime may be set in place but which covers both HICs and HMOs and all contingent institutions involved in health care.



## CHAPTER SIX

### Devolution

At first glance, this portion of the study seems to be out of place in the context of the overall topic of regulation. But one can look at devolution as part of government health programs, together with policies on the size and composition of the DOH budget, cost recovery, indigent care by private providers, role of non-profit groups, privatization and corporatization of public hospitals and public-private network arrangements (Henin, et al, 1993). Regulation is a policy instrument to influence the production, consumption and financing of health goods and services. Devolution can therefore be viewed as a regulatory outcome to influence the delivery of health goods and services based on the premise that by transferring the powers, functions, responsibilities and resources from the national government to the local units, an effective means of providing health services will be realized. In theory, the idea is excellent. In practice, however, its implementation and operationalization leave much to be desired.

Among the five national agencies devolved to the local units, the Department of Health (DOH) seems to have been the agency most caught off guard by the signing of the Local Government Code of 1991 (Tapales, 1993). According to Tapales, "as soon as the Code was signed, DOH personnel protested and rallied against devolution. The DOH's reaction was based on its conviction that health in most countries is always a national responsibility. This conviction, in turn, is based on their experience with the huge financial outlays needed to maintain efficient delivery of health services." Almost a year after the "changeover and transition phase", devolved DOH personnel continue to complain about the ill effects of devolution (Health Commission, 1993).

#### What is to be Devolved?

Republic Act 7160 or the Local Government Code of 1991 mandates that the Department of Health (DOH) devolve from the National Government to provinces, cities, municipalities and barangay the provision for the delivery of basic services and facilities in accordance with established national policies,

guidelines and standards. Devolution is the transfer of power, functions, responsibilities, programs and projects, personnel and assets from the National Government to the Local Government Units (LGUs).

Those that will be devolved are:

1. Provincial, municipal and city health offices, hospital and clinic facilities, equipment and supplies.
2. Personnel of the above facilities.
3. Implementation and management of primary, secondary and tertiary health services.
4. records, assets and responsibilities corresponding to the above devolved facilities, personnel and functions.
5. Public health programs on primary health care, maternal and child health care, dental health, nutrition, family planning, environmental health, communicable and non-communicable disease control.

Appropriations corresponding to the devolved functions, personnel and services shall be transferred to the internal revenue allotment (IRA) of the LGUs. Foreign-assisted projects which are inter-regional or national in scope shall continue to be nationally based. Likewise, research and development projects for national programs shall be centrally managed by the DOH. Only in cases of widespread public health programs like epidemics will the DOH take direct supervision of local health operations in the place concerned.

Aside from the transfer of basic service delivery functions and facilities, the Code mandates the creation of local health boards at the provincial and municipal or city levels. These would be composed of local chief executives and health officers. Lodged in these boards are the functions of proposing to the *sanggunian* concerned the annual budget for the operation and maintenance of health facilities and services, advising the *sanggunian* on public health concerns and advising the local health agencies on technical and administrative matters related to health service delivery.

The DOH retains under its direct authority foreign-assisted components of national health programs; nationally-funded activities still at pilot-testing phase; personnel, assets, programs and

services which either cover at least two provinces or will be required by DOH field units soon to replace regional health offices; health programs governed by international agreements; personnel and assets of the National Capital Region for Health as they existed before the effectivity of the local government code; and regulatory, licensing and accreditation functions of the DOH.

As of December, 1991, there were about 65,361 personnel of the DOH. Of this, 2,263 (3.56 %) are based in the Central office; 8,061 (12.3 %) in specialty hospitals; and 55,037 (84.2 %) in the fourteen regional health offices (this includes their catchment provincial, city, district and municipal health units). Table 6.1 provides a breakdown of selected health manpower of DOH. These health personnel are distributed among 557 DOH hospitals, 2,299 health centers and 10,683 barangay health stations all over the country.

#### Effects of Devolution

The source of many complaints in the implementation of the local government code is the "mismatch" between the IRA share that some LGUs receive and the cost of devolved health services that they absorbed (Taguiwalo, 1993). In a study by Cuaresma, the provinces, cities and municipalities received lower shares from the IRA after the code was implemented. It was the barangay units that benefitted in terms of increased share from the IRA (Table 6.2).

Manpower	Sub-total	Total
1. Physicians		
Field Service	2,615	7,328
Hospital Service	4,713	
2. Nurses		
Service	3,358	10,117
Hospital Service	6,759	

3.	Midwives		
	Field Service	11,994	12,408
	Hospital Service	414	
4.	Rural Sanitary Inspector		
	Field Service	2,356	2,362
	Hospital Service	6	
5.	Dentists		
	Field Service	1,224	1,523
	Hospital Service	299	
6.	Nutritionists/Dieticians		
	Field Service	274	669
	Hospital Service	395	
7.	Medical Technologists		
	Field Service	850	1,567
	Hospital Service	717	
8.	Pharmacists		
	Field Service	63	562
	Hospital Service	499	
9.	Health Educators		
	Field Service	106	224
	Hospital Service	6	
10.	Sanitary Engineers		
	Field Service	120	124
	Hospital Service	4	

Source: Unpublished Department of Health Document, 1993

LGU	New Sharing	Old Sharing
Provinces	23.0%	27.5%
Cities	23.0	22.5
Municipalities	34.0	40.5
Barangays	20.0	10.0
Total	100.0%	100.0%
Distribution Formula:		
Population	50%	70%
Land Area	25%	20%
Equal Sharing	25%	10%

Source: Cuarcasma (1992).

Moreover, there were instances when the initial estimates varied significantly from the amount of IRA received. For example, the provinces of Bulacan, Bataan, Laguna and Rizal experienced a decrease in the actual receipts of IRA by an average of 17 percent (Table 6.3).

Province	Initial Estimates	Actual Receipts	Proportion
Bulacan	P 119,938,332	P 104,000,000	87.0%
Bataan	50,275,662	40,656,506	81.0
Laguna	97,152,966	78,564,87	81.0
Rizal	82,551,974	66,000,000	80.0

Source: Cuaresma (1992).

Complicating the insufficiency of funds is the delay in their release which adversely affected the salaries, wages and allowances of health workers as well as the maintenance and operating expenses of hospitals and other health facilities. The implementation of the *Magna Carta for Health Workers* was likewise affected. Signed into law on March 26, 1992, the legislation took effect April 17 of the same year and institutionalized the benefits given to health workers. Specifically, the *Magna Carta for Health Workers* mandates the upgrading of the salary of Rural Health Physicians to Grade 24. As a result of devolution, the Rural Health Doctors were transferred to the Local Government Units which cannot afford to remunerate these physicians according to the salary grade stipulated. The local chief executive may request augmentation funds from the Department of Health to effect full payment but the local chief executives are reluctant to do this because of the resulting distortions in the municipality salary scale. The Rural Health Physician's salary will end up being higher than even the mayor's salary in most municipalities.

Another serious concern is that in most provinces and municipalities, health problems and issues

are not the priority of the chief executives which further erodes budget allocation for health. Usually, their concerns are on income generating projects in agriculture and infrastructure which have stronger pulling effects specifically in terms of "recall" for the next election.

Aside from budgetary constraints, devolution disrupted the flow of services from the national to the barangay level. This affected both the referral system for patients and many national programs that remained with the DOH. It also affected the disease surveillance, monitoring and evaluation, and the reporting systems. Right now, the Regional Health Offices are still at a loss regarding their role in devolution.

On the provincial and municipal levels, the pace of adapting to a devolved state has been very slow. The local health boards have not been organized, and if they are, they are doing nothing. Most local chief executives do not know what responsibilities they accepted (see Appendix 3: What Governors Should Know About Health). The health delivery system in the local units is uncoordinated, with both the government and the NGOs doing their own thing.

These host of basic and personal concerns have seriously damaged the morale of the devolved health workers and have affected the delivery of both curative (hospital based) and public health programs. If left unchecked, this may lead to further deterioration of the health situation and conditions in the country.

### What is Being Done?

We list a variety of actions being undertaken to remedy the situation.

*DOH Initiatives.* Based on the activities undertaken and slogans produced by the Department of Health, it seems that it is dead set to continue with the devolution process. Devolution seems to be consistent with their strategy to achieve their slogan "Health in the Hands of the People." Their main thrust is to lessen the ill effects and transitional pains of devolution. To operationalize this, DOH have created a unit, the Local Government Assistance and Monitoring Service, to specifically attend to local government concerns. Likewise, a Comprehensive Health Care Agreement (CHCA) was launched in January of 1994, where DOH will fund and assist LGUs in coping with financial and technical problems

in the implementation of health programs.

*House of Representatives.* The Venegas Bill addresses the IRA discrepancy and proposes to first deduct the total cost of devolved services and distribute this to LGUs in accordance with the actual burden of these costs with the remaining IRA distributed according to the Codal formula.

*Senate.* The Webb-Arroyo Bill proposes to delay the implementation of the devolution in health for a number of years. The Sotto Bill seeks to “amend Section 285 of R. A. No. 7160 to rectify the very grave unfairness and inequity that would result from the existing codal allocation of the IRA which does not take into account the actual costs of devolution to provinces, cities, municipalities and barangays.” The Sotto Bill is almost the same as the Venegas House Bill since it proposes that the costs of devolved services be excluded or deducted first from the total IRA allocated to LGUs; that the amount so excluded or deducted shall be directly distributed to each LGU; and for subsequent years, the amount for devolved services shall be correspondingly increased or decreased in proportion to the actual increase or decrease of the total IRA of LGUs.

*Congressional Commission on Health.* As a Commission composed of five members from the House of Representatives and five members from the Senate, (the Chairpersons are the Chairs of the Committee on Health, of the Senate and the House) the Congressional Commission on Health is mandated to assess and review the conditions of health human resources and make recommendations to Congress for a legislative agenda on health. As part of the review, the Commission will make a recommendation pertaining to the issue of devolution.

*Other Institutions.* Research Institutions like the Health Policy Development Program of the UP Economics Foundation would like to provide technical assistance to DOH concerning devolution of health services (Taguiwalo, 1993). The technical assistance include studies on alternative implementation procedures and the possible revision of the IRA formula, a review and analysis of the various bills on devolution pending in the House and the Senate, DOH-LGU relationship, budget allocation for health to the LGUs, cost containment of devolved health expenditures and revenue generation from devolved health services.

## Conclusion

The passage and implementation of RA 7160 reflect the country's political system where laws and regulations are formulated and drawn with very little background research, consultation, scenario building and with little or no preparation at all before legislation is implemented. Only after the law's implementation and the initial round of adverse reaction begins is there a move to conduct assessment and review, to provide technical assistance and consultation services.

Devolution should be looked upon not only as a physical transfer of functions and responsibilities and resources (i.e., financial, personnel and other material resources), but it should also take into account the process of reorienting the affected managers and personnel, and building or rebuilding their capacity to perform and implement their new duties and responsibilities through training programs and other means. The reason why there are a lot of problems on devolution on health, compared to other areas such as agriculture, natural resources, social work and development, is because the field is a highly technical one, especially in the operational management of hospitals. It takes time for a non-physician or one with little or no background on health care delivery to develop a "feel" on how it should be provided. Right now the local chief executives look at health in its curative aspect with very little of minimal appreciation of public health. If the DOH's priority is to promote preventive over curative care, then this outlook should be inculcated by the local executives. On the other hand, many of the beneficiaries look at health care provision as solely the responsibility of the government and do not seriously undertake personal accountability for it. As was previously pointed out, devolution should not only be looked upon as a transfer of "power" to the local executives, but it should also be viewed as a transfer of this "power" to the local beneficiaries, to the people themselves. Devolution of health care delivery is empowerment of the people and this empowerment should be recognized not only by the national and local officials but also by the people themselves, thus taking and assuming some of the responsibility for it. Only after this meeting of the minds takes place will there be devolution in its real sense.



## Recommendations

The authors support the move for a phased implementation of devolution, say, until the year 2000. The Department of Health should set up a mechanism to “re-devolve” functions and responsibilities for the LGUs which are having difficulties in the implementation of devolved health functions and responsibilities. The DOH may invoke Chapter 11 of the DOH Rules and Regulations Implementing the Local Government Code of 1991. This chapter calls for the “direct supervision and control by the DOH over local health operations during emergency situation.” One of the emergency situations as a justification for DOH control is the presence of “inadequate health care system as indicated by the low coverage of immunization of children under one year of age, high incidence of second and third degree malnutrition among children under six years of age, or a larger portion of the local households having no access to safe water supply or no sanitary toilet facilities.”

The procedure however is quite difficult to operationalize. A Presidential Order is required to effect such a control and it may last only for a maximum of six months. Extension is possible after an evaluation is conducted to justify further control of DOH. This provision in the implementation code can be modified to answer the problems of inability of local executives to implement devolved health operations.

The authors likewise support the move of legislators for a recomputation of the IRA. The framework however we are suggesting is that of a standard public finance framework to assess the fiscal position of a given jurisdiction (Musgrave and Musgrave, 1980). The framework is useful in prioritizing which areas should be given grants to cope with the devolution process. By knowing the capacity of a jurisdiction to raise taxes, the needs of the jurisdiction for health service, their levels of effort and performance and index to determine the amount of grant can be established.

The ability of a jurisdiction to carry out its fiscal tasks (fiscal position) depends on its tax base (capacity) relative to outlay required for rendering public service (need).

We define fiscal capacity of jurisdiction  $j$  or  $C_j$  as:

$$(6.1) C_j = t_j B_j$$

where  $B_j$  is the tax base in  $j$  and  $t_s$  is a standard tax rate.  $C_j$  thus measures the revenue which  $j$  would obtain by applying the tax rate to its base.

The fiscal need of jurisdiction  $j$  is defined as:

$$(6.2) N_j = n_s Z_j$$

where  $Z_j$  is the target population, and  $n_s$  is the cost of producing a standard service level per unit of  $Z$ .  $N_j$  thus measures the outlay in  $j$  required to secure a standard level of performance or service.

We can now measure the fiscal position of  $j$  as  $P_j$  or:

$$(6.3) P_j = C_j/N_j = t_j B_j/n_s Z_j$$

Fiscal position thus equals the ratio of capacity to need. Setting  $P^*$  for jurisdictions on the average equal to 1, a value of  $P_j > 1$  implies a strong fiscal position and a value of  $P_j < 1$ , a weak fiscal position. The value of  $P^*$ , properly defined, is the index to which distributional weights in grant formulas should be linked. Next we define  $j$ 's tax effort  $E_j$  as:

$$(6.4) E_j = t_j B_j/t_s B_j = t_j/t_s$$

or the ratio of actual revenue in  $j$  obtained by applying  $j$ 's tax rate to what would be raised by applying  $t_s$ . Define the performance level  $M_j$  as:

$$(6.5) M_j = n_j Z_j/n_s Z_j = n_j/n_s$$

or the ratio of actual outlay to that required to meet the standard level at rate  $n_s$ .

Assuming a balanced budget we must have:

$$(6.6) t_j B_j = n_j Z_j$$

By substitution from (6.6) to (6.3) we obtain an alternative definition of fiscal position.

$$(6.7) P_j = n_j/n_s = t_j/t_s$$

Fiscal position may thus be reduced to the ratio of capacity to need as in (6.3) or as the ratio of performance to tax effort as in (6.7).

We can have several types of grants systems. There are the revenue sharing grants which impose no restrictions whatsoever on the recipient LGU. Then there are the general purpose or bloc grants,

made in support of broad expenditure categories which leaves it to the LGU to decide how to spend the funds. Finally there are the categorical grant programs where the grant is earmarked for narrowly defined purposes.

Categorical grants may be formula based or they may be project grants. Formula grants are those that become available to eligible recipients with distribution among jurisdictions determined by the applicable formula. Project grants are made upon application by the grantee and their distribution is not based on formula.

## CHAPTER SEVEN

### Conclusions and Policy Recommendations

In this chapter, we summarize the major policy recommendations of the study. They are grouped by the area regulated: health manpower, facilities (mainly hospitals), pharmaceuticals and medical equipment, national health financing and devolution. The analysis are summarized in Tables 7.1 to 7.5 below.

#### Health Care Manpower

While the regulations in the area of health care manpower - basically licensing and schooling requirements - increase the average level of competence of health care providers, they also have the undesirable effect of increasing barriers to entry. This increases the cost of medical care. We recommend supplementing the current schooling and licensing requirements with some form of certification scheme specially at the lower end of the health care manpower market, ie., physical therapy, midwifery, nurses' aide, etc. In addition we recommend doing away with the medical school enrollment quotas to increase competition among these institutions for students.

#### Health Care Facilities

Given the difficulty of effective inspection and monitoring of hospitals for licensing purposes, self regulation by hospitals represent an attractive alternative. Self-regulation can be undertaken as a certification scheme with the DOH providing grants to the private hospital association to shoulder part of the cost of inspection and monitoring.

Replace the current bed space requirement and emergency room care with a subsidy scheme to the hospitals for providing this kind of service. This subsidy may take the form of tax credits on all expenditures devoted to charity ward patients or emergency room care.

## Pharmaceuticals

We examined two important areas of regulation of pharmaceutical products: the promotion of generic drugs and product testing. The matter of generic drugs should be seen as the provision of an important public good (information) at the lowest deadweight cost to society. It is not clear to us whether the regulatory alternative taken by RA 6675 satisfies this requirement. The Department of Health has to provide more resources for drug testing and registration to avoid long delays in the procedure. There may be desirable reasons for weakening patent protection enjoyed by pharmaceutical companies. However, international developments such as the Uruguay Round of GATT and the explicit protection to be extended to intellectual property rights, may ultimately render these local efforts moot.

## Health Care Financing

The health care financing sector is characterized by: a). the presence of a national health care system (MEDICARE I); b). regulation of some private health care insurance providers (health insurance companies); and c) the absence of regulation of others (Health Maintenance Organizations). In the presence of political will, the following package of policies are recommended:

1. Increase the participation of the private sector in medicare. There is no reason why, once "universal" or compulsory insurance has been mandated, health insurance should be provided or managed by the public sector given the inefficiencies associated with public sector provision of non-public goods.
2. Much more detailed studies should be undertaken to determine the minimum compulsory health insurance package which ought to vary by risk groups.
3. Given the financial difficulties of going from Medicare I to Medicare II, refrain from expanding the coverage of Medicare beyond the current clientele.
4. Replace the current financial requirements on private health insurance companies by a certification system so as to decrease entry barriers.
5. HMOs should be placed under the same regulatory (if any) environment as health insurance

companies. It is important not to create any regulatory bias between the two forms of health financing programs.

If complete privatization of medicare is impossible, then financing any given level of support levels must be made part of a rational process of budget allocation across all public functions. Thus the unhealthy practice of earmarking revenue by financing medicare through payroll taxes is avoided. If HICs cannot be wholly deregulated, perhaps a more moderate regulatory regime may be set in place which covers both HICs and HMOs and all contingent institutions involved in health care.

TABLE 7.1

Regulatory Issues on Health Care Manpower

Regulatory Environment	Problem Addressed	Indirect Effects	Recommendations
1. Licensing Regulations.	To assure some level of professional competence.	Limits entry to the health care profession  High cost of services provided by health care professions.	Supplement the current licensing requirements for health care professionals with a certification scheme.
2. Legal demarcation of functions among professions.	To assure some level of professional competence.	Limits the ability of health care professionals with closely allied specialties to provide similar types of services.	Increase the scope for delegation and substitution among closely allied health care specialists or professions by amending existing legislation
3. Enrollment quotas on medical schools	To limit competition among schools for medical students.	Maintains inefficient medical schools.	Remove the enrollment quotas imposed by the Association of

<p>4. One-year domestic employment requirement on nurses.</p>	<p>Scarcity of nurses particularly in the rural areas.</p>	<p>Nurses willing to work abroad immediately after graduation are prevented from doing so.</p>	<p>Philippine Medical Colleges (APMC)</p> <p>Reduce public subsidies to medical education and consider moving to a system of taxing departing overseas health care professionals.</p>
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TABLE 7.2

Regulatory Issues Involving Health Care Facilities

Regulatory Environment	Problem Addressed	Indirect Effects	Recommendations
<p>1. Licensing requirements based on staffing and facilities standards.</p>	<p>Quality of service in health care facilities.</p>	<p>Locks hospitals into input mixes that increases the cost of providing a given level of health care service.</p>	<p>Given the difficulty of effective inspection and monitoring of hospitals for licensing purposes, self regulation by hospitals represent an attractive alternative. Self-regulation can be undertaken as a certification scheme with the DOH providing grants to the private hospital association to shoulder part of the cost of inspection and monitoring.</p>

<p>2. Bed space requirements and no-deposit rule.</p>	<p>Make health care service available to "indigents".</p> <p>Make emergency health care available and not contingent on ability to pay.</p>	<p>Additional cost of these requirements is passed on to other patients and not to the tax-paying public.</p>	<p>Replace the current bed space requirement and emergency room care with a subsidy scheme to the hospitals for providing this kind of service. This subsidy may take the form of tax credits on all expenditures devoted to charity ward patients or emergency room care.</p>
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TABLE 7.3

Regulatory Issues in Pharmaceutical Sector

Regulatory Environment	Problem Addressed	Indirect Effects	Recommendations
<p>1. Testing of new pharmaceutical products.</p> <p>2. Generics Law a) Physicians are required to prescribe only the generic name of pharmaceutical products.</p>	<p>To prevent the marketing of unsafe pharmaceutical products.</p> <p>To increase the amount of information available to the public about branded and generic pharmaceutical products.</p>	<p>Delays the introduction of new pharmaceutical products.</p> <p>Incidence of the costs of regulation are borne disproportionately by physicians and pharmaceutical companies.</p>	<p>The Department of Health has to provide more resources for drug testing and registration to avoid long delays in the procedure.</p> <p>The Department of Health should treat the matter of generic drugs as a question of providing a public good (in this case information) at the least possible cost to society.</p>



b)Pharma- ceutical companies are required to put the generic name in their labels.	To lower the cost of pharmaceutical products to the public		Regulation of physician behavior and pharmaceutical companies (as embodied in RA 6675) may be inferior to a public information campaign financed by general tax revenues.
3. Non-tariff barriers on penicillin and penicillin- derivatives.	To protect Chemphil.	Increases the cost of a major antibiotic.	Remove non-tariff barriers on penicillin and penicillin- derivatives.

TABLE 7.4

Regulatory Issues in Health Care Financing

Regulatory Environment	Problem Addressed	Indirect Effects	Recommendations
1. Existence of a national health care insurance program (MEDICARE I).	To provide "universal" coverage of health insurance.	Public provision of health care insurance is generally inefficient.	Financing any given level of support levels must be made part of a rational process of budget
2. Fiduciary regulations imposed on health insurance companies. But HMOs are not regulated by either the Office of the Insurance Commission or the Department of Health.	To insure that funds from premiums paid by insurance buyers are held in low risk portfolios.	Increases entry costs to potential entrants in the health insurance industry.  Lack of regulation of HMOs create an uneven playing field that may attract more than the optimal amount of firms to this sector.	More moderate regulatory regime may be set in place which covers both HICs and HMOs and all contingent institutions involved in health care.

TABLE 7.5

Local Government Code and Devolution

<p>1. Devolution of DOH facilities and staff to local governments.</p>	<p>A centralized government bureaucracy that is largely unresponsive to local needs.</p>	<p>Local governments may face severe financing constraints since available tax revenues may be uncorrelated with health spending requirements.</p>	<p>The national government may need to implement a grants system to local governments whose estimated tax revenues may not match the expenditures needed to provide public services that were formerly shouldered by the national government. Such grants may promised for a temporary period only. In general, revenue sharing grants (which involve no restrictions on how these grants are spent) are more welfare-enhancing than categorical grants (which are grants earmarked for specific programs).</p>
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Appendix 1a  
Minimum Hospital Requirements for Personnel

Primary Category	6	Authorized Bed Capacity								
		10	15	20	24					
1. Administrative										
1:4										
20% Professional										
Total Personnel			2	4	5	6				
Professional	1	1	1	1	1					
2. Clinical(Medical)										
1:5										
70% Licensed M.D. of which 50% are full time										
Total Personnel			2	3	4	5				
Full Time M.D.	1	1	1	1	2					
3. Nursing										
1:3										
50% are Registered Nurses										
Total Personnel		2	3	5	7	8				
Registered Nurse	1	2	2	3	4					
Secondary Category	25	Authorized Bed Capacity								
		30	40	50	60	70	80	90	95	
1. Administrative										
1:5										
20% Professional										
Total Personnel		5	6	8	10	12	14	16	18	19
Professional	1	1	2	2	2	3	3	4	4	
2. Clinical (Medical)										
1:5										
70% Licensed M.D. of which 40% are full time										
Total Personnel		5	6	8	10	12	14	16	18	19
Full Time M.D.	1	2	2	3	3	4	4	5	5	
3. Medical Ancillary										
1:5										
50% Professional										
Total Personnel										
Professional										
Pharmacy										
1:25										
50% Licensed Pharmacist										
Total Personnel				2	2	2	3	3	4	4
Licensed Pharmacist		1	1	1	1	1	1	2	2	2

4. Nursing

1:3

50% are Registered Nurses

Total Personnel	8	10	13	17	20	23	27	30	32
Registered Nurses	4	5	7	8	10	12	13	15	16

5. Dietetic Service

1:10

20% Licensed Dietician

Total Personnel	2	3	4	5	6	7	8	9
Dietician	1	1	1	1	1	2	2	

6. Engineering Maintenance

Housekeeping

1:6

Total Personnel	4	5	7	8	10	12	13	15	16
Building Maintenance Man	1	1	1	1	1	1	1	1	1

Authorized Bed Capacity

Tertiary Category	100	200	300	400	500
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1. Administrative

1:5

25% Professional

Total Professional	20	40	60	80	100
Professional	5	10	15	25	25

2. Clinical (Medical)

1:3

70% Licensed M.D. of which 30% are full time

Total Personnel	33	67	100	133	167
Licensed M.D.	23	47	70	93	117
Full Time M.D.	7	14	21	28	35

3. Medical Ancillary

1:5

50% Professional

Total Personnel	20	40	60	80	100
Professional	10	20	30	40	50

Pharmacy

1:25

50% Licensed Pharmacist

Total Personnel	4	8	12	16	20
Licensed Pharmacist	2	4	6	8	10

4. Nursing

1:2:5

50% are Registered Nurses

Total Personnel	40	80	120	160	200
Registered Nurse	20	40	60	80	100

5. Dietetic Service						
1:12						
20% Licensed Dietician						
Total Personnel		8	17	25	33	42
Dietician	2	3	5	7	8	

6. Engineering Maintenance						
Housekeeping						
1:6						
5% Professional						
Total Personnel		17	33	50	67	83
Engineer	1	2	2	3	4	
Building Maintenance Man	1	1	1	1	1	1

Appendix 1b

Technical Requirements for Government and Private Hospitals.

A. Primary Category

1. Equipment/Instruments

1.1. Clinical Service

- Stethoscope
- Sphygmomanometer
- Examining Light
- Examining Table
- Instrument Sterilizer
- Oxygen Unit
- Clinical weighing scale and measuring rod
- Suturing Set
- Suction Apparatus
- Ambu Bag
- Neurological Hammer
- EENT Diagnostic Set
- Laboratory
- Radiology (by affiliation)

2. Physical Plant

2.1 Administrative

- Lobby with Information counter
- Admitting Office
- Chief of Hospitals/Director's Office
- Toilet Facilities

2.2 Clinical

- Emergency Room
- Examination/Treatment Room
- X-ray (affiliation)
- Laboratory (affiliation)
- Drug Room/Pharmacy
- Toilet Facilities

2.3 Nursing

2.3.1 Nurse Station

2.3.2 Wards

- Male Wards
- Isolation Room
- Toilet Facilities

B. Secondary Category

1. Equipment/Instruments

1.1. Medical Services

- Stethoscope
- Sphygmomanometer
- Examining Light
- Examining Table
- Oxygen Unit
- Clinical weighing scale and measuring rod
- Suction Apparatus
- Neurological Hammer
- Resuscitator
- ECG Machine

1.2 Surgical Service

- As in general medical instrument plus:
- Surgical Instrument Set
- Surgical Instrument Sterilizer
- Instrument Table
- Treatment Table
- Tracheotomy Table
- Paracentesis Table
- Cut-Down Set

1.3 OB-Gyne Service

- Stethoscope
- Sphygmomanometer
- Examination Table with Stirrup
- Examination Light (Goose neck type)

- Oxygen Unit
- OB Instrument Set
- Perineum Light
- Weighing Scale with Measuring Rod
- 1.4 Pediatric Service
  - Stethoscope
  - Sphygmomanometer with Pedia Cuff
  - Weighing Scale with Measuring Rod
  - Examination Table
  - Examination Light
  - Cut Down Set
  - Neurological Hammer
  - Oxygen Unit
  - Ambu Bag
  - Nebulizer
  - Suction Apparatus
- 1.5 Operating Room
  - OR Table
  - OR Light
  - Oxygen Unit
  - Sphygmomanometer with Stand
  - Stethoscope
  - Suction Apparatus
  - Instrument Table
  - Laparotomy Set
  - C/S Set
  - Autoclave
  - Major Surgical Set
- 1.6 Delivery Room
  - Delivery Set
  - D & C Set
  - DR Light
  - OB Table with Stirrup
  - Suction Apparatus
  - Sphygmomanometer with Stand
  - Stethoscope
  - Oxygen Unit
  - Instrument Table
  - Examining Light
- 1.7 Nursery
  - Stethoscope
  - Infant Scale
  - Bassinet
  - Baby Incubator
  - Bottle Sterilizer
  - Suction Apparatus
  - Examining Light
  - Oxygen Light
  - Bill Light
- 1.8 Recovery Room
  - Sphygmomanometer
  - Stethoscope
  - Suction Apparatus
  - Oxygen Unit
- 1.9 Anesthesia Service
  - Anesthesia Machine
  - Anesthesia Table
  - Laryngoscope with Different Sizes of Blades
- 1.10 Pharmacy
  - Mortar and Pestle
  - Rough Balance with Sets of Weights
  - Refrigerator
- 1.11 Laboratory
  - Centrifuge
  - Microscope
  - Burners and Hot Plate
  - Urinometer
  - Refrigerator
  - Staining Rack
  - Water Bath
  - Analytical Balance
  - Blood Counter (Differential)
  - Microhematocrit Centrifuge
  - Pipette Washer (for blood pipette)
  - Serrefuge
- 1.12 Radiology
  - X-ray Machine (at least 100 MA)
  - Film Dryer
  - Developing Tank
  - Negatoscope
  - Exhaust Fan (Dark Room)
- 1.13 ER/OPD Service
  - Stethoscope
  - Sphygmomanometer with Stand
  - Suction Apparatus
  - Oxygen Unit
  - Suturing Set
  - Instrument Set
  - Ambu Bag
  - Tracheostomy Set
  - Gooseneck Lamp
  - Examining Light
  - Sterilizer
  - Instrument Table
  - Examining Table
  - Vaginal Speculum
  - Neurological Hammer
  - Clinical Scale

Laryngoscope Mirror  
EENT Diagnostic Set  
Head Mirror

1.15 Non-Technical (Mechanical Equipment)

Stand-By Generator  
Fire Extinguisher  
Stretcher  
Wheel Chair

2. Physical Plant

2.1 Administrative Service

2.1.1 Lobby w/Info. Center & admitting Office

2.1.2 Chief of Hospital/Hospital Director's Office

Office

2.1.3 Business Office

2.1.4 Administrative Office

2.1.5 Medical Records Room

2.1.6 Toilet Facilities

2.2 Clinical Service

2.2.1 Emergency Room

Receiving Vestibule

Remaining and Treatment Room

with Lavatory

Toilet Facilities

2.2.2 Operating Room Area

Operating Room

Scrub-up

Clean-up

Sterile Instruments and Supply

Storage Room

Doctor's Dressing Room

Janitor's Closet

Closet Stretcher's nook

2.2.3 Recovery Room

2.2.4 Central Sterilizing and Supply Room

Receiving and dispensing space counter

Work Area

Sterilising Area

Sterile Supply Storage

2.2.5 Delivery Room Area

Delivery Room

Labor Room with Toilet Facilities

Scrub-up

Nurse Station

Sterile Instrument and Supply

Room

Stretcher's Nook

Janitor's Chest

2.2.6 Nursery

Pathological/Suspect Nursery

Premature Nursery

Formula Preparation Area

Ante Room

Nurse Station

Mother's Feeding Room

2.3 Ancillary Service

2.3.1 Radiology Service

Reception Waiting Room

Radiologists Office with Film

Viewing facilities

X-Ray Room with Control Booth,

with Dressing Cubicle

Dark Room

Film File and Storage Room

Toilet Facilities

2.3.2 Laboratory Service

Service Head's Office

Working Area

Washing and Sterilising Area

Storage and Supply Room

Toilet Facilities

2.3.3 Pharmacy

Drug Storage/Display Area

Pharmacist Office Space

2.3.4 Out-Patient Service/Doctor's  
Offices

Waiting Area

Examination/Treatment Area

OPD Records Office

Toilet Facilities

2.3.5 Medical Records Room

Office Space

Medical Records Storage

2.4 Nursing Service

2.4.1 Chief Nurse Office

2.4.2 Nurse Station

Medicine Preparation

Area/Counter

Utility Space

Toilet Facilities

2.4.3 Patient's Unit

Wards

Private Room

Isolation Room

<p>Stretcher's and Wheelchair's Nook Janitor's closet</p> <p>2.5 Dietetic Service Dietician Office Storage Room Kitchen Proper Food Preparation Area Cooking Area Food Assembly Area Washing Area Staff Dining Hall/Canteen Garbage Disposal Cubicle Toilet Facilities</p> <p>2.6 Engineering Service Laundry Area Housekeeping Maintenance Area Central Storage Room Power House</p> <p>C. Tertiary Category 1. Equipment/Instruments 1.1 Clinical Service 1.1.1 Department of Medicine Stethoscope Sphygmomanometer Examining Light Neurological Hammer Oxygen Unit Examining Table Clinical Weighing Scale and Measuring Rod Resuscitator Suction Apparatus ECG Machine Gastroscope 1.1.2 Department of Surgery Stethoscope Sphygmomanometer Examining Light Oxygen Unit Examining Table Resuscitator Surgical Instrument Set Surgical Instrument Sterilizer Instrument Table Treatment Table Tracheostomy Set Thoracostomy Set Paracentesis Set Suction Apparatus</p>	<p>1.1.3 Department of Obstetrics- Gynecology Stethoscope Sphygmomanometer Examining Table with Stirrup Oxygen Unit Obstetrical Instrument Set Pertneum Light Weighing scale with Measuring Rod Punch Biopsy Set Examining Light (gooseneck type)</p> <p>1.1.4 Department of Pediatrics Stethoscope Sphygmomanometer with Pedia Cuff Weighing Scale with Measuring Rod Examining Light Examining Table Cut-Down Set Neurological Hammer Oxygen Unit Lumbar Top Set Resuscitator Suction Apparatus Nebulizer EENT Diagnostic Set</p> <p>1.1.5 Operating Room Operating Table Oxygen Unit Sphygmomanometer with Stand Stethoscope Suction Apparatus Instrument Table Laparotomy Set C/S Set Autoclave Major Surgical Set Operating Light Electrocautery Machine Resuscitator</p> <p>1.1.6 Delivery Room Delivery Set D &amp; C Set Delivery Room Light Obstetrical Table with Stirrup Suction Apparatus Sphygmomanometer with Stand Stethoscope Oxygen Unit Resuscitator Instrument Table Examining Table</p>
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1.1.7 Nursery  
 Stethoscope  
 Infant Scale  
 Baby Incubator  
 Bottle Sterilizer  
 Suction Apparatus  
 Photo Therapy Light or Bill Light  
 Examining Light  
 Oxygen Unit  
 Resuscitator

1.1.8 Special Care Service

1.1.8.1 Recovery Room  
 Sphygmomanometer  
 Stethoscope  
 Suction Apparatus  
 Oxygen Unit

1.1.8.2 ICU

Sphygmomanometer  
 Stethoscope  
 Suction Apparatus  
 Cut-Down Set  
 Oxygen Unit  
 ECG Machine  
 Bedside Monitor  
 Endotracheal Tube

1.1.9 Anesthesia Service

Anesthesia Machine  
 Anesthesia Table  
 Laryngoscope with different  
 sizes of Blades  
 Endotracheal Tube, different sizes  
 Spinal Set  
 Epidural Set

1.1.10 EENT Service

EENT Diagnostic Set  
 Tracheostomy Set  
 Laryngeal Mirror  
 Pen Light  
 Refraction Light  
 Perimeter  
 Audiometer  
 Chalazion Set  
 Magnifying Lens  
 Slit Lamp

1.2 Ancillary Service

1.2.1 Laboratory

Autoclave  
 Incubator  
 Microscope(Binocular)  
 Centrifuge (8-12 placer)

PH Meter  
 Oven  
 Refrigerator  
 Burner (gas or electric stove)  
 Balance (weighing 1 mg - 200 mgs)  
 Sterilizer  
 Bunsen Burner  
 Hot Plate  
 Spectrophotometer  
 Water Incubator  
 Analytical Balance  
 Timer  
 Blood Counter  
 Colony Counter (Quebec)  
 Hematocrit Centrifuge  
 Pipette Washer  
 Staining Racks  
 Urinometer  
 Hemoglobinometer  
 Shaker (rotary electric)  
 Water Bath (0°C - 60°C) adjustable  
 Microtome  
 Paraffin Oven  
 Autopsy Set (complete)  
 including table  
 Dissecting Set  
 Test Tube racks - different sizes

1.2.2 Radiology

X-ray Machine (at least 300 MA)  
 Film Dryer  
 Developing Tank  
 Exhaust Fan (Dark Room)

1.2.3 Pharmacy Service

Mortar and Pestle  
 Rough Balance Sets of Weight  
 Refrigerator  
 Graduated Measures  
 Analytical Balance  
 Heating Devices

1.2.4 Out-Patient Service

1.2.4.1 Emergency and Out-

Patient Service  
 Sphygmomanometer  
 Stethoscope  
 Resuscitator  
 Suturing Set  
 Suction Apparatus  
 Instrument Set  
 Ambu Bag  
 Sterilizer  
 Instrument Table  
 ECG

- Defibrillator
- EENT Diagnostic Set
- Weighing Scale with Measuring Rod
- Weighing Scale (Infant Scale)
- Examining Light
- Neurological Hammer
- Lumbar Set
- Examining Table
- Vaginal Speculum
- Biopsy Punch
- Pen Light
- 1.2.4.2 Dental
  - Dental Chair
  - Instrument Sterilizer
  - Mortar and Pestle
  - Dental Unit
  - Dental Instruments
- 1.3 Dietetic Services
  - Refrigerator
  - Food Cart/Freezer
  - Water Heater
  - Exhaust Fan
  - Osterizer/Blender
  - Meat Grinder
  - Oven
- 1.4 Non-Technical(Mechanical Equipment)
  - Stand-by Generator
  - Water Tank
  - Fire Extinguisher
  - Stretcher
  - Wheel Chair
  - Ambulance(Optional)
- 2. Physical Plant
  - 2.1 Administrative Service
    - 2.1.1 Lobby with information counter
    - 2.1.2 Communication room
    - 2.1.3 Business and Finance Office
    - 2.1.4 Admitting Office
    - 2.1.5 Chief of Hospital/Hospital Administrator's Office
    - 2.1.6 Doctor's Quarter
    - 2.1.7 Administrative Office
    - 2.1.8 Chief of Clinic/Chief of Medical Services
    - 2.1.9 Chief of Nurse/Nursing Directress for Nursing Office
    - 2.1.10 Storage Room
    - 2.1.11 Toilet Facilities
  - 2.2 Clinical Services
    - 2.2.1 Department of Medicine
      - 2.2.1.1 Department of Head Office
      - 2.2.1.2 Conference Room
      - 2.2.1.3 Intensive Care Unit (ICU)
      - 2.2.1.4 Nurses Station
      - 2.2.1.5 Utility and Medicine preparation area
      - 2.2.1.6 Locker Room
      - 2.2.1.7 Toilet Facilities
    - 2.2.2 Department of Surgery
      - 2.2.2.1 Department Head Office
      - 2.2.2.2 Conference Room
      - 2.2.2.3 Operating Room Area
        - operating rooms
        - scrub-up
        - clean-up rooms
        - sterile instruments and supply storage room
        - anesthesiologist room and anesthesia storage
        - doctor's dressing room
        - nurses' locker room
        - janitors' closet
        - wheeled stretchers nook
      - 2.2.2.4 Recovery Room
      - 2.2.2.5 Central Sterilizing and Supply Room
        - Supervisor's Office
        - Receiving and Cleaning Area
        - Work Area
        - Sterilizing Area
        - Sterile Supply Storage
      - 2.2.2.6 Orthopedic Section
        - Section Head's Office
        - Examination/Treatment Area
        - Toilet Facilities
    - 2.2.3 Department of Pediatrics
      - 2.2.3.1 Department Head's Office
      - 2.2.3.2 Conference Room
      - 2.2.3.3 Nursery
        - Pathological Suspect Nursery
        - Premature Nursery
        - Formula Preparation Area
        - Ante Room(examination and treatment room)
        - Nurse Station with toilet facilities
        - Mother's Feeding Room
        - Viewing Area Corridor
    - 2.2.4 Department of OB-Gyne
      - 2.2.4.1 Department Head's Office

- 2.2.4.2 Conference Room
- 2.2.4.3 Delivery Room Area
  - Delivery Rooms
  - Labor Rooms with Toilet Facilities
  - Scrub-up
  - Clean-up
  - Nurse Station
  - Sterile Instruments and Supply Storage
  - Doctor's Locker Room
  - Nurse's Locker Room
  - Stretcher's Nook
  - Janitor's Closet
- 2.2.5 Medical Ancillary Service
  - 2.2.5.1 Department of Radiology
    - Department head's Office
    - Conference Room
    - Reception, Appointment and Waiting Room
    - Viewing Room
    - Film File and Film Storage Room
    - Fixed X-ray Rooms
    - Control Booth
    - Dressing Cubicle
    - Dark room
    - Toilet Facilities
  - 2.2.5.2 Pathology Department
    - Department Head's Office
    - Working Area
    - Washing and Sterilizing Room
    - Storage Room
    - Technician's Locker Room
    - Toilet Facilities
    - Morgue/Autopsy Room
  - 2.2.5.3 Pharmacy Service
    - Chief Pharmacist Office
    - Space
    - Working Area
    - Drug Display Area
    - Storage Room for Combustible Chemicals
  - 2.3.5.4 Emergency Service
    - Receiving Vestibule with Stretcher's Nook
    - Examination/Treatment Room with Lavatory
    - Toilet Facilities
- 2.2.5.5 Out-Patient Department/ Doctor's Offices
  - Lobby and Waiting Area
  - Examination/Treatment Room
  - OPD Records Room
  - Toilet Facilities
- 2.2.5.6 Dental Service
  - Dental Office Space
- 2.2.5.7 Medical Records Room
  - Office Space
  - Medical Records Storage
- 2.2.6 Nursing Service
  - 2.2.6 Medical Ward
    - 2.2.6.1 Nurse Station
      - Medicine Preparation Area
      - Utility Room
      - Nurses Locker room with Toilet Facilities
    - 2.2.6.2 Patients Unit
      - Private Room
      - Isolation Room
      - Wards (male and female)
      - Stretchers and Wheelchairs Nook
      - Janitor's Closet
      - Toilet Facilities
- 2.2.7 Surgical Ward
  - 2.2.7.1 Nurse Station
    - Medicine Preparation Area
    - Utility Room
    - Nurses Locker Room with Toilet Facilities
  - 2.2.7.2 Patients Unit
    - Private Rooms
    - Isolation Rooms
    - Wards (male and female)
    - Janitor's Closet
    - Toilet Facilities
- 2.2.8 OB-Gyne Ward
  - 2.2.8.1 Nurse Station
    - Medicine Preparation Area
    - Utility Room
    - Nurses Locker Room with Toilet Facilities

2.2.8.2 Patients Unit

- Private Rooms
- Isolation Rooms
- Wards (male and female)
- Stretchers and Wheelchairs
- Nook
- Janitor's closet
- Toilet Facilities

2.2.9 Pedia Ward

2.2.9.1 Nurse Station

- Medicine Preparation Area
- Utility Room
- Nurse's Locker Room with
- Toilet Facilities

2.2.9.2 Patient's Unit

- Private Rooms
- Isolation Rooms
- Wards
- Stretchers and Wheelchairs

2.3 Dietetic Services

2.3.1 Dietician's Office

2.3.2 Supply Delivery and Receiving Area

2.3.3 Storage Room (dry and wet)

2.3.4 Diet Kitchen

- Preparation Assembly Area
- Food Preparation Area
- Cooking and Baking Area
- Serving Space

2.3.5 Washing Area

2.3.6 Staff Dining Hall/Canteen

2.3.7 Locker Room

2.3.8 Toilet Facilities

2.4 Engineering Service

2.4.1 Laundry Service

- Receiving and Sorting Area
- Supply Storage Room
- Working Area

2.4.2 Housekeeping

- Office Space
- Work Shops
- Central Linen Storage Room

2.4.3 Maintenance Office

- Office Space
- Work Shops
- Mechanical and Electrical Room
- Tool Storage Room

2.4.4 Motor Pool

- Office
- Work Area, Repair Shop and Garage
- Tool and Storage Room

2.4.5 Others

- Power House

## Appendix 2 Requirements for licensing of Domestic Insurance Companies

The applicant insurance company shall file with the Office of the Insurance Commissioner an application for certificate of authority, together with the following documents and papers;

1. Clearance from the Office of the President as an exception from the Presidential Directive issued in 1966 suspending the issuance of new license to prospective insurance companies;
2. Copy of the Articles of Incorporation, together with certified copy of the certificate of registration from the Securities and Exchange Commission;
3. Certified copy of the by-laws duly registered with the Securities and Exchange Commission;
4. Reference of incorporators, consisting of two natural persons and one depository bank;
5. Curriculum vitae of the (1) incorporators; (2) underwriters; (3) accountant; (4) actuary; and (5) medical director (Nos. 4 & 5 for life companies only);
6. List of Officers and the positions held by them;
7. Name and address of the external auditor;
8. Name and address of the legal counsel;
9. Name and address of the depository bank;
10. Name and address of the company's printer;
11. Name and address of company's actuary;
12. Organizational chart of the proposed corporation;
13. Floor plan of the office;
14. Lease Agreement of office space, if any;
15. List of furniture and equipments;
16. Reinsurance treaty or proof that such facilities will be available;
17. Income tax returns of each incorporator for the last five years next preceding the date of filing of the incorporation papers of the proposed corporation;
18. Clearances of the incorporators from:

- (1) National Bureau of Investigation,
- (2) Manila Police Department,
- (3) Criminal Investigation Section, PC, and
- (4) Bureau of Internal Revenue

If the incorporator is one other than a Filipino citizen, he must also produce his Alien Certificate of Registration for the current year and a certification from the Bureau of Immigration that he is allowed to be gainfully employed during his stay in the Philippines;

19. Project study showing the expected volume of business to be written and the amount of premiums that will be realized on the various life plans for the next three initial years from operations;
20. Executive waiver in favor of this Office to verify existence of applicant's capital deposits with its depository bank or banks.

The Insurance Commissioner may refuse to issue a certificate of authority to any company if, in his judgement, such refusal will best promote the interest of the people of the Philippines.

#### REQUIREMENTS FOR THE ISSUANCE OF INSURANCE COMPANY'S LICENSE

1. Application for the issuance of the C/A
2. Certificate of Registration with the SEC attached to the Articles of Incorporation
3. Certificate of Registration with the SEC attached to the Copy of the By-Laws
4. Minutes of the Organizational Meeting of the Stockholders.
5. Minutes of the Organizational Meeting of the Board of Directors
6. Treaty Arrangement or Reinsurance
7. Inventory of Furniture and Fixtures
8. Floor Plan
9. Organizational Chart
10. Curriculum Vitae of the Incorporators; Officers; Accountant; Auditors; and Underwriter
11. Clearances:
  - a) Tax; Income Tax Return
  - b) NBI; MPD; CIS
12. List of References (2 Personal and 1 Bank)
13. Auditor
14. Printer
15. Depository Bank
16. Verification of Cash Fund in Bank
17. Two P 0.30 documentary stamps
18. P 200.00 filing fee
19. Capitalization:
  - Non-Life - at least P 10,000,000.00 - paid-in not less than P 500,000.00 - contributed surplus
  - Life - at least P 10,000,000.00 - paid-up not less than P 1,000,000.00 - contributed surplus
  - Section 188 of the Insurance Code

NOTE: There is however, a directive from the President, dated June 24, 1966, suspending the granting of licenses to new insurance companies.

## Appendix 3

### What Every Governor Should Know About Health Care

As governor, you are now responsible for the delivery of health services within your province.

The health services and facilities within your supervision are:

#### I. Infrastructure

- A. Integrated Provincial Offices, including hospitals
- B. District Health Offices
  - 1) district hospitals
  - 2) Medicare hospitals
  - 3) municipal hospitals
- C. Social Hygiene Clinics, including floating and ambulances
- D. City Health Offices
  - 1) city hospitals
  - 2) health centers
  - 3) Rural Health Units (RHUs)
  - 4) Barangay Health Stations (BHS)

#### II. Provision of medical, hospital and other support services:

- A. Primary health services - basic health services delivered at health centers or RHUs and BHS.
- B. Secondary health services - medical services provided by some RHUs, infirmaries, district hospitals, and out-patient departments of provincial hospitals.
- C. Tertiary health services - surgical and medical diagnostics; treatment and rehabilitative care undertaken usually by medical specialists in hospital setting.
- D. Other support services - training, monitoring and supervision, evaluation, logistics management, consultancy, resource augmentation.

#### III. Public Health Programs and Projects on:

- A. Maternal and child health care
- B. Dental Health
- C. Nutrition
- D. Family Planning
- E. Environmental Health
- F. Communicable and non-communicable diseases control
- G. Other public health care programs and projects appropriate to the needs of the community

The Department of Health, for its part, can support the local government units through:

#### I. Technical Services

- A. Information, education and communication (IEC) development
- B. Health research and development
- C. Health intelligence
- D. National and international training
- E. Planning assistance
- F. Other technical consultancy services

II. Administrative Services

- A. Program and project management
- B. Inter-agency coordination
- C. Networking
- D. Information and record management
- E. Other administrative services

III. Logistic and financial services

- A. Bulk procurement of drugs, medicines, medical equipment and supplies
- B. Grant-in-aid, block grants, and other forms of financial assistance
- C. Resource mobilization from the National Government, NGOs, and international funding agencies
- D. Budget preparations assistance
- E. Other financial and resource management services

IV. Tertiary and Specialty Health Services

For difficult cases and patients requiring special consultation/diagnostics and care, the DOH can assist you through following:

- A. Regional Medical center
- B. Regional Hospitals
- C. Sanitaria
- D. Leprosarium

There are also specialty hospitals in the National Capital Region, including the:

- A. Heart Center
- B. Lung Center
- C. Philippine Children's Medical Center



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## REFERENCES

- [1] Akerloff, G. A (1970). "The Market for 'Lemons': Qualitative Uncertainty and the Market Mechanism." *Quarterly Journal of Economics*, 84:480-500.
- [2] Alano, Bienvenido (1990). "The Private Sector in Medical Care: A Study of the Government Regulatory Environment and Credit Market." PIDS-DOH Project 090-202-6692.
- [3] Arrow, Kenneth A. (1970). *Essays in the Theory of Risk Bearing*. (Amsterdam: North Holland).
- [4] Beringuela, M. L. I (1992). "The Performance of Medicare I: An Economic Evaluation." Unpublished Report for DOH No. 91-92/02.
- [5] Center for Research and Communication (1990). *Philippine Health Care Factbook*. (Manila: CRC).
- [6] Cuaresma, Jocelyn. "Can Local Government Financially Cope Up?" Paper read at the Fourth National Conference on Public Administration, June 24-26, 1992.
- [7] Culyer, A. J (1991). "The Normative Economics of Health Care." in *Providing Health Care: The Economics of Alternative Systems of Finance and Delivery*. Alistair McGuire, et. al., eds. New York: Oxford University Press.
- [8] Development Academy of the Philippines (1993). *Health Manpower: Profile and Market Analysis*. (Unpublished Manuscript).
- [9] Doherty, N. A. and H. Schlesinger (1990). "Rational Insurance Purchasing Consideration of Contract Nonperformance." *Quarterly Journal of Economics*, 104: 243-253.
- [10] Feldstein, Paul J. (1977). *Health Associations and the Demand for Legislation: The Political Economy of Health*. (Lexington, MA: Ballinger Publishing Company).
- [11] Feldstein, P. J (1983). *Health Care Economics*. 2nd ed. New York: John Wiley and Sons.
- [12] Ginsburg, P. B (1983). "Market-oriented Options in Medicare and Medicaid." *Market Reforms in Medicare: Current Issues, New Directions, Strategic Decisions*. J. A. Meyer, ed. Washington: American Enterprise Institute for Public Policy Research.
- [13] Griffin, S (1991). "Health Care in LDCs." *Finance and Development*, 28: 45-47.
- [14] Herrin, A. et. al. "Health Sector Review: Philippines, *Health Finance Development Project*, (1993).
- [15] Health Commission (1993); Regional Consultation Output.
- [16] Keeler, E. B. and J. E. Rolph (1980). "The Demand for Episode of Treatment in the Health Insurance Experiment." *Journal of Health Economics*, 7:337-367.
- [17] Krucger, Anne O. (1990). "Government Failures in Development." *Journal of Economic Perspectives*, 4: 9-23.
- [18] Luft, H (1981). *Health Maintenance Organizations*. New York: Wiley Interscience.

- [19] Mangahas, Ma. Alcestis A. and Virginia A. Teodosio (1990). "The Impact of International Contract Migration on the Skills Market of the Sending Country: The Philippine Experience." unpublished manuscript.
- [20] Marshall, J. M (1976). "Moral Hazard." *American Economic Review*, 66: 880-890.
- [21] Musgrave, R. and P. Musgrave (1980). *Public Finance: Theory and Policy*. McGraw Hill.
- [22] Newhouse, Joseph P (1970). "Toward a Theory of Nonprofit Institutions: An Economic Model of a Hospital." *American Economic Review*, 60: 64-74.
- [23] Pante, Filologo (1990). "Health Policy Research and Development in the Philippines." *Journal of Philippine Development*. 17: 1-32.
- [24] Pauly, M. V (1974). "Overinsurance and Public Provision of Insurance: The Roles of Moral Hazard and Adverse Selection." *Quarterly Journal of Economics*, 88:44-54.
- [25] \_\_\_\_\_ (1986). "Taxation Health Insurance and Market Failure." *Journal of Economic Literature*, 24: 662-675.
- [26] Pauly, Mark and Michael Redisch (1973). "The Not-For-Profit Hospital as a Physicians' Cooperative." *American Economic Review*, 63: 87-99.
- [27] Peltzman, Sam (1974). *Regulation of Pharmaceutical Innovation*. Washington, D. C.: American Enterprise Institute.
- [28] Reyes, Edna A. and Oscar F. Picazo (1990). "Health Manpower Employment and Productivity in the Philippines." PIDS Working Paper No. 90-19 (Makati: Philippine Institute of Development Studies).
- [29] Rochaix, Lise (1989). "Information Asymmetry and Search in the Market for Physicians' Services," *Journal of Health Economics*, 8:53-84.
- [30] Rothschild, Micháel and Joseph Stiglitz (1976). "Equilibrium in Competitive Insurance Markets: An essay on the Economics of Imperfect Information." *Quarterly Journal of Economics* 90: 629-649.
- [31] Stigler, George J. (1971). "The Theory of Economic Regulation." *Bell Journal of Economics and Management Science*, 2: 3-21.
- [32] Taguiwalo, Mario (1992). "Terms of Reference for Technical Assistance on Financing Issues Concerning Devolution of Health Services."
- [33] Tapales, Prósperina (1993). "Devolution and Empowerment: The Local Government Code of 1991 and Local Autonomy in the Philippines." UP Press and Center for Integrative and Development Project.
- [34] Tollison, Robert D. and Richard E. Wagner (1991). "Self-interest, Public Interest and Public Health." *Public Choice*, 69: 323-343.