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THE AMERICAS SOCIAL SECURITY REPORT 2009

Evaluation in Systems of Social Security

INTER-AMERICAN CONFERENCE ON SOCIAL SECURITY

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San Ramon s/n • Col. San Jeronimo Lidice
C.P. 10100 Mexico City
Tel: (5255) 53774700
Fax: (5255) 53774703
ciss@ciss.org.mx
http://www.ciss.org.mx

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Acronyms and Abbreviations

AARP	American Association of Retired People
ADL	Activities of daily living
AFJP	Pension Fund Manager of Argentina (Administradora de Fondos y Jublilaciones de Pensiones)
AFP	Pension Fund Manager of Chile (Administradora de Fondos de Pensiones)
AM	Account maintenance
ANSES	Social Security Institute of Argentina (Administracion Nacional de la Seguridad Social)
BSC	Balanced scorecard
CC	Customer care
CEN	Nutrition and education centers (centros de educacion nutricional)
CINAI	Integral care centers for children (centros infantiles de atencion integral)
CISS	Inter-American Conference on Social Security (Conferencia Interamericana de Seguridad Social)
CMS	Centers for Medicare and Medicaid services
DB	Defined benefit
DEA	Data envelopment analysis
EAP	Economically active population
ECG	Evaluation Cooperation Group
EITC	Earned income tax credit
EMA	Accreditation Institute of Mexico (Entidad Mexicana de Acreditacion)
EMS	Environmental management systems
ENESS	National Employment and Social Security Survey (Encuesta Nacional de Empleo y Seguridad Social)
FA	Family allowances
GDP	Gross domestic product
HCB	Welfare community homes (Hogares comunitarios de bienestar)
HEDIS	Healthcare Effectiveness Data and Information Set
HHA	Home health agencies
HRQL	Health-related quality of life
IAF	International Accreditation Forum
IAOB	International Automotive Oversight Bureau
ICBF	Colombian Institute for Family Welfare (Instituto Colombiano de Bienestar Familiar)
IDB	Inter-American Development Bank
IEG	Independent Evaluation Group

IHEA	Institute of Hospital Engineering, Australia
ILO	International Labor Organization
IMR	Infant mortality rate
IMSS	Mexican Social Security Institution (Instituto Mexicano del Seguro Social)
INN	Normalization National Institute, Chile (Instituto Nacional de Normalizacion)
INSS	Social Security Institute of Nicaragua (Instituto Nicaraguense de Seguridad Social)
IRS	Internal Revenue Service
ISO	International Organization for Standardization
IT	Information technology
KP	Kaiser Permanente
LA	Latin America
LAC	Latin America and the Caribbean
LDC	Less-developed countries
LTC	Long-term care
MRA	Multilateral recognition arrangement
NCB	National child benefit
NCQA	National Committee for Quality Assurance
NGO	Non-governmental organization
NH	Nursing homes
NHS	National Health Service
OAA	Accreditation Institute of Argentina (Organismo Argentino de Acreditacion)
OECD	Organization for Economic Co-operation and Development
OMCC	Organization and management of healthcare consumption
OR	Operations research
OSCAR	Out-of-school care and recreation
OSFI	Office of the Superintendent of Financial Institution
OVE	Office of Evaluation and Oversight
PAHO	Pan American Health Organization
PAYG	Pay-as-you-go
PBGC	Pension Benefit Guaranty Corporation
PCC	Partial collective capitalization
PFM	Pension fund manager
PWBA	Pension and Welfare Benefits Administration
QALY	Quality-adjusted life year
QM	Quality management
QMI	Quality Management Institute

QMS	Quality management systems
SA	Social assistance
SCC	Standards Council of Canada
SEDESOL	Ministry of Social Development, Mexico (Secretaria de Desarrollo Social)
SISBEN	System for the Identification of Potential Beneficiaries of Social Programs (Sistema de Identificacion de Potenciales Beneficiaros de Programas Sociales)
SNBF	National System for Family Welfare (Sistema Nacional de Bienestar Familiar)
SSA	Social Security Administration
UN	United Nations
UNEG	United Nations Evaluation Group
U.S.	United States
WB	World Bank

The Report Team and Acknowledgments

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Foreword

The Inter-American Conference on Social Security (CISS) prepares the yearly Americas Social Security Report. The goal of this publication is to be a tool to improve the understanding of the status of social security programs in the Americas, through the evaluation of topics that the General Assembly selects every year. It is addressed to the social security community, including governments, agencies, social groups, employers, users, and anyone interested in the improvement of social protection in the contemporary society.

This 2009 Report on *Evaluation in Systems of Social Security* has a natural link to the issue of last year. Then, we dealt with *Innovating Models of Social Insurance*, a field where administration and organization are keywords. Now, we deal with evaluation, which is a way to measure and administrate activities, results, and expectations.

The contemporary best practices in administration include that evaluation and management are part of one and the same integrated activity. Historically, evaluation has often been seen as an extra, as an additional action that social security agencies or governments can do to improve communication, correct deviations and gain support for the agencies or for a reform process. A basic tenet of the approach of this Report is that good administration cannot be separated from effective evaluation. The last feeds back with administration and policy making. While this may have been true and recognized always in well designed and well managed cases, technological change has meant that the circle moves at a much higher speed.

As in previous years, this Report aims to provide a balanced map of the field. Each government and agency shall find the more adequate approach to evaluation, depending on its human capital, resources, vision and goals. Yet, we would like to stress one feature that surface repeatedly in this and last year's reports: administration and evaluation have evolved towards and individual centered approach. Current technologies allow a level of personalized attention that was impossible to achieve in decades past: to workers, to the elderly, to children, to the disabled, to employers, and in general to each individual that receives benefits or contributes to social security. This Report builds on this idea.

We hope that this Report can help those interested in the region as a support for the evaluation of social protection and social security programs.

Gabriel Martinez
Secretary-General

CHAPTER I
INTRODUCTION

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A national social security system is only by exception composed of a neatly nested set of agencies and programs. More often, it is the result of a decades-long process involving a quest for the appropriate model; political debate regarding what social security should be; and historical circumstances often outside the control of individual nations, such as economic recession and war. Thus, it would be naïve to expect that a purely technocratic or schematic approach could be used to define an appropriate means of evaluation. Rather than relying upon one standard approach, it appears necessary to gain understanding of the different approaches and tools available, why they exist, and what questions they attempt to answer before deciding upon the appropriate model.

The Americas Social Security Report 2009 presents what we consider the most applicable approaches to the evaluation of social security programs. In our opinion, there are generally four considerations in a comprehensive evaluation of a social security program. First, the evaluation should respond to the concerns of different perspectives, including the economic, actuarial, administrative, fiscal and operations research (OR) perspectives. Because all of these perspectives have different objectives for evaluation, as well as indicators and targets, their approaches may differ significantly. In addition, as each perspective represents the concerns of different stakeholders, any evaluation of social programs that considers the perspectives in isolation is likely to fail as a tool for the potential improvement of the programs.

Second, the approach should be based upon the very well-known steps in the design of monitoring and evaluation approaches: gaining the involvement of key stakeholders, designing the framework for monitoring and evaluation, identifying the indicators, setting targets, defining the information sources, developing the elements for the evaluation, and designing the policy for disclosure of results. All these steps are important for a successful evaluation and their proper order is important for obtaining the best outcomes.

Third, we argue that an evaluation should be performed for systems, agencies, and programs. We consider programs to be managed by agencies and systems to be collections of agencies and programs. Moreover, we insist that it should be recognized that many processes are performed in an agency and that the system of evaluation should be developed accordingly. Fourth, an evaluation should have as its object of analysis the citizen. Therefore, the use of micro-data should be the norm and all contacts of the individual with the agencies and programs should be recorded in an integrated format.

In summary, we believe that a successful evaluation strategy recognizes that although different stakeholders operationalize various data of an entity, only a well- structured strategy that incorporates all the perspectives of the entities and processes

concerned can be a tool that successfully improves agencies and programs and thus system performance. Moreover, we argue that a well-designed system that exploits all the capabilities of the current information technology (IT) should be able to provide both short- and long-term data and both urgent and strategic information.

This report can be seen as a natural step in the Inter-American Conference on Social Security (CISS) agenda. In *The Americas Social Security Report 2008*, we argued that "some of the most important problems that surround national social security systems will be solved only after a proper focus is given to administrative and organizational issues" (2007, 3). In this Report, we encourage policymakers and administrators to establish a comprehensive system for the evaluation of not only the main goals and fiscal issues with which public agents are always concerned but also of the day-to-day operations across the processes performed by the different agencies. A balance among the different perspectives of a variety of stakeholders, including citizens, should be reached if agencies, programs, and hence systems are to be improved in a significant manner.

We recognize that agency administrators are typically offered incentives for and evaluated according to fiscal aspects of programs and that usually the scope of time for the implementation of long-term strategies is well beyond the period for which they are appointed. Therefore, for these administrators, the implementation of a comprehensive system of evaluation, which can be costly and highlight both opportunities and failures, is generally at the bottom of their agenda. An appropriate strategy of evaluation thus requires not only that committed managers at the top level but also those at other levels of government, such as the Ministry of Finance and the Congress, the main players in the evaluation of public agencies, expand their focus of evaluation and abandon a narrowly fiscal view for a comprehensive view, recognizing that all concerns have intrinsic value.

This Report is organized as follows: Chapter II provides a map of the main analytical approaches to the evaluation of social security, thereby establishing the methodology for the subsequent chapters. This map shows a combination of profession-specific approaches, such as the actuarial, the OR, and the economic, as well as others that are more application oriented, such as the fiscal and the administrative. It begins by raising the need to distinguish among the evaluation of agencies, programs, and systems. For social security agencies, it is of special interest to gain knowledge of administrative approaches to evaluation. These approaches are usually a combination of techniques and the result of a match between the available technologies and the human capital profile of the agency's managers. Within the variety of applications available for administrative evaluation, the chapter puts in perspective three movements that are having a significant impact upon the administration of social security agencies: the quality movement, the balanced scorecard (BSC), and the six-sigma approach. Chapter II concludes with a description of the evaluation approaches of the large international organizations.

Chapter III examines the evaluation of pension programs and systems from the perspectives of the different views outlined in Chapter II. It focuses greatest attention upon the analysis of the financial situation of pension programs in actuarial studies; the analysis of how governments face pension liabilities using public funds in fiscal studies; the regulation and surveillance of pension programs from a legal point of view; and the adequacy of pensions measured in terms of social security coverage and benefits, which is considered evaluation from a social perspective.

Chapter IV explains the process of evaluation in healthcare. It is organized along the steps for the implementation of an evaluation strategy: gaining the involvement of key stakeholders, designing the framework for monitoring and evaluation, identifying the indicators, setting targets, defining the information sources, developing the elements for the evaluation,

and designing the policy of disclosure of results. It also describes the implications of evaluation from the economic, actuarial, administrative, fiscal, and OR perspectives for healthcare. Finally, it describes the corporate governance of evaluation in health; that is, what is evaluated and who supervises the process.

Chapter V analyzes the issues that surround the evaluation of long-term care (LTC) and childcare programs. In order to do so, the objectives of the existing programs are described and a brief analysis of the determinants of the supply and the demand of services is performed. Finally, the chapter addresses several aspects currently being considered to evaluate such programs and, because home-based care is very important for LTC and child care, special attention is given to the importance of providing training to potential caregivers.

Chapter VI concludes by addressing four important issues. First, it argues that although there are many hurdles to the evaluation of agencies and programs, both internal and external, a strategy for evaluation must be established and implemented. The implementation of tools in an isolated manner can help identify some issues but will not create a credible commitment to improvement. Second, because systems are collections of agencies and programs, any target set at the system level must be accompanied by relevant targets for the agency and program levels, and the evaluation strategy must recognize that measures at the system level are only the consolidation of measures at the agency and program level. Third, it stresses that evaluation should be centered upon the citizen, which means that all the contacts between the individual and any of the agencies and programs, be they related to healthcare, pensions, or social services, should be recorded in a consolidated format. Finally, it asserts that although there are important arguments in favor of disclosing all information, there are also valid concerns regarding the disclosure of information. The level of transparency should balance the need for information for improvement, the capacities of agencies and programs to respond, and issues of privacy.

The movement for evaluation, a response to stressed financial situations in which more must be delivered for each dollar and to citizen demands for transparency, is not a new movement. Nevertheless, it still has a long path to travel to realization of its goals. New efforts for an improved evaluation strategy should be comprehensive, recognizing that all views and tools complement each other, as well as take into account that the concerns of all stakeholders, including managers, workers, users, government officials, policymakers, and citizens, should be answered promptly and in a credible manner.

We hope this report encourages policymakers, administrators, and public officials to increase the importance of improving their evaluation strategy within their agendas and provides key information to those interested in implementing a comprehensive evaluation strategy.

CHAPTER II
VISIONS AND VIEWS ON MEASURING AND MANAGING SOCIAL SECURITY

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VISIONS AND VIEWS ON MEASURING AND MANAGING SOCIAL SECURITY

II.1 Defining a Vision of Programs, Agencies, and Systems

The first step in defining a proper evaluation strategy is recognizing the basic principles and goals of the programs under consideration. Contemporary societies often disagree so strongly on what should be encompassed within social security programs that consensus is rarely reached on all points. However, the persistence and strength of social security programs confirms that there is widespread agreement on the need to achieve basic social protection regarding income, health insurance, childcare and LTC, as well as other issues typically covered by these institutions. This is why the word *visions* appears in the title of this chapter: We believe there remain shared values across nations that allow us to constructively compare their social protection systems.

We also desire to highlight the word *views* to recognize the alternative ways of measuring and evaluating a program, including the economic, actuarial, administrative, fiscal, and political views, and because the way these views are applied is highly context dependent. Actuarial studies can be useful in evaluating a national collective pension system, such as the U.S. Social Security Administration (SSA) plan or the plan of the Social Security Institute of Nicaragua (*INSS*). They can also be useful to examine capitalized options, such as the Chilean Pension Fund Manager (*AFP*) system, or a mixed system, such as the Argentinean Social Security-Argentina Pension Fund Managers (*ANSES-AFJP*) program. As each actuarial study will have idiosyncratic elements, none can be considered superior to the others; each serves a purpose, and the challenge is balancing them in a manner to be useful to the heterogeneous set of actors that participate in the systems.

Because social security is a broad concept, it is helpful to distinguish among programs, agencies, and systems. All of the following discussions should be understood to refer to the social insurance environment, which includes the three concepts. At the same time, it must be recognized that applications can vary significantly, depending upon whether an agency, a program, or a system is to be evaluated. For the purposes of this study, we define a *program* as a set of rules and regulations created to manage a social risk and the relevant budgetary appropriations necessary to manage that risk. Thus, we have health insurance programs, retirement programs, and general disability programs, among many others. We define *agencies* as the administrations in charge of the programs and *systems* as collections of programs and agencies. Only by exception is there a neat nesting of programs into agencies and systems. Usually, programs and agencies are the result of historical processes tempered by the pressures of political events; private and communitarian initiatives; boom and bust periods; and reform processes to centralize or decentralize, privatize or nationalize, and merge

or separate agencies or programs, as well as other goals that can be contradictory over time or across contemporary programs. Thus, nationals of most countries can claim exceptionalism to be an attribute of their social security systems, with institutional settings being very different across nations.

On the other hand, social security programs exhibit a remarkable consistency across nations in terms of the basic goals and tools employed in reaching their diverse goals. Mulligan and Sala-i-Martin pointed out the commonalities in pension programs when they explained, "At least 166 countries have public old age pension programs. In some of the countries, public old age pensions can be dated back at least a hundred years. Although each of the programs is unique in many respects, they also tend to have many common features" (1999, 3). Similarly, Chernichovsky (1995a and 1995b) has pointed out the strong correspondence in the basic functions performed by health insurance programs across countries.

To explore these similarities, it is useful to think of programs as originating from a single stream of legislation and link them to the agencies in charge of them. An agency is often in charge of several programs. However, at the level of national systems, it is more common to have a multiplicity of programs and agencies influencing the administration of a social risk. Sometimes, a country will have a comprehensive and, hopefully, consistent strategy to define the operating model of the system, while in other countries the system will be the result of the action of a multiplicity of actors.

In principle, these structural issues are not in themselves beneficial or harmful; that is, we cannot argue that social insurance functions in a better manner if it follows a centralized plan, because it is clear that decentralized solutions often produce desirable results. Conversely, we cannot promote a view critical of centralized solutions in general when it is clear that a number of programs work well under such an approach. When addressing evaluation, we must focus upon the actual results of social insurance. In addition to avoiding prejudice, this focus is required for conducting comparisons across programs, agencies, and systems.

The Americas Social Security Report 2009 addresses the evaluation of social insurance programs by reference to pensions, healthcare, and social services, their three main components, subdividing social services into the two main components of LTC and childcare programs. Most countries' vision of social insurance follows this classification, with each class having internal complexities. As we know, a pension system is actually a combination of retirement, general disability, and workmen's compensation programs and a healthcare system is a combination of programs for active workers, retirees, children, the disabled, and other groups. LTC programs bring together elements of the pension and healthcare systems while childcare programs are financed by social security programs to offer benefits similar to those offered by the general educational system. More often than not, programs complement and overlap one another.

The following is a summary of the three subsequent chapters, each of which focuses upon the visions of the pension, healthcare, and social services systems in detail:

- *Pension systems* aim to prevent poverty in old age and provide families with a relative standard of living, similar to that which they experienced while active in the labor force, after retirement or disability.
- *Healthcare systems* aim to provide families with access to healthcare services in a holistic, integral, and equitable manner.
- *Childcare systems* aim to aid families that face obstacles to participating in the labor force due to a lack of the resources necessary to care for young children.
- *LTC systems* aim to provide permanently disabled individuals and their families with the economic and social resources necessary to

perform vital activities and maintain their standard of living.

This Report aims to find common ground across countries and agencies in the principles and goals of their social security programs by identifying approaches that can be used for alternative purposes. Given the large amount of institutional diversity, we began by defining *programs, agencies, and systems*. Now we turn our attention to identifying the means of defining the right approach for each concept.

One consideration is that the evaluation of the adequacy of the pension levels provided by a national pension system should be largely independent of the financial model followed in each country, and is certainly one of the main evaluation indicators that can be identified for a pension system. However, agencies and programs within a pension system serve different populations, and although their goals should certainly relate to the overall system, these goals do not have to be the same. Adding to the complexity is the fact that an evaluation agency may have policy, administrative, control, and other goals. An agency may be most concerned with evaluation of the management of a program while the Congress or Ministry of Finance may be most concerned with the evaluation of a policy. Clearly, it is not possible to define a single model to fulfill all purposes. The approach followed in the previous CISS Report (CISS 2007) was particularly beneficial because it allowed for the division of the components of social security and the rebuilding of applications for specific cases.

Our current social protection programs are usually the result of long historical processes that have left national legacies. Thus, each system (*e.g.*, healthcare or pension) typically mixes a variety of programs and agencies, likely sharing visions regarding basic goals, such as providing retirement income, but conforming to varied organizational models that cannot be easily compared on significant dimensions, such as the cost of provision, the meaning of coverage, or the risks of each model to the population or the national budget. Therefore, it is useful to identify which components agencies and programs share before measuring the performance of different agencies and programs in a systematic manner.

II.2 Approaches: Social and Economic, Operations Research, Administrative, Fiscal, and Actuarial

It is typical and highly convenient for the agents involved in evaluation, including actuaries, administrators, auditors, economists, and operations researchers, to maintain alternative approaches to evaluation. It is therefore useful to draw a map of the alternative approaches to find the links between them and develop useful bridges that will allow meaningful comparisons. The use of each approach varies across programs according to its nature. For example, the actuarial approach is more often used to evaluate pension programs than healthcare programs, and applications from OR approaches are increasingly found to be important in the provision of healthcare services and social insurance.

Similarly, evaluation must consider the needs of different social agents. For example, administrations are typically very interested in an approach that provides them with elements with which to make decisions on day-to-day operations so they can focus upon achieving the goals mandated by their statutes. On the other hand, a ministry developing policies or an academic institution may be interested in an evaluation of a program and agency that considers its effects upon society, the labor market, the national budget, and other variables that may not be directly of interest to the operating agency.

Each of the following specialized chapters maps the existing knowledge with regards to the different approaches, pointing out to the ways in which they can be applied in alternative institutional contexts. Table II.1 summarizes the key concepts applied in different approaches to evaluation.

Table II.1
Key Concepts in Evaluation Approaches

Economic	Key concept: causality. Economists use behavioral models to identify how the environment or an intervention affects a variable. For example, an economic model may evaluate whether an increase in old-age economic benefits reduces the average age of retirement or whether a change in a formula to finance healthcare increases utilization of services.
Actuarial	Key concept: actuarial balance. Actuaries use numerical models to restrict the evolution of a system over time, given the rules and assumptions regarding behavior. Thus, predictions on demographics and financials are obtained and systems are evaluated in terms of their financial balance over time.
Administrative	Key concepts: customer satisfaction, efficient operations, consistent financials, and effective personnel management. In comparison with the other approaches listed in this table, administrative approaches do not strongly relate to a specific academic discipline. Administrative approaches are highly influenced by the training of administrators and the products offered by vendors for evaluation (*e.g.*, the software solutions).
Fiscal	Key concept: solvency. Governments are interested in the feasibility of social security programs, and as such combine actuarial and other statistical models to evaluate the impact of programs on public expenditures and deficits.
Operations research	Key concept: optimization of a complex system. OR engineers utilize statistics, optimization, stochastics, queuing theory, game theory, graph theory, decision analysis, and simulation to measure the efficiency of a system and the sources of inefficiency and recommend ways to find optimal solutions.

It must be made clear that there is not one preferred view. Depending upon the application, user, program, or agency under evaluation, each approach can add value to an assessment exercise. This is pointed out in Table II.2, which lists the weaknesses and strengths of each approach, which are then illustrated with examples in the following subsections.

II.2.1 Economic Approach

The economic approach presumes to follow the scientific method. Because economic models propose cause-and-effect relations, they naturally view programs as "interventions" that affect the behavior of individuals, and measure how and how much the programs affect such behavior. They may also simulate how program operations themselves are fed back into the program design.

A prototypical economic evaluation of social security relates the behavior of workers to the incentives offered by a pension program. In this case, economists model the decision of workers to supply hours of work, considering market wage schedules and worker saving and leisure options. A pension program affects this decision, usually through making it more costly for the individual to keep working once he or she is entitled to a pension benefit. Similarly, a mandatory pension program reduces the incentive to save private income. An economic evaluation typically attempts to measure the reduction in hours worked and savings as a consequence of receiving social security benefits. Several recent references to this application are contained in *Social Security Programs and Retirement around the World: Fiscal Implications of Reform,* an excellent book edited by Gruber and Wise (2007).

Many economic models that evaluate social programs are based upon the human capital theory, which argues that time has a value to individuals and that variations in its value influence their decisions. Once they had adopted this theory, many economic approaches began to be applied to almost any decision related to work, education, or participation in social programs. In childcare programs, economists study the value that mothers assign to their time working in relation to the value

that they assign to time spent caring for their children. This makes it possible to study the impact of a cash subsidy or an in-kind benefit on a mother's decision to use childcare services while working and on her decision to work. Similarly, economics models are used to study a family's decision to participate in the formal economy and obtain health insurance against the option of remaining in a job without such protection and paying for healthcare services out of pocket.

Table II.2
Strengths and Weaknesses of the Major Evaluation Approaches

	Strengths	Weaknesses
Economic	Potential for analysis of behavioral responses.	No existing theories of behavior for important cases.
	Use of more sophisticated statistical (econometric) techniques.	Too much "faith" in theory; higher risk of political bias.
	Ability to use the very large databases available today.	Requires information very often unavailable.
		Lack of standardization; comparability of studies usually only possible after long research periods.
Actuarial	Hard use of numerical models.	Difficulties in modeling programs in which individual family members change behavior as a consequence of the program.
	Consistent use of sampling theories and methods.	Risk of assigning permanent status to predictions based upon time-specific assumptions.
	Regulations on the profession and report to ensure consistency and comparability across time and organizations.	Social security agencies and other social programs may have little control over access, rates, and benefits in the midterm, and behavioral responses to programs can be very large and fundamentally alter assumptions.
	More reliable to the extent that administration has control over rules of access to programs, premiums, and benefits.	
Fiscal	Capacity to provide government with information on feasibility of public programs.	Ignores considerations of individual welfare to evaluate aggregate results.
	Ability to present programs in a form amenable to understanding by legislators.	Emphasis on cash flows; accrual accounting viewed as secondary.
Operations research	Careful modeling of administrative process.	Requires quality and flow of data not supplied by many organizations.
	Ability to evaluate operations' costs by process.	Assumes adequate definition of process in the organization.
	Very useful for established high volume, repetitive processes.	
Administrative	Ability to obtain balanced views.	Risk of bias due to administrative "conveniences".
	Provides useful tools to make day-to-day decisions.	Tunnel vision; lack of criticism for deviation of social goals.
	Provides tools designed to evaluate and manage.	Risk of falling into disorganized state due to excessive volume of information and criteria and the presence of many contradictory indicators.
	Ability to communicate with personnel in charge of the agency or program.	

The human capital approach is not the only model upon which the economic approach is based. Models on the behavior of organizations are also important for social security programs. Important examples are the studies that link the financing of social security to healthcare services and examine the operation of these services. For example, social security sometimes finances healthcare services through reimbursement or "line-item" budgets. This means that service providers make decisions on inputs and their costs, and then pass the bill onto a financial fund that pays for them.

On the other hand, some health insurance programs have transitioned to some form of "prospective payment" policy in which the financial fund pays providers according to an "expected cost" rule that transfers the risk of deviations in cost to service providers. Examples of prospective payment policies are those based upon *capitated budgets* and *diagnostic payments.* Capitated budgets base a healthcare service provider's budget upon the number of persons covered and their actuarial risk. The provider is responsible for providing services and must absorb the risk of cost overruns. Similarly, diagnostic payments compensate providers on the basis of the average cost of a diagnostic procedure, with cost savings or overruns absorbed by the provider. Many social security health insurance funds have moved towards this type of policy to promote cost control and saving among providers. Thus, an economic model may try to evaluate the impact of the change in policy on the behavior of providers. For example, it has been observed that diagnostic payments reduce the length of hospital stays and hospital mortality, while capitated budgets give providers incentives to reduce the number of high-cost physician consultations and restrict the access of individuals to costly hospital beds. In one study, Cutler (1995) found that after the U.S. Medicare program adopted a prospective payment program, hospitals observed changes in the timing of deaths and rate of readmission. This may be attributed to the fact that when hospitals see changes in the financial compensation for a specific patient diagnosis, they may decide to modify the way in which they classify patients, particularly patients with dual diagnoses. For example, a complex case may be "divided" into two diagnostic categories, generating an additional payment from the social insurance fund and a readmission event in the statistics. This sort of behavioral response to programs may be modeled with an economic approach.

While economic models often promise that they are based upon a robust understanding of the behavior of individuals and organizations, they face difficult challenges, primarily due to a lack of theories to explain important phenomena and the paucity of good data to apply existing theories. As in any field in academia, economists often study that which they best understand to solve the problems that they can. Although it would be ideal if all policy and administrative decisions were based on strong and reliable research, the real world cannot always wait for research solutions, and must often resort to the untried and unproven.

It should be noted that as large international financial institutions are dominated by economists, their evaluations of programs are generally biased towards economic approaches.

II.2.2 Actuarial Approach

The actuarial approach has a strong tradition in social security, in particular in the pension field. Most national pension programs were founded following actuarial studies that calculated the taxes and benefits that could be supported and, based upon these calculations, the investment policies that should be followed. Actuarial science has been experiencing a period of increased demand for its services as a consequence of the development of IT that has made it possible to apply its methods to a widening array of applications. The actuarial profession is subject to regulations that standardize its practice and allow comparisons of studies across time and organizations. Actuarial studies are often an integral

component of the financial information of public and private corporations. The use of well-established numerical methods and the intensive use of statistical samples allow actuaries to model the regular behavior of systems.

For social security, the prototypical application is the evaluation of a pension plan. An actuarial study uses demographic and biometric micro-data and tables that provide information on fertility and mortality; contributions and benefits; and assumptions regarding the expected behavior of external variables, such as interest and inflation rates. Its products are income, expense, and deficit projections over time measured in terms of cash flows and other accounting metrics, such as the liabilities of the pension plan at different points in time.

To the extent that the assumptions used in an actuarial model are accurate, its projections tend to be correct. For a private pension plan in which the insurer can control the admission of individuals, prices charged, administrative costs, and other variables, the studies can be quite accurate. Similarly, an actuarial study for a national pension plan in a country with stable demographic variables, low and predictable inflation, financial stability, and nearly universal coverage will yield fairly accurate data. On the other hand, an actuarial study of a country experiencing large demographic transformations, an unstable relationship between wages and inflation, and a large informal economy that can sap the growth of social security programs is likely to yield large projection errors.

In the health insurance area, actuarial studies have been increasing in size and complexity as health expenditures have reached record levels. These studies can make use of the very detailed information on diagnostics and unit costs provided by contemporary information systems used by hospitals and healthcare funds. The main challenges faced by the actuarial approach have been that the costs of treatment can change greatly after the introduction of new drugs and treatments and that the behavior of individuals and healthcare service providers can change substantially over relatively short periods.

Is there a guideline for when to use actuarial studies in policy analysis? In a sense, the answer is simply that we can always do so, and therefore the large databases of contemporary social security administrations and healthcare providers should be accessed intensively. However, whenever we expect important changes in behavior due to new conditions, such as new rules for participation in programs, new means of financing providers, significant economic instability, or other events that can alter behavior (*e.g.*, very large increases in the price of drugs), we must be careful in interpreting the results of these studies.

II.2.3 Fiscal Approach

The fiscal approach is relatively simple: It measures the cash flow produced by programs financed by the government budget and the public debt. Because it makes use of both the actuarial and economic models, it can be seen as a specialized application of these two approaches.

It is useful to review in detail the way in which countries evaluate the fiscal impacts of social security. Although not the only criteria used by governments to make decisions, they are very important. The main producers of information on the fiscal approach are the Organisation for Economic Co-operation and Development (OECD) and international financial organizations. These organizations have produced reports that indicate increasing concern about the impact of social security on public finances. When we review the main existing reports in the following chapters, it will be seen that most of their interest concerns the role of pension plans, but there is a growing awareness that health insurance may become an even bigger concern for national finance.

II.2.4 Operations Research Approach

Operations research (OR), a subfield of the engineering field, models administrative processes in detail and measures their costs to redesign them in an optimal manner. To the extent that such processes can be adequately modeled and the financial accounting of agencies allows the measurement of costs, OR can provide interesting insights into improving the management of agencies.

The main OR applications of interest for social security are in the service provision arena. It is helpful to consider a situation to illustrate the applications. Consider two hospitals: Hospital A is located in an urban region populated by low-income families while Hospital B in an urban region populated by middle-income families. One has more physicians, but the other has more beds. One has a higher budget per user than does the other. How do we measure and compare their efficiency? Do we measure the number of surgeries per bed? Do we measure the number of surgeries per physician? Do we measure the number of consultations per person covered? One answer is measuring all of these indicators to provide insights into the operations of the hospitals, but it may be very difficult or even impossible to reach conclusions useful for decision making after doing so. Should additional budget resources be provided to one of these hospitals? Is one of them wasting resources? Do they have too many physicians? Box II.1 elaborates upon this dilemma.

An OR approach offers systematic solutions to these questions. By modeling the entire process of service provision, an OR approach allows comparisons across different hospitals regarding their efficiency in the use of resources. It also allows the measurement of inefficiency and the linking of the measure of inefficiency with the measure of resource inputs. An OR approach may yield statements such as the following: "Hospital A is 10% more efficient that Hospital B, and two thirds of that difference can be attributed to Hospital B's excess use of drugs and one third to its inefficient use of physician time." Statements such as this can be very useful to an administration but may be difficult to produce in the absence of a well-defined approach to measuring operations.

The OR approach requires detailed information on the processes that produce the services, the cost of inputs, and the measurement of outputs. In the hospital example, we might be forced to define outputs as the number of consultations and the number of surgeries because these are the only data provided by existing databases. Even though we might prefer to define output as the state of the health of the population, we may not be able to measure that variable or link it to data on inputs (*e.g.*, drugs, beds, and physician hours).

However, we should not dismiss using an OR approach because of the difficult example we have just posed. Social security administrations can achieve success by developing an OR strategy. For example, an agency can identify in a very detailed and accurate manner the process followed to pay pensions. Then it can evaluate the efficiency of each of its agencies or intermediaries (such as banks) that pay the pensions, which, because they could number in the thousands in a large country, could be very difficult to compare otherwise. However, even in the more difficult cases, OR methods can be helpful in organizing and understanding information.

II.3 Administrative Approaches

Unlike the other approaches, which have a body of knowledge and a community of practitioners that follow, define, evaluate them, there is no prototypical administrative approach. While there are certainly administrative schools, there is no one theory of administration based upon a defining hypothesis and management methods.

The goal of an administration is defined by the vision upon which it defines strategies, procedures, incentives, payment schemes, and other factors necessary to achieve its goals. Evaluation in management is naturally based upon an organization's goal. For example, a very competitive firm in the

Box II.1

Why the Usual Means of Measuring May Be Misleading

Perhaps the most common form of evaluation used by many social insurance programs is basing evaluation upon a list of indicators. For the OR approach, the use of quotient indicators poses a very basic problem. The term *quotient indicators* refers to the way that the indicators are obtained, which is by calculating the ratio of two variables, such as surgeries per surgery room, time required to process a disability claim, and waiting time with relation to the number of services provided.

The number of quotient indicators can be overwhelmingly large, which poses a great challenge. Consider two hospitals that provide the same interventions and are both evaluated by a list of possibly hundreds of indicators, as hospitals are in most countries. However, one is a large hospital that serves a large city and the other a small hospital that serves a small city. It would not be surprising that one would report consistently better results for some indicators and consistently worse results for others. For example, hospitals in large cities often have more crowded emergency rooms and cost overruns from attending more complex diseases; on the other hand, they have lower unit costs and higher occupancy rates. Against these systematic contradictions, we need a methodology to weigh the results according to the environment of each hospital.

But there is more. Consider a third hospital that, according to indicators, performs the best in some areas and the worst in others. It can be shown that even if this hospital is the least efficient of the three, it will appear to perform better than one of the others when a strategy of quotient indicators is used.

Fortunately, there are techniques to deal with these issues. A robust one advocated by engineers and economists has been termed *data envelopment analysis* (DEA). “Measuring the Efficiency of Decision-Making Units” by Charnes, Cooper, and Rhodes (1978) is considered seminal and *An Introduction to Data Envelopment Analysis: A Tool for Performance Measurement* by Ramanthan (2003) is a useful reference for practitioners. Applying DEA makes it is possible to achieve consistent evaluation of operating units (*e.g.*, hospitals, clinics, and customer service offices), measurement of the degree of inefficiency, and the linking of the general measure of inefficiency with the use of particular inputs.

As with any evaluation strategy, managers must understand application possibilities and limitations and be able to interact with the experts. As with other contemporary techniques, DEA requires a commitment by the administration to invest in database development and the use of the tools. However, any manager of a large agency that has been faced with an unending meeting regarding the evaluation of indicators that appear contradictory would appreciate the possibility of developing consistent ways to measure results.

private sector may decide that its only evaluation criteria are profits. The reality is usually more complex, with even for-profit firms requiring evaluation of their operations and targets.

For non-profit organizations, as are most social security agencies, administrative evaluation can never be based upon profits. In addition, the agency’s vision is usually mandated by law, and even its administrative procedures are often defined in legislation or regulations promulgated by an authority outside the agency. Because most agencies must operate a program defined by law, they often do not want to concern themselves with criteria such as efficiency, customer service, reliability, and accountability. These agencies can be public or private, non-profit or for-profit, or national or regional, and may integrate financial and service provision features or specialize in and/or manage a single program or several.

For most countries, the final evaluation of social security agencies is not performed by the agency itself—often not even by the government—but by elected executive officers (presidents and prime ministers) and legislative bodies that make final decisions on the value of the programs and the ways they should be reformed. Nevertheless, just as pure

profit is rarely the single measure for evaluating a private company, a social security agency cannot wait every for political decision to be finalized before performing its day-to-day operations. Thus, while administrative approaches must be defined according to the vision of the agency in charge, they are also strongly defined by administrative practices and organization, which in turn are dependent upon the abilities and knowledge of managers as well as the technologies available in the market.

How can firms and agencies evaluate operations and results with the goal of better management? Is there a catalog of options, a menu-driven set of choices to select the best alternatives? The short answer to the latter question is no. Rather, the best way to manage is usually the result of a unique mix of managerial abilities, human capital, and the legacy left in place by past administrations regarding information systems and fixed assets. These and other factors that make each organization unique, such as its size and even its luck at a given point in time, provide it with the capacity to finance adjustments to the administration and manage the pressure of performing day-to-day operations.

The fact that there is a diversity of approaches that can be followed does not contradict the fact that there are management principles and techniques that have become generally accepted and tend to be used with more frequency than are others. Success can be achieved by agencies willing to discipline their administrations through an adequate mix of these techniques. Perhaps the principle that best summarizes these approaches is one that emphasizes the need to measure activities and results for successful management. "If you cannot measure, you cannot manage" is the relevant *cliché*. However, the act of measuring demands a definition of the objects to be measured, the metrics used to measure them, and a strategy for resolving problems.

One of the pioneers of administration evaluation was Edwards Deming, who provided the following insight on evaluation: "Measures of productivity are like statistics on accidents: they tell you all about the number of accidents in the home, on the road, and at the work place, but they do not tell you how to reduce the frequency of accidents" (1982, 15). Over the years, corporations and management schools have improved the methodologies that they use to define what to measure and how to measure it. In the following subsections, we discuss three approaches that have had a significant impact on the administration of social security agencies: the quality movement, balanced scorecard, and six-sigma approach. These terms do not refer to theories or hypotheses, and are not always viewed or only viewed as evaluation techniques. Rather, when an organization employs one of these techniques to define its operating, financial, and human resources processes, evaluation is a natural outcome.

Ideally, an organization will perform evaluations in a form fully integrated within its operating actions. For example, the data used for information will ideally be the same as those used for making day-to-day decisions. New technologies are making these approaches increasingly valuable. In the past, information for executive decision-making came in a statistical format with significant lags with respect to actual operations. Many modern organizations have been able to "eliminate the seams" so that all levels of management can access the same data online and on-demand.

II.3.1 Quality Movement Approach

Perhaps the most pervasive management approach that has been adopted by social security agencies is based upon the concept of *quality*, defined as the successful adoption of standards and compliance with them. While the term *quality* is quite general and can be employed within a number contexts, in this section we focus upon a specific approach based upon standardization and the measurement of compliance with a standard.

The quality movement (QM) approach began to be applied successfully in manufacturing. Measuring

quality in relation to the quantity of products produced with defects is a relatively straightforward concept. However, producers soon realized that to increase the quality of their final goods, it was necessary to imbue the whole production process with a quality approach that decreased errors in such areas as logistics, production lines, financial transactions, and responses to customer questions. Standards to promote quality control have been in use since the dawn of modern manufacturing, with the direct precedents of the modern approach originating from the arms production industry during World War II. During the 1980s, the QM approach began to gain the momentum that resulted in the prominence it now enjoys when it merged with management approaches that emphasize the measurement of operations and emphasize results as fundamental for the success of an organization.

From manufacturing, the QM approach began to expand into other fields, and today has specific applications in the service, government, healthcare, and finance industries. Among the more relevant applications for social security are those related to pension funds, including the investment of funds, operations of the pension system (*e.g.*, payment of benefits), determination of disability status, and registration of employers and workers; those related to healthcare at both the level of provision and risk management; and those related to safety and health at both the level of a fund that manages risks and the level of an employer. According to the Quality Management Institute (QMI), a provider of registration services for quality standards (www.qmi.com), a QM approach provides the following benefits: increased streamlining of processes, decreased scrap and reworked material, increased productivity, decreased costs, expanded production capacity, decreased cycle time, higher part-quality standards, extended process capability, increased process flexibility, greater preparation for new product production, and enhanced intercompany relationships.

The QM approach often employs standards developed by the International Organization for Standardization (ISO), a non-governmental organization within the framework of the United Nations, whose members are the national standards authorities. The ISO addresses many issues in addition to QM because standards have other important applications, such as safety and information. In addition, while the ISO is a global actor, it has no enforcement authority, and many industries have their own specialized standardization bodies. Regarding QM, the ISO issues the standards; the national accreditation boards regulate the certification bodies, which are composed of consultants certified by a national board; and the certification bodies certify the companies, government agencies, and other organizations willing to adopt ISO standards.

Who accredits? Who certifies? In large countries, where a significant demand for the QM approach has developed, a national body is often responsible for the accreditation of management systems. In the Americas, these bodies are the following: the ANSI-ASQ National Accreditation Board in the United States, the Standards Council of Canada (SCC) in Canada, the *Entidad Mexicana de Acreditación A.C.* (*EMA*) in Mexico, the International Automotive Oversight Bureau (IAOB), the *Organismo Argentino de Acreditación* (*OAA*) in Argentina, the Brazilian General Coordination for Accreditation (*CGCRE*) of the National Institute of Metrology, Standardization, and Industrial Quality (*INMETRO*) in Brazil, and the *Instituto Nacional de Normalización* (*INN*) in Chile. These national boards provide accreditation to certification bodies, which in turn support organizations interested in adopting and registering standards.

At the global level, the International Accreditation Forum (IAF) and IAF multilateral cooperative arrangements (MLAs) coordinate quality management system (QMS) and environmental management system (EMS) accreditation activities. While there can be several relevant ISO standards for social security agencies, depending upon the scope of their operations, the most commonly used is ISO-9001, which deals with QMS. Typically, an agency will

complete the following process to become ISO certified: 1) the agency makes a proposal to a certification body; 2) the certification body accepts the application and assigns an auditor; 3) the documentation is reviewed; 4) depending upon the standard, the agency passes through a pre-assessment stage; 5) a formal audit is performed; 6) the agency alters it polices or practices to conform to any necessary standards with which it does not yet conform; 7) the certification body registers and issues a certificate so that the organization can declare itself ISO certified; 8) the certification body performs surveillance audits; and 9) the certification body performs recertification audits.

The QM approach is widely recognized for its ability to provide a comprehensive and effective means of managing an agency's quality, directing an agency along a process of improvement, and helping an agency communicate to its clients and suppliers what to expect from the agency. For example, a certification body can help a social services agency improve the management of the pension process of benefit payment and can help a healthcare agency guarantee its beneficiaries that the procedures for refunding healthcare expenses or admitting patients for treatment are being applied equitably and consistently.

There are two main criticisms to the use of ISO standards: the cost of their implementation and the possibility of their misuse. The cost of implementation is not truly a deficiency in the QM approach. Certainly, there are costs of training and obtaining certification, but each organization must make decisions on the basis of clear criteria: Does it expect the decrease in operating costs and increase in the quality of services to compensate for the cost of adopting and certifying the standard? Criticism of the misuse of the process may be valid in a few cases, but the extent of misuse is unclear. The primary criticism is that an organization may obtain certification mainly for marketing purposes with no intention of making an effort to improve; that is, a flawed procedure may be certified and no attempt made to rectify the procedure. While it is likely that a few organizations may do this, this form of abuse may not be important in the mid-term. The reason is that the certification process involves costs that will not be justified if no improvements are achieved, and the external agents (clients and suppliers) will eventually realize that the organization is not providing any real benefit from the certification process. On the other hand, there is the legitimate consideration whether this type of abuse is more common among monopolies and public agencies that do not face the discipline of competition.

II.3.2 Six-Sigma Approach

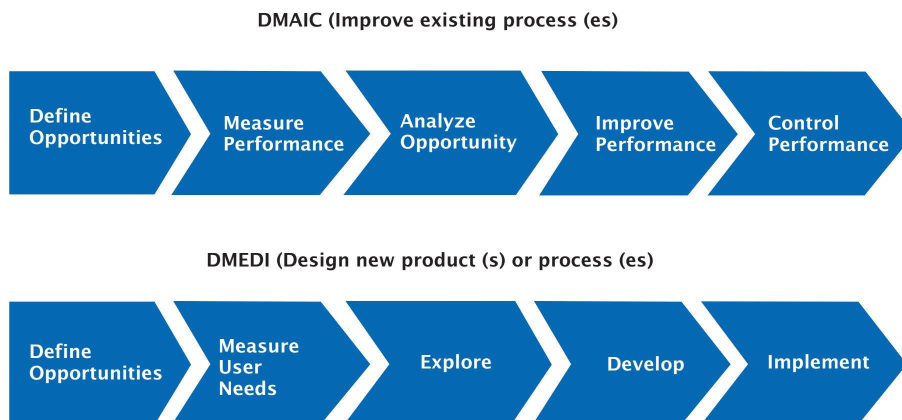
The six-sigma approach, which has been considered very successful in helping organizations achieve very high quality in their operations and supply of goods and services, allows the definition of administrative processes and operationalization of their measurement in a rich way, integrating statistics, management and strategy. Its application requires more than simply the commitment of management; it demands that the entire administration be redesigned to follow its management principles.

The term applied to the technique contains the Greek letter *sigma* (σ), which is employed by statisticians to denote a measure of deviation of a variable from its mean or expected value. Thus, an administration capable of adequately defining a process or result can measure it and calculate how far it deviates from an expected value through a measure denoted by the symbol. The *six* in six-sigma means that very low levels of error are allowed to measure errors; other numbers can be allowed, but the one used in the original applications denotes a high commitment to quality. For example, an agency in charge of a pension plan may state that it must pay pensions on the first day of the month, and will measure the average duration of its delay. Thus, errors will be measured statistically, and reduced to a certain level.

The six-sigma approach follows a strategy that has become well known within the business world. The six-sigma approach uses data and performs

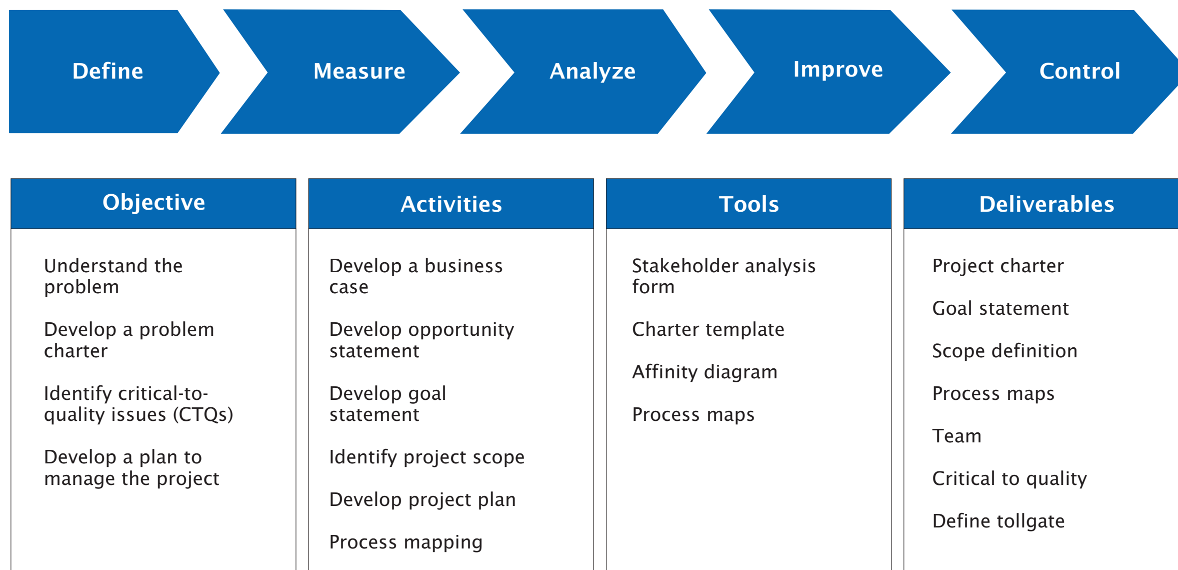
statistical analyses to measure and improve a company's operational performance, typically by describing applications for product development and improving existing processes. Figures II.1 and II.2 summarize the two approaches generally used.

Figure II.1
DMAIC and DMEDI Six-Sigma Models



Source: Adapted from Islam 2006, 24.

Figure II.2
DMAIC Define Phase



Source: Adapted from Islam 2006, 25.

DMAIC is an acronym used to encapsulate the five phases of the six-sigma improvement methodology—define, measure, analyze, improve, and control—as part of the process for product or process improvement. *DMEDI* is an acronym used to describe the five phases of product development—define, measure, explore, develop, and implement. The DMEDI process was designed to ensure that the desired business and financial results are achieved. While the limited scope of this report does not allow us to explain the six-sigma approach in detail (refer to Islam 2006 for a thorough introduction to the approach), we will demonstrate that it has been one of the more successful strategies operationalized within several industries in recent times.

As discussed in the section above on the QM approach, it is clear that the standardization of operations can be useful in measuring errors, and thus it can be useful to apply a six-sigma strategy. However, it should also be clear that the use of ISO standards is in no way necessary for applying this approach; what is necessary to apply a six-sigma strategy is a commitment by the entire organization to its application because it requires substantial levels of training and consistency in its application to be effective.

II.3.3 Balanced Scorecard Approach

The balanced scorecard (BSC) approach is a methodology that has become popular for organizing the large flows of information available to contemporary organizations. As with the more theoretical approaches (economic, actuarial, and OR), the explosion in database sizes and computing capacity has made it feasible to adopt models of a sophistication that had been unattainable just a few years ago. It is expected that the improvement in IT will be very large and that the capacity to develop these models will increase at a high rate for at least several decades.

Before explaining the BSC approach, we would like to point to a few examples that illustrate the volume of information that may be available to a social security organization:

- A social security agency can access online data pertaining to applications for disability benefits to determine who is asking for benefits and for what reasons at the exact moment that the applications are presented.
- A health insurance fund can determine the level of occupancy of each type of hospital bed among the thousands it finances. It may also be able to determine which patients are in the beds and their diagnoses.
- A childcare system can provide parents with immediate access to information on childcare centers that have spaces available, either by accessing the Internet or calling a toll-free telephone number. Parents may also be able to access information on their eligibility for subsidies, the services provided by a center, and the status of their child at a given point in time.

As these limited examples demonstrate, it is very challenging for any manager in charge of receiving all this information to organize it in a meaningful way. The BSC approach, one attempt to do so, is applied by most large software packages to allow all employees in an organization to participate in strategic management and access updated data on everyday activities so that they can contribute to organizational success.

One advantage of the BSC approach is that it allows performance reviews to be performed more easily and consistently across all levels and departments in an organization. The BSC strategy should not be seen solely as a way to manage and organize data but also, because of its adoption of a "causality view," a way of organizing information in ways that signal why certain operations are successful or unsuccessful. The BSC approach borrows from psychological approaches to achieve the best possible interface between statistical models and human understanding. Thus, one of its aims is to achieve a structure of information that allows all

individuals in the organization to easily access and evaluate the information relevant to their particular situation. The BSC approach is sometimes illustrated through a graphic model placed within four “walls,” each one dedicated to a strategic feature: human resources, financials, operations, and customer service. This description changes across applications, depending upon the user organization. For example, the walls of an alternative model may be customer service, financials, internal processes, and learning and growth.

From the preceding description, it can be inferred that a BSC application may make intensive use of all the other techniques mentioned in this chapter for evaluation and monitoring. A good BSC application contains in-built econometric and actuarial models to identify cause-and-effect relationships, is able to measure whether and how a quality strategy is working, and employs operations researchers in an intensive manner. Box II.2 illustrates data mining, a technique highly complementary to the BSC approach that has been increasing in popularity.

II.3.4 Financial Approach

In practice, there appear to be two “syndromes” that affect the evaluation of social security programs. One syndrome arises from the fact that evaluation is biased towards financials because of the political weight given to fiscal control. The other syndrome arises from a focus upon simple and partial information due to a lack of appropriate financial information; some public programs and agencies do not develop financial statements properly, making it very difficult to measure costs and apply basic management techniques. Even though financials are only tools to help provide final services, they are necessary for good management.

In this section, we do not explain the manner in which financial evaluations are performed by social security agencies but rather point out why and how the two syndromes must be addressed. A program evaluation approach based predominantly upon financials must evolve into a more balanced approach by the incorporation of other factors. This dependence upon financials appears more common among pension programs and agencies established as state-owned corporations. Part of the reason for this syndrome can be attributed to the increasing focus upon internal control approaches. Across Latin America and the Caribbean (LAC), transparency and budget control legislation has created large regulatory bodies that focus upon mainly financial issues in their surveillance of social security programs and of public programs. For example, the evaluation of procurement processes basically follows compliance processes that pertain to laws on purchasing. Certainly, compliance with a law on purchasing by a public agency should always be very high in the agenda, but it should not obscure that the goal of the agency is to provide health services.

The other syndrome, a lack of financial information, is somewhat common in public programs that have operated in a centralized fashion (that is, as part of a government department) and thus have not developed proper financial accounting procedures. This is the case in some public health systems and in childcare and other programs financed directly by central budgets and managed centrally. As information, financials are basically signaling devices that help agencies organize their operations, human resources, and services. Thus, in the absence of basic developments, programs and agencies find themselves unable to develop similarly basic evaluation and monitoring strategies.

II.3.5 Legal and Technological Challenges

Evaluation strategies are bound to face challenges arising from privacy issues and other legal constraints, as well as the rapid development of IT, software capabilities, and applications for evaluation, which will only become more complex in the years to come. While transparency is valued in a democratic society, it is clear that not all information can or should become public. For example, citizens have interests in keeping private personal information regarding medical treatments, marital status, or pension income.

Box II.2
Data Mining

Managers are often faced with an array of administrative fads with peculiar and sometimes mysterious or motivating names. However, it is not always easy for the non-expert to judge when a claim of innovation is legitimate. *Data mining* is a phrase that has been gaining popularity, and we explain in this box how it fits into a general evaluation strategy for a social security administration.

Data mining is defined as the process of exploration and analysis by automatic and semiautomatic means of large amounts of data with the purpose of discovering rules and patterns that have meaning. Data mining has certain synonyms, including learning by machine, statistical learning, knowledge discovery, and artificial intelligence.

Data mining is usually subdivided into two large sets of applications. In supervised learning, the goal is to predict the value of a result on the basis of the number of metrics of inputs. In non-supervised learning, there is no measurement of the product because the goal is to describe association among patterns in measures of inputs.

Some prototypical examples of data mining include predicting the order of answers in a database of transactions, predicting whether a customer will default based upon creditor consumer data, detecting fraud when invoicing registries, predicting activity from a database of transactions, detecting attacks to a network from traffic data, and identifying spam from patterns of words in headers and texts of e-mails.

The more practical approach used for most businesses applications is supervised learning. When using it, it is indispensable to consider the very large databases that allow the use of the typical paradigm of machine learning. Usually, there is a need for large samples for learning and one or more additional samples for validation.

It is not difficult to identify useful applications for social security agencies. For example, an agency may be concerned about how to recapture workers who have left the system and moved into the informal economy. While analysis is often quantitative, it is also possible to develop more sophisticated qualitative models to analyze such factors as the role of wages and behavior of firms in the regional economy. By nature, social security is a program with very large databases that contain much information on individuals and employers. While this large volume of information was difficult to manage in the past, the contemporary capacity to process data has allowed data mining to be very useful for a modern social security agency.

With respect to the other approaches studied in this Report, it should be mentioned that data mining employs econometrics and statistics intensively. In this sense, it is part of the approaches explained in previous sections. Good data mining applications can be used in QM, six-sigma, and BSC approaches.

For social security agency officials, the goal should not be to learn the technique of data mining. Rather, they should have an understanding of the subject at an operative level, including understanding the limits of data mining, the tools available, the quality of the work carried out by specialists, and the use menu-driven tools.

The success of an application is highly dependent upon the consolidation, cleaning, and organization of the data. The results will be applicable to BSC and other approaches. The software for data mining is sold commercially and usually compatible with the architecture of organizational systems.

Even information on the activities of public agencies can be subject to improper use if an inadequate regulation on revelation is adopted; for example, a requirement to provide information on public bids on contracts may unduly increase the costs of providing services. Thus, it is necessary to identify and evaluate the main legal challenges faced by evaluation strategies as technology provides for more substantial but also more complex strategies.

II.4 Comparative Advantages of the Approaches

This section presents a comparison of the relative strengths and weaknesses of each of the approaches

discussed above. Table II.2 summarizes the discussion. Because administrators are typically not experts in any of the academic approaches, their goal should be gaining understanding of the power of these approaches to be able to discuss them with experts and ultimately apply them to their agencies.

II.5 Approaches of the Main International Organizations

The final section of this chapter briefly describes the approaches used by some of the main international organizations. Each organization has a specific vision according to which it develops its goals. Naturally, its evaluation approach tends to be consistent with its goals. Some specialized agencies that manage a subset of social risks use approaches that are weighted towards financial, fiscal, social, or other criteria. Some agencies are regional and some global, some public and some private, and some non-governmental and some hybrids. It is important to note that some areas of evaluation seem to have received more attention while, with respect to certain social risks, other areas show a large gap in the measurement and understanding of realities.

Evaluation by international agencies sometimes refers to evaluation of their own operations and sometimes to the programs and agencies in their member countries. The aim of this section is to provide understanding of the evaluation approaches used by international agencies and support the systematic use of evaluation approaches by social security agencies.

The World Bank

The World Bank (WB) performs evaluation of both its own operations as well as social data with the aim of supporting its operations. Whereas the former type of evaluation is performed by the Independent Evaluation Group (IEG), which the WB created specifically for that purpose, the latter is more commonly linked to its credit operations.

The members of the World Bank agreed in 2002 to focus upon supporting countries' abilities to manage for results. Additionally, they agreed to work towards harmonizing the results-based approaches of all the development agencies. The 2006 Independent Evaluation Group (IEG) Report recognizes that only limited advances have been made in the strategy, to which it attributes the lack of a systematic application of methodologies; specifically, a "lack of capacity and the additional cost of data collection" at the country level, insufficient incentives for collaboration across teams, and the placing of too much attention on easy targets to obtain and measure results (World Bank 2006).

With respect to development activities, the WB prints a manual that recommends the following list of tools: performance indicators, the logical framework approach, theory-based evaluation, formal surveys, rapid appraisal methods, participatory methods, public expenditure tracking surveys, cost-benefit and cost-effectiveness analyses, and impact evaluation (World Bank 2004).

The Inter-American Development Bank

In 2002, the IADB members also agreed to stress the role of results-focused evaluation strategies. The Office of Evaluation and Oversight (OVE) of the IADB lists the following priorities in its most recent annual report: Country Program Evaluations, Policy and Instrument Evaluations, Sector and Thematic Evaluations, Ex-post Project Evaluations, Oversight of Bank Systems and Processes, Evaluation Capacity Development, and Participation in the Development Evaluation Community of Practice. The last priority listed by the IADB refers to the effort, primarily that of the Evaluation Cooperation Group (ECG), to link the major international financial agencies (IADB 2006).

The Evaluation Cooperation Group

The Evaluation and Cooperation Group (ECG) has as members the development banks of Asia, Africa, the Americas, and Europe, as well as the WB and the International Monetary Fund (IMF). It was founded in 1996 to support a learning environment across these agencies, which, being very large and well funded, play a large role in determining how countries ultimately evaluate themselves. The ECG focuses mainly upon the evaluation of operations by producing documents regarding such matters as evaluating the independence of an evaluation body and establishing good practices for the evaluation of loans and public sector operations. Perhaps its main innovation has been its development of a "peer review" process that aims to strengthen good practices in the evaluation of the operations of the large development agencies, as well as establish cross-reviews among them.

The UN Evaluation Group

The UN Evaluation Group (UNEG) faces a special challenge, as it comprises 43 agencies in quite diverse fields. This agency was redefined in 2000 after having been established in 1984 as the Inter-Agency Working Group on Evaluation. In 2005, it issued its Norms and Standards for Evaluation (see http://www.uneval.org for a complete listing). Each UN agency has its own evaluation policy. In 2006, UNEG established a working group on the issue of "delivering as one" wherein "one UN pilots at the country level, with one leader, one program, one budget, and where appropriate, one office" (UNEG 2007). This ambitious goal has been advanced in the Americas with the development of a pilot case in Uruguay (UNEG 2008). It is certainly of great interest to the world community that the United Nations aims to make advances in the modernization and streamlining in the evaluation of and by its agencies. Among the 18 UN agencies involved in the Uruguay pilot are the International Labour Organization (ILO) and the Pan American Health Organization (PAHO), two organizations that are greatly involved in social protection. Regardless of their areas of specialization, it is in the best interest of all organizations to support this UN effort.

OECD Development Evaluation

The Organization for Economic Co-operation and Development (OECD) focuses its efforts upon the evaluation of development assistance via its evaluation network, which has close ties to the Development Assistance Committee (DAC). OECD committees and the network, which have as members the delegates of the member countries, are supported by the OECD Secretariat.

To gain understanding of this effort, it is important to note that OECD members are the relatively wealthy countries in the international community that often maintain international aid agencies. Thus, the OECD network works as a knowledge exchange center to promote evaluation, harmonize the practices of different countries, and facilitate the coordination of studies across countries (see http://www.oecd.org for more information).

CHAPTER III
EVALUATION OF PENSION PROGRAMS AND SYSTEMS

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III.1 Introduction

The evaluation of pension programs and systems is concerned with the extent to which these have fulfilled their goals. Monitoring aids in their evaluation by allowing the examination of follow-up indicators related to their pursued objectives. Pension programs are aimed at preventing people from falling into poverty by providing adequate standards of living at old-age; in case of disability or death pension programs are also concerned with providing for the well-being of the economically dependent individuals.

A pension system may be comprised of one or several programs. When focusing on a system at the country level reference is usually made to pensions from a broad or agency-inclusive point of view. When pension systems are fragmented, as in several countries in LAC (see CISS 2004a), each existing program generally has its own agency, with its own particular financial and administrative procedures.[1] While the aim of providing pension protection is the same across pension systems the means to attain this goal may be quite different in terms of the pension system's design.

The literature on the optimal design of pension systems suggests that they should include at least three sources of retirement income: a safety net or minimum pension for all citizens financed by general taxes; a contributive (occupational) pension financed by payroll taxes; and individual voluntary saving (World Bank 1994). More recent studies have redefined the optimal design to include five sources (World Bank 2005a, 2005b): pillar zero is a non-contributive pension; pillar one is a contributive pension according to earnings; pillar two is compulsory and based upon the creation of individual accounts; pillar three consists of flexible voluntary arrangements (financed by the employer, of the defined contribution or defined benefit type); and pillar four consists of additional monetary or in-kind transfers (inter or intra-generational transfers, including health insurance, and family transfers).

The design of pension systems in LAC is often affected by informality in the labor markets that leads some informal sector workers to avoid paying social security contributions. The low levels of tax collection increase budget limitations which have led some governments to develop non-universal pension systems wherein some workers are entitled to neither a basic non-contributive pension nor a contributive pension. At present, the situation is that many people are living in poverty at old-age (CISS 2006, ECLAC 2003). For this reason LAC governments are assessing the possibility of expanding pension coverage through non-contributive pension programs.

[1] Fragmentation of pension systems means that there are different social security agencies for different types of workers—such as the workers of the public sector, the private sector, the oil industry, etc.

This Chapter is aimed at addressing the following questions related to the evaluation of pension programs and systems in LAC. Have pension programs achieved the goals for which they were created? Is the true financial situation of pension programs known? Is there a sound fiscal policy that addresses future government expenditure in pensions? Are appropriate laws and regulations in place to guarantee the correct operation of pension programs? Have the effects of pension programs on poverty, employment, and saving been measured? Has the performance of the agencies responsible of pension programs in the region been examined?

These questions are the focus of the various approaches to the evaluation of pension programs and systems—fiscal, actuarial, legal, economic, social, administrative—that were identified in Chapter II as the most relevant to obtaining a comprehensive view of a variety of disciplines concerned with the design, operation, and management of pensions. Some studies have focused on the desirable aspects of pension systems, such as equity, coverage, income replacement level, and financial sustainability, to examine their performance (Council of the European Union 2003, Aon Consulting 2007). The balanced approach presented here discusses these aspects and helps to organize the study of the evaluation of pension systems when fragmentation occurs.

For a credible evaluation of pension programs or systems those who perform it should be independent of those who request it, typically the Congress, Ministry of Social Protection, the Treasury, or the social security agency. Identifying the purpose of the evaluation, whether to gain greater administrative control or knowledge of fiscal imbalances, or re-examine design issues such as equity and adequacy of benefits, indicates which evaluation approach would be more useful.

The Chapter is divided into six Sections; each of which examines the orientation of the different approaches and presents recommendations based upon their analysis. The actuarial approach focuses on the financial situation of a pension program in Section III.2. The fiscal approach examines how governments face pension liabilities using public funds in Section III.3. The legal approach is based upon the necessity of regulating pension programs to promote transparency and economic competition in Section III.4. The social approach addresses the adequacy of pensions regarding the level of benefits and the extent of insurance provided for the population in Section III.5. Finally, the effects of the rules and benefits of pension schemes on economic outcomes are considered in Section III.6. The administrative approach, which evaluates the performance of the pension agency, is widely discussed in Chapter II.

III.2 Actuarial Approach: Financial Projections

Is the pension program financially sustainable in the short- and long-term? What are its expected revenues and expenditures? Should premiums be adjusted? When and by how much? Actuarial studies examine the financial and fiscal situation of pension programs and systems to address these questions. According to the International Labor Organization (ILO 1998) the main objectives of actuarial studies are to: 1) establish the financial status of a pension scheme and its likely future financial development; 2) assess the long term financial sustainability of the scheme with respect to current contribution rates and the chosen method of financing; 3) identify reasons for possible future disequilibria; 4) propose measures of ascertaining financial equilibrium; 5) propose possible changes to the financing method; and, 6) assess the adequacy of the level of benefits provided.

III.2.1 Actuarial Valuations

Actuarial valuations produce projections of income, expenditure, and the fiscal deficits for defined benefit (DB) schemes, in terms of cash flows and of associated metrics of liabilities—acquired, projected, and generated throughout the year. To do so, actuarial models require as inputs: 1) knowledge of the legal

framework that describes which benefits will be provided in the pension scheme and under which eligibility conditions; 2) biometric tables that provide information on mortality, disability, and retirement rates; and, 3) economic assumptions on interest and inflation rates, and economic growth.

Common outputs in actuarial and financial studies for the purposes of the technical evaluation of pension programs are: 1) demographic projections of current and new-entrant workers, including de modeling of the expected mortality of the beneficiaries, and the calculation of dependency indexes; 2) indicators of solvency and fiscal sustainability derived from coverage rates and financial cost in terms of gross domestic product (GDP) and aggregate salaries; and, 3) indicators of the benefits' adequacy as gross and net replacement rates and the calculation of the premium needed to maintain the level of benefits during a period of time.

III.2.2 Actuarial Practice in LAC

Actuaries should follow generally accepted accounting principles when producing financial reports. In spite of this fact, actuarial valuations in LAC are performed in a variety of formats. To examine this topic in detail the Inter American Conference on Social Security performed a comparative study on actuarial practice in social security agencies in the Americas.

The document (CISS 2004b) identifies common elements in actuarial studies of social security agencies in Argentina, Canada, Chile, the United States, Mexico, Panama, and English-speaking Caribbean nations. Among the main topics it examines are: economic and demographic projections, assumptions and methodology, review of financial experience, benefit schemes, legal and administrative issues, short-term projections, alternative scenarios for sensitivity analysis, and long-term projections of income and expenditure.

The document finds that only few actuarial studies include most aspects examined. The main areas in which actuarial studies of social security pensions could be improved are the analysis of alternative economic assumptions, the clarification of the methodology that is being used, and the explanation of the role of the government in reducing fiscal deficits (see Section III.3 below).

III.2.3 Recommendations

Actuarial valuations of pension programs should be undertaken periodically; usually no later than every three years, depending on national legislations, following the main principles of objectivity, transparency, scientific rigorousness, explicitness, simplicity, and consistency. Useful guidelines of actuarial practice in pensions can be found in IAA (2002) and ILO (1998).

Some of the features of the actuarial approach are the following:

- Actuarial valuations of pension plans are very sensitive to the demographic and economic assumptions adopted. Alternative scenarios for the aging process, mortality trends, interest rates, and inflation rates may lead to surprisingly different results. For this reason, actuarial studies should include alternative scenarios in which the sensitivity of income and expenditures is assessed.
- Actuarial models are now easier to develop due to increasing availability of IT and databases. However, in many situations the basic input data for actuarial models, such as biometric tables or individual records on work history, including wages, contributions, and periods of employment and unemployment, are still unavailable. Efforts to collect these types of data should be encouraged to increase the accuracy of the models.
- If changes in the behavior of individuals affect the assumptions made in actuarial models—e.g, a reduction in the labor force participation rates due to changes in benefits—the results obtained by actuarial studies may be misleading. This

suggests the inclusion of behavioral models in actuarial studies, if possible.

Assessment of the objectivity of the evaluation of a pension program should be based upon the degree of interdependency between the actuary responsible for performing the actuarial valuation and the person who requested the valuation. Is the actuary an employee of the social security agency or an independent consultant? Some countries believe that credibility is increased by employing independent actuaries to audit the models and evaluate the results of the agencies. Other countries believe that the strengthening of the public service sector and ensuring that a legislative body or a national accounting office performs the evaluation provides a level of trust required to gain public confidence in the work of their social security actuaries.

Performing an integral actuarial valuation is useful for governments wishing to assess the fiscal burden of all pension programs within fragmented pension systems. However, such a valuation is rarely performed.

III.3 Fiscal Approach: Solvency of Pension Systems

How do governments face the fiscal burden of pension systems? This burden may not only include being a contributor to the financing of pension benefits but also being responsible for the payment of direct and indirect costs of pension reforms. For example, governments must fund the transition from pay-as-you-go (PAYG) systems towards a system of individual accounts, as well as pay the costs of implementing the regulatory structure. The main issue for the evaluation of pension systems from the fiscal point of view is determining how pension debt can be most effectively managed over time. This issue has significant relevance because it has both inter- and intra-generational effects (see CISS 2003).

III.3.1 Examining Government Expenditures Expenditure and Fiscal Adjustments in LAC

In LAC, periods of public expenditure contractions have had repercussions for the financing of pension systems. Braun and Di Gresia (2003) document that public spending is procyclical in Latin America (i.e. decreases during recessions)[2] and, although social spending as a percentage of total spending has increased during crises, the depth of fiscal adjustment during economic downturns has resulted in a decline in real social spending. Thus, fiscal adjustments in LAC have constrained the effectiveness of social policy to protect the vulnerable population during economic downturns.

Another significant factor in government expenditures is fiscal transparency, which is broadly defined as the openness of the government to the public regarding its structure and functions, fiscal policy intentions, public sector accounts, and fiscal projections; thus, permitting a clear assessment of past fiscal performance, the current fiscal position, fiscal risks, and the future direction of fiscal policy (Parry 2007). Transparency goes beyond the internal monitoring of government activities for greater accountability; improved internal monitoring promotes better accountability which in turn promotes better governance and decreases corruption (Shah and Shacter 2004).

Among the factors that should be promoted to increase fiscal transparency and accountability in LAC are the following: 1) forward-looking fiscal policy; 2) the identification of fiscal vulnerabilities; 3) the monitoring of fiscal activities; 4) decentralization, a process that is still incipient in many countries; and, 5) increased public access to information because, unfortunately, much of the information that citizens need to hold governments accountable for their

[2] Braun and Di Gresia (2003) explain that both, the automatic and discretionary responses of the budget to the cycle are more procyclical in LA than in wealthier countries. The automatic response is more procyclical because Latin American governments have a smaller proportion of automatic stabilizers such as unemployment insurance (CISS 2006, Chapter V). The discretionary response is more procyclical because volatility, political constraints, and weak institutions make saving during good times difficult.

policies in the course of a budget-year is not currently publicly available Parry (2007).

Despite this challenge, Braun and Di Gresia (2003) offer some cause for optimism: [Efforts for] "…reforming the budget process, improving federal fiscal arrangements and implementing credible and flexible fiscal rules require difficult political compromises that generate payoffs in the future… However, the recent experience with fiscal management in Chile, together with the implementation of the Fiscal Responsibility Law in Brazil, can provide hope, good examples and useful lessons. For example, the central government in Brazil took advantage of the negotiating power it gained from offering to take over the States' debts to pass a reform that appears to be limiting sub-national spending and debt…" (p. 30).

Public Pension Spending

Palacios and Pallares-Miralles (2000) documented that, in the 1990s, public expenditure on pensions in LAC was positively related with the proportion of the population that was elderly. They also found that public pension spending as a percentage of the GDP in LAC oscillated between 0.2 and 15% of the GDP. For these years, Uruguay, Cuba, Argentina, and Chile were the countries with the highest levels of expenditure on pensions.

CEPAL (ECLAC, 1998) calculated the total implicit retirement pension debt based upon the same methodology (of a simulation of a common reform) in all countries examined. The results showed a very high cost (debt) in Uruguay, Brazil, Argentina (between 202 and 305% of the GDP); a high cost in Cuba, Panama, Chile, and Costa Rica (between 94 and 151%); a low cost in Peru, Mexico, Venezuela, Paraguay, Colombia, Venezuela, Nicaragua, Bolivia, Guatemala, and the Dominican Republic (between 22 and 45%); and a very low cost in Ecuador, Honduras, El Salvador and Haiti (between 4 and 19%). The pension debt depended upon the size of the elderly population, the coverage offered by social security, and the generosity of the pension systems. These results are not comparable with those of countries that use different methodologies.

Other recent calculations of the fiscal cost of pensions are presented in Table III.1.[3] It is precisely due to discrepancies in results when using different methodologies that Section III.2 points at the

Table III.1
Estimations and Projections of the Fiscal Cost in Six Countries Before and After Reforms Compared with 2003 World Bank Projections (percentage of GDP)

	Initial and national projections				WB projections		
	Initial year	2000	2020	2040	2001	2020	2040
Argentina	2.5	1.8	0.3	0.2 4/			
Argentina	N.A.	3.1 1/	1.2	0.3	2.5 1/	2.3	3.6
Bolivia	0.2	2.2	0.9	0.2	3.5 6/	2.1	1.7
Colombia	0.9	1.5 2/	2.2	2.0 5/	1.6	1.0	3.4
Chile	3.8	6.1 3/	3.6	3.3	7.2	3.4	0.5
Mexico	0.9	N.A.	1.0	N.A.	0.5	0.7	0.7
Uruguay	5.1	4.5	3.8	3.6	4.0	2.1	2.5

N.A. = not available.
Notes: 1/Averaged 4.6% annually in 1995–2001. 2/A further study estimated 3% in 2000. 3/Averaged 5.7% annually in 1981-2000. 4/A further study estimated +1%. 5/Year 2025, the projection stops before reaching the year 2040. 6/The WB also estimated 5% in 2001.
Source: Mesa Lago 2004

[3] For more details about the used methodologies, see Mesa-Lago (2004).

usefulness of the guidelines for actuarial practice regarding social security pensions. Table III.2 presents some examples of fiscal sustainability indicators (rate of return to investment, expenditure in terms of the GDP, superavit or deficit of the pension system in terms of revenues and GDP, assets relation to pensioner), in 2000-2002 in LA countries, using different methodologies and projection periods.

III.3.2 Best Practices in Managing Government Expenditure

The monitoring and auditing of government expenditures is crucial in achieving the adequate use of public funds. In the case of pensions and other social programs this issue is controversial as there is uncertainty regarding revenues and expected obligations. However, there is disagreement on the best way of accounting for these obligations. Over what period government obligations to pension programs should be assessed? Is it from the moment that people are eligible to receive benefits (when they become elderly) and the obligation is explicit, or from another date (such as when people start working) at which obligations start being implicit?

Accrual and Cash Flow Accounting of Pension Obligations

Cash flow accounting is based on the present value of a quantity of cash (paid or received) within a certain period.[4] The actuarial studies examined in Section III.2 are based on projected cash flows. The accrual accounting of government expenditures differs from the cash flow method in the timing at which transactions are considered; under accrual accounting the government would record transactions when it is obligated to pay for them.

More specifically, accrual accounting "recognizes transactions and events when they occur, irrespective of when cash is paid or received. Revenues reflect the amounts that came due during the year, whether collected or not. Expenses reflect the amount of goods and services consumed during the year, whether or not they are paid for in that period. The costs of assets are deferred and recognized when the assets are used to provide service" (IFAC 1991). Full accrual accounting is similar to the commercial accounting systems used by private enterprises—(Schiavo-Campo and Tomassi 1999).

It has been argued that accrual accounting provides a more convenient framework for registering general government liabilities and expenditures. Regarding pension systems, and other social assistance programs, large debates have been taking place in recent years to find the best accounting approach to obligations (IMF 2007, OECD 2002, 2003a, GAO 2007). This has been particularly motivated by episodes of pension plan under funding, lack of comparability across studies, and by the growing necessity of recognizing government's pension liabilities, such as recognition bonds in some countries. Monitoring, in all debates, has been the main component of the proposed changes to the government accounting method used for pensions.

In most countries, pension obligations have been only recognized as cash flows when pensions are due for payment (PAYG). Studies that compare the expected pension payments with the expected tax revenues are very useful in assessing whether future cash receipts will be sufficient to fund pension payments. However, governments have accumulated considerable pension obligations to be paid in the future that they have not measured. The failure to measure these accumulating obligations means that important data on the current liabilities of governments are not recognized in general purpose financial statements. These obligations must be accounted for if governments want to control their future flows of resources (Donaghue 2003).

[4] Discounted (money) value in a specific date of money transactions at different points in time, using an an interest rate and a discount rate.

GAO (2007) examines some of the challenges of using accrual accounting methodologies to account for pension liabilities. First, the data analyzed should be timely and reliable. Second, it remains difficult to make assumptions regarding inflation, interest rates, and other related variables included in projection studies. Third, although accrual budgeting can provide more information about annual operations that require future cash resources, it does not provide sufficient information to understand broader long-term fiscal sustainability; an accrual budget does not include costs associated with future government operations and thus would not aid in recognizing some of the long-term fiscal challenges faced by social security. Fourth, the social security financial sustainability is better examined in relation to other national governmental programs. At present, a combination of traditional actuarial budgetary projections and accrual accounting methodologies would aid the better assessment of government liabilities.[5]

III.3.3 Recommendations

Regarding the issue of accrued pension liabilities the consensus has been to include, or at least to attempt to include, accrual accounting methodologies in addition to traditional cash flow projections to examine future expenditure planning. Including accrual accounting methodologies appears to be a necessity in financially vulnerable countries in LAC.

This will not be an easy task for LAC countries, particularly because their large informal labor markets pose an additional challenge in terms of considering the exact periods in which governments accrue pension liabilities, which relate to transitions into and out from formal employment. In this regard, adequate data collection continues to be a priority.

Among the range of measures for a fiscal position that have been suggested are the projected debt-to-GDP ratios, and the construction of fiscal gaps. Reports on accrued government pension obligations should be produced periodically and be part of the information available to citizens and to those who make budget decisions; public awareness of fiscal concerns should be promoted.

III.4 Legal Approach: Regulation and Surveillance of Pensions

Are the regulators and persons in charge of surveillance, governance practices, accountability,

Table III.2
Financial Sustainability Indicators, 2000–2002
(percentages, except in the first and last column)

Countries	Financial regime (2003)	Real investment return[1/]	Pension expenditure (% PIB)	Superavit (+) or deficit (-) as a percentage:		Contribution equilibrium (%)[2/]	Assets relation per pensioner
				Income	GDP		
Brazil	PAYGO	0	10.5	-61.1	-4.4	N.A.	1.7
Cuba	PAYGO	0	6.5	-51	-2.2	15 a 20	2.5
Guatemala	PCC	10.4	0.4	+47.2	+0.2	3.9	5.9
Honduras	PCC	6.2	N.A.	+66.1	N.A.	3.5	22
Panama	PCC	6.2	4.1	+20.8	+1.1	16.2	5.9
Paraguay	PCC	N.A.	0.7	+37.7	+0.4	N.A.	7.5
Venezuela	PAYGO	N.A.	0.5	-26.7	-2.4	11	7.5

N.A. = not available. PCC = partial collective capitalization.
Notes: 1/Guatemala 1999-2000, Honduras 1994-2002, Panama 1997-1999. 2/The methodology and the projection periods are different among the countries studied.
Source: Mesa Lago 2004.

[5] See Diamond and Orzag (2004) for a discussion on the pros and cons of substituting actuarial projections for accrual accounting methods to assess pension liabilities.

and investment prepared to operate a pension system? Once a pension system is designed and implemented, it is necessary to oversee the different processes and results. Regulation and surveillance are activities defined primarily by information gathering and processing to evaluate compliance with the law; particularly, with respect to investment of pension funds.

In a typical centralized, horizontally integrated, pension system two evaluation and control structures are used. First, there is an obligation to report to one or more national ministries, usually the Ministry of Finance, Labor and Social Protection, and the Ministry of Health, Human, and Social Development. Although these ministries sit on the board of the agency, often in a tripartite (or even wider) arrangement, the agency is actually quite autonomous regarding its decision-making processes, and evaluation is usually performed on general policies. This does not mean that evaluation is lax, only that it is performed internally. The second instrument in this arrangement is usually a set of internal and external auditing offices. The internal office works with the agency on a daily basis, while the external office can be an independent third party, such as an accounting firm or an institutional high level auditor, such as a congressional general accounting office.

Coordination among agencies in a decentralized pension model consists of different processes: comparison of the return of alternative fund managers, evaluation of the costs and benefits of the disability policies offered by alternative suppliers, and evaluation of the commissions that affect the value of the pension. It is becoming increasingly common for national legislations to opt for alternative degrees of horizontal integration for different processes within centralized models. For example, the registration and collection system may be centralized, but alternative providers manage funds, accounts, and customer service; in turn, fund managers may outsource part of their processes to large specialized corporations that manage account statements and other customer service functions. In these models, it has become necessary to develop regulatory tools to control vertical relationships such as those that pertain to the standardization of information flows between collecting agencies and pension fund managers, and the cost for such transactions. Because decentralized solutions typically aim to introduce some competition among providers, governments have become interested in comparing their performance in terms of costs to workers, return on investments and customer service solutions.

III.4.1 Institutional Comparison of Regulatory Commissions

To gain understanding of the regulatory agencies in the Americas, it is useful to examine the North American Model and the Reformed Latin American model, two administrative maps developed in the previous CISS Report (CISS 2007). The key to each model is the measurement of the capacity of the national government to efficiently manage the early financial processes of affiliation and collection, which in turn creates the possibility for a national administration to control collections, tax deductions and the registration of pension plans and personal savings. These functions can all be accomplished within the North American Model. If such capacity is not available, governments opt for regulatory solutions that stress the management of risk and employ third parties (fund managers and collection agencies) for the needed functions.

Canada and the United States have very high levels of tax compliance, which allows their social security agencies to rely upon the general tax administration to support worker and employer registration. In turn, the tax agency receives regular information on payments to both the social security agency and private pension plans, whether employer-based or individual-account. In the North American Model regulations on the solvency of plans have reduced the need to have specialized regulatory commissions overseeing pension plans.

One special type of North American agency guarantees pension benefits. In the United States this type of agency is represented by the Pension Benefit Guarantee Corporation (PBGC) of the Unites States and in Canada the Pension Benefit Guarantee Fund for the Canadian Province of Ontario. In 2005 the Canadian federal Department of Finance issued the *Consultation Paper Strengthening the Legislative and Regulatory Framework for Defined Benefit Pension Plans Registered under the Pension Benefits Standards Act of 1985*.[6] This paper considers, among other issues, the possibility of establishing a federal program of this type. These American and Canadian agencies collect a fee from privately DB pension plans and provide insurance against losses that affect worker benefits.

To succeed, this type of agencies must ensure the fulfillment of the following three key information regulations: 1) pension insurance is priced properly; 2) adequate funding requirements are defined; 3) plan funding status is transparent to the participants. It should be noted that these concerns are not specific to the North American Model or an agency such as the PBGC, as they are relevant also for the Latin American Model. A feature that shows the relevance this type of guaranteed fund is that it is designed for DB plans. This sort of guaranteed fund is not applicable in a model that relies predominantly upon individual savings, as it is the case in several Latin American nations, and increasingly the case in North America. For that other type of pension funds, regulation is not concerned with evaluating funding in relation to liabilities in the same manner as are DB systems.

The Latin American Model has had to advance without the support of a tax agency capable of registering almost all of the individuals in a country. Thus, the models' registration and collection processes are fully controlled by social security agencies. With the reforms of the 1980s and 1990s, governments found that they needed a regulatory agency to define rules and resolve conflicts among participants in the market, which has not been needed in the past, because vertically integrated agencies had resolved all issues internally. After deciding to create decentralized funds that can register workers and firms, collect contributions, manage funds, and pay benefits, regulatory commissions now define rules, oversee compliance, and penalize those who do not comply.

III.4.2 Fragmentation of Regulatory Bodies and Accounting Rules

State governments may also be involved in the regulation of pension plans. Pension funds for state workers and funds for poverty programs are often under the regulatory umbrella of states in Brazil, Argentina, Mexico, Canada and the United States.

In Canada, the federal Office of the Superintendent of Financial Institutions (OSFI) oversees only the smallest proportion of the private plan regime—8% of the regulated plans and 10% of the membership. Having regional authorities is not necessarily costly and may facilitate solving the issues related to the pricing of risk and provision of information to participants in the plan; as long as regional regulations do not impose barriers to the mobility of labor across plans, regional authorities can play a positive role.

Some countries have specialized agencies for pension fund supervision, while others assign the responsibility to the agency in charge of general financial supervision (i.e. the same agency that oversees banking and insurance). A number of OECD countries, including Norway, Denmark, Sweden, and Canada have moved towards an integrated model. The main motivation behind this approach is that the financial market is dominated by corporations that participate in several of the markets that used to be regulated separately. In the United States, private occupational pension plans are supervised by the Department of Labor through the Pension and Welfare Benefits Administration (PWBA), the Pension Benefit Guaranty Corporation (PBGC), and the Internal Revenue

[6] http://www.fin.gc.ca/activty/consult/PPBnfts_1e.html6 http://www.fin.gc.ca/activty/consult/PPBnfts_1e.html

Service (IRS). The PWBA ensures the protection of worker's rights, the PGBC insures plans that need to be rescued financially, and the IRS oversees and registers tax obligations (OECD 2003b).

III.4.3 Questions Regarding Regulatory Commissions

Why would governments want to have a regulatory agency? It is unknown why traditional cabinet ministries are not considered wholly adequate for performing certain administrative functions. This leads to the following questions: Why are regulatory agencies sometimes seen as a source of new problems? What are these new difficulties and how do we overcome them?

The reason why a regulatory commission can improve upon the actions of a traditional government ministry pertains to information; it is costly to collect, process and to analyze data on the behavior of providers, consumers and other participants in a pension system. A regulatory commission with specialized personnel can perform these functions much better than a centralized department. The cabinet department may be subject to more frequent personnel changes due to political reasons and may have goals that are legitimate but in conflict with the mandates in the law. A cabinet member has a role as leader in identifying new social needs and in promoting change through political channels, which may involve taking a stand towards modifying existing laws. While such a role is very valuable in a democratic society, frequent personnel changes and the discretionary application of regulations can result in costly bureaucracies and the erratic application of the law. Regulatory commissions are specialized, and their officers are not only granted high-level appointments, sometimes ratified by the legislative body, but also irrevocable term limits and career options uncommon within cabinet offices, which are intended to lessen the influence of politics upon their careers.

Economic models of regulatory commissions are best explained by Laffont (2005). In his analysis, a regulatory commission allows the government to improve the flow of information available to control the agents who provide a public service, and thus improves social welfare. A pension system regulatory commission typically determines the solvency of pension funds, the degree of compliance with risk-safety criteria, the quality and reliability of accounting and information systems, and compliance with contracts and other customer service events. It also issues somewhat specialized regulations that need to be changed frequently after technological or market developments, conducts inspections, performs audits, and can issue penalties without prior review by a court or ministry. A regulatory commission can be effective to the extent that it can obtain and process information valuable to the regulated pension funds, but is not obtained easily by the government.

Some of the theories on "interest groups" have been developed by George Stigler (1971), Sam Peltzman (1976), and Gary Becker (1985). According to Becker, a regulatory commission will be subject to competing pressures from those willing and capable of influencing it. Namely, to the extent that a regulatory commission can be corrupted, it will be corrupted. Laws should restrict the relations between providers and regulatory commission officers (e.g. through enacting transparency regulation, enforcing strong penalties for the misuse of information, and certainly, through the selection of outstanding officers).

III.4.4 Consumer Protection Mechanisms

Consumer protection issues primarily concern two issues: the provision of an informational framework conducive to adequate choices by workers and retirees, and the prevention of abusive behavior by providers. The latter includes the adoption of mechanisms for the resolution of conflicts. Within the field of consumer protection it is generally preferable to define protections in terms of performance rather than inputs. Ultimately, the worker and the regulator are more interested in the workers' net return on savings than in the internal workings of a pension fund.

The agencies in charge of managing a plan, be it public or private, are always large in terms of the

number of affiliates and the quantity of financial resources they must manage. This large number increases the risk of abusive behavior and of treating individuals as a small risk to be addressed through cost minimization strategies. For example, in a pension fund it may be decided that errors that affect workers will not be corrected unless the individual obtains a direct order from a tribunal or a regulatory authority. For the fund, this can mean accepting a few errors that have little impact from a financial perspective but great impact from the perspective of a family.

Complaints by individual workers and families must be solved using low-cost mechanisms to address conflicts between funds and individuals, supported by legislation that fully recognizes the asymmetry between the parties. To aid this effort the regulatory agency must first adopt regulations on the information the pension fund provides to workers and retirees. This information must be clear, simple to understand and delivered in a timely fashion. Second, the regulatory agency must provide, by itself or though state mechanisms, a low-cost and effective procedure for the hearing and resolution of complaints by workers and retirees. Finally, the state must allow and sometimes sponsor class-action suits when the misbehavior of a provider affects a large group of workers.

III.4.5 Worker Choice

Several recent reform models promote creating individual accounts that are controlled by a national social security agency but allow workers to choose from a menu of private and public investment funds. The belief is that providing workers with some degree of choice of pension fund provider can improve their welfare. Regulatory agencies and governments have generally assumed the task of continuously evaluating the results of pension funds and their relationship with the actual pensions paid.

Why is increasing choice justified as a policy option? The answer is closely linked with the evaluation of a pension system, in particular, the increasing desire of workers to have more flexibility and choice in their investments. Pension systems with an individual account component have been moving towards a “multi-fund” framework to channel workers’ savings. More specifically, this means that Chile and the other countries that have moved towards capitalized systems are allowing workers to choose among several funds. In the United States and Canada workers can generally direct their individual savings for retirement into several options available in the market. In models in which management of the account remains the responsibility of a national social security agency but allow individual savings, such as the Swedish or the new Panamanian model, several options are allowed in a model similar to that of the multi-fund.

The overall objective of increasing choice within pension systems is to increase the ability to invest in higher return options while still avoiding large risks that could threaten to decrease the final replacement rate. There is strong evidence that allowing individuals to invest their pension funds in stocks and bonds rather than having the government do it for them leads them to earn higher returns. According to Mehra and Prescott (1985) the real world presents a phenomenon called “equity premium puzzle”. They explained that throughout history, investment in stocks has realized greater returns than investment in bonds. Nevertheless, authorities have experienced some complexities arising from the investment in stocks that have motivated them to enact multi-fund regulation. Authorities want to decrease the possibility of what they term investment errors, which generally arise from the assumption of excessive investment risk, and help workers who have difficulty for correctly choosing the funds to invest their savings.

In a typical multi-fund regulation, young workers are allowed to invest a higher proportion of their savings in more risky assets (stock funds), while this option is not available for those who are closer to retirement, who can only to invest in funds composed of short term bonds, whose value fluctuates little. In Peru, funds for older workers are called funds of

capital maintenance, and they are available for those aged 60 and over; balanced or mixed funds are available for persons between 45 and 60 years of age; and funds of growth are only available to the younger population.[7]

Typically, the countries that have adopted the multi-fund strategy allow workers to change funds within a particular pension fund manager (PFM) without being charged a commission. The countries that guarantee a minimum return have been under pressure to extend the regulation to multi-funds.[8] To do so, they would need to address behavioral issues regarding how individuals respond to the complexity of a pension plan when making their investment decisions. This new trend, which began only several years ago, aims to adopt regulations that set limits to the choices that workers and retirees can make to reduce the incidence of seemingly obvious errors that are made systematically by a large number of individuals. These regulations include establishing defaults and restrictions on the investment choices of workers depending on their age: typically, older workers can only invest in safer assets, while younger workers are induced or allowed to invest in more risky assets with greater long term perspectives for higher return. Table III.3 summarizes the use of these restrictions in Chile, Mexico and Peru.

There also can be significant effects from the way information is regulated. Plan features such as automatic enrollment, automatic cash distributions, employer matching provisions, eligibility requirements, investment options, and financial education can have large effects on the value of pensions. Thaler (2001) has surveyed the field. This points out to a series of empirical results that affect the choice of pension funds and retirement options. This has led to policy proposals that aim to achieve large effects on behavior at a small cost, when the government or a regulator can identify systematic errors made by the population. These proposals have come under the headings of "liberal paternalism (Thaler and Susstein 2003), "regulation for conservatives" (Camerer, et al 2003) and others.

Employees often follow "the path of least resistance" (Choi, Laibson, Madrian and Metrick 2002), meaning that workers tend to accept the default choices made by regulators or employers (in their role of fund managers). Another example of accepting the defaults is that workers tend to divide their savings evenly among options. Thus if there are N options, workers assign 1/N of the resources to each option (Thaler and Benarti 2001). This has become an issue for countries where private savings are an important part of social security, because it has become necessary for regulators to define these default choices. Strategies such as the Chilean "Multi-funds" regulation are based upon this issue (see Table III.3).

A different feature of the psychology and economics literature refers to how individuals define their own welfare in terms of how it relates to others. Now we talk about "errors" individuals make on defining their future preferences: 1) individuals do not correctly assess the consequences of their actions and may be somewhat "myopic"; 2) the way in which options are presented ("framed") crucially affects the choices made by individuals, even if no modifications are made to the options; and, 3) individuals may face problems of self-control that make them incapable of committing to a long term plan of action (e.g. they may procrastinate taking action). The issues presented in Rabin (1998) have brought a fresh insight into issues that have appeared ambiguous in the evaluation of pension systems. For example, none of us truly questions that society cannot accept that a large share of its members falls into poverty at old age, but we are not sure about why many of us find ourselves in that situation. It is not clear how profound the influence of the psychological approach to economics will be on social security programs. Certainly, there seems to be an unstated

[7] http://www.sbs.gob.pe/portalSBS/spp/Multifondos/multifondos.htm
[8] http://www.fiap.cl/prontus_fiap/site/edic/base/port/articulos.html#20070102155434

assumption in all countries saying that in fact many persons are myopic, make errors or lack self-control. The main question is: How can we develop a social security regulatory system that can better address these issues?

III.4.6 Competition Policy

Competition policy has become a tool of state action to the extent national pension systems have been reformed to allow a capitalized, privately managed segment, a process that accelerated the growth of private pensions. Competition policy avoids the use of direct restrictions on the behavior o providers, aiming to guarantee entry to markets and eliminate the creation and use of monopoly power. To the best of our knowledge, to this date significant antitrust action has not been taken against pension funds in the Americas. Often, pension markets are evaluated by competition authorities in relation to mergers by financial institutions. However, we have not been able to find a significant antitrust case affecting pension fund managers as such.

Nevertheless, perhaps the most discussed issue after the reform to pension systems in Latin America refers to the level of commissions. For example, in 2006 the Mexican Federal Competition Commission issued an opinion to Congress on the need to introduce legislation to promote competition (*Comisión Federal de Competencia* 2006). A proper evaluation of competition conditions in pension systems appears to be an assignment yet to be completed.

III.4.7 Recommendations

Regulatory agencies face “traditional” challenges of overseeing the fair and safe investment of funds, and the adequate application of the laws on contributions and benefits. However, new challenges are arising from the real behavior of workers. Workers are not financial experts, and their decisions are subject to biases that can affect the ultimate goals of the pension system. New research on the manner in which decisions are made is affecting regulation, and more research will have to be performed to gain better understanding of the saving decisions of workers and the best way in which regulations can support those decisions.

III.5 Social Approach: Adequacy of Coverage and Benefits

Discussion on the desirable aspects of pension systems leads to consideration of the question of the manner in which society evaluates pension programs. From a social perspective, pension systems can be examined in relation to access to the pension insurance and the adequacy of benefits. Indicators of coverage show how many people are entitled to pension benefits. Indicators of the level of benefits allow assessment of whether people have acceptable standards of living, which is usually measured with respect to an income of reference, such as average wages. In LAC it is particularly difficult to analyze these indicators due to fragmentation, which makes corresponding records from different social security agencies difficult to obtain (see Section IV.2.3 in CISS 2007).

Most social security pension systems in LAC originated as fragmented PAYGO schemes for specific groups of workers. They gradually expanded their coverage during the past several decades hoping for a reduction in the number of informal sector workers and the achievement of universal coverage. However, coverage has not reached the expected levels mainly due to lack of tax compliance and voluntary non-affiliation to social security (CISS 2004a, World Bank 2007a). Most pension reforms implemented since the 1980’s have been aimed at increasing the financial sustainability of the systems, and increasing coverage by encouraging workers to affiliate by showing them a clearer link between contributions and benefits. These types of reforms in LAC preserve the state income guarantee, but allow competition in the provision market[9] (Martínez 2006, p.32).

[9] Annuities.

Table III.3
Main Issues in Multifunds

Country	Starting date	Guarantee of minimum rate of return	Balance transfers between funds	Eligibility rules to choose a fund: Age cohort	Eligibility rules to choose a fund: Fund	Name of fund	Investment limit in stocks (Percentage): Upper	Investment limit in stocks (Percentage): Lower	Distribution of investment between funds (percentage; to July 2007)	Distribution of affiliates' accounts between funds (percentage; to July 2007)	Default rules applied to the name of the fund
Chile	In 2000, PFMs offered two types of funds, one allowing investment in stocks and one allowing only investment in bonds. Since 2002, PFMs have been allowed to offer three additional types of funds.	YES	Affiliates may transfer their balance between funds of the same PFM no more than twice a year without cost. If the affiliate exceeds this number, a commission can be charged.	1) Men <= 55 and women <= 50	A, B, C, D or E	A	80	40	22.36	12.03	--
				2) Men > 55 and women > 50	B, C, D, or E	B	60	25	23.13	40.24	Men and women <= 35 years
				3) Pensioners	C, D or E	C	40	15	43.10	38.3	Women between 36 and 50 years; men between 36 and 55 years
						D	20	5	10.11	8.85	Women >= 51 years; men >=56 years
						E	0	0	1.30	0.59	--
									TOTAL: USD$110,118 million[3/]	**TOTAL: 8.75 million accounts[2/]**	
Mexico	In 2005, PFMs offered two types of funds: Siefore Básica 1 (SB1) and SB2. Since March 28, 2008, PFMs have offered three additional types of funds.	NO	Affiliates may transfer their balance between funds of the same PFM without any restriction or cost.	Both sexes: 1) >= 56 years	SB1	SB1	0	--	10.14	38	>= 56 years
				2) Between 46 and 55 years	SB1 or SB2	SB2	15	--	89.86	62	Between 46 and 55 years
				3) Between 37 and 45 years	SB1, SB2 or SB3	SB3	20	--	--	--	Between 37 and 45 years
				4) Between 27 and 36 years	SB1, SB2, SB3 or SB4	SB4	25	--	--	--	Between 27 and 36 years
				5) <= 26 years	No restrictions	SB5	30	--	--	--	<= 26 years
									TOTAL: USD$73,469 million	**TOTAL: 37.53 million accounts**	
Peru	Since 2005, PFMs have offered three types of funds.	YES[1/]		For affiliates older than 60 years of age or those who have chosen programmed withdrawal for retirement	Fund 1	Fund 1, of capital maintenance or conservative	10	--	4.74	N.A.	>= 60 years
					Fund 2 o 3	Fund 2, balanced or mixed	45	--	75.45	N.A.	< 60 years
				<= 60 years		Fund 3, of growth	80	--	19.81	N.A.	--
									TOTAL: USD$19,872 million	--	

N.A = not available. *Notes*: 1/The minimum guaranteed rate of return was replaced by a new system based upon reference indicators or benchmarks. If the rate of return is lower than the benchmark, the PFM must cover the differential with its own resources. 2/To March 2008. 3/To December 2007.
Source: Own elaboration based on FIAP 2007, CONSAR 2008, and CIEDESS 2008.

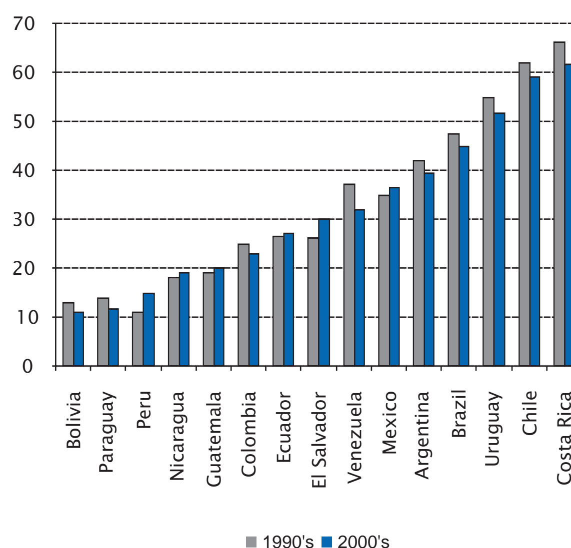
III.5.1 Measures of Coverage and Benefits

One way of measuring pension coverage is by administering household surveys to collect personal, labor market, and expenditure data, which can be examined to determine the distribution of coverage and income in populations with specific characteristics. Such data in LAC, however, do not always include disaggregated income variables and labor market histories of individuals. Using household surveys Rofman (2005) and Rofman and Lucceti (2006) examine coverage by gender and rural/urban areas of residence across LAC countries. These studies found lower coverage among women and rural areas. Several other studies have also documented low coverage levels (CISS 2004a, ECLAC 2007, and IADB 2003[10]). Rofman and Luccetti (2006) found very small variation in pension coverage in LAC between the 90s and this decade (Figure III.1); among the countries they examined the social security coverage of the economically active population (EAP) ranges between 12 and 67%.

Measures of pension benefits are difficult to calculate without individual data on contributions and earnings. One feasible measure is the replacement rate, calculated as the quotient of the average monthly pension benefit over average wages (see below). Notice that average wages of those who pay contributions tend to be higher than average wages of the economically active population because formal sector workers who are in the minority tend to earn incomes within the upper half of the income distribution of a country (Palacios and Pallares-Miralles 2000).

In Table III.4 indicators of social security coverage and benefits (replacement rates) for 2004-2006 are presented for Brazil, Costa Rica, the Dominican Republic, and Mexico.[11] Social security coverage is measured as: 1) the number of affiliates (contributors and their dependants) with respect to total population; 2) the number of social security contributors with respect to the economically active population (EAP), and 3) the number of old-age pensioners with respect to population aged 60+.

Figure III.1
Social Security Coverage of Total Population in LA Countries, 1990s and 2000s



Source: Rofman and Luccetti 2006

[10] This study focuses on labor market features in Latin America.
[11] Using information of CISS member institutions.

Coverage remains constant in the countries under analysis between 2004-2006, regardless of the definition used, except for the Dominican Republic as coverage rises from 10% (2004) to 17% (2005) and 21% (2006), under definition 2. From definition 1, column 1 shows coverage in relation to total population during the period, which is about 33% in Brazil, 70% in Costa Rica, 15% in the Dominican Republic, and 54% in Mexico. From definition 2, if coverage is measured as the number of contributors in relation to the EAP, column 2 shows coverage rates of about 43% in Brazil, 60% in Costa Rica, 10-21% in the Dominican Republic and 45% in Mexico.

Coverage of older adults is presented in column 3. In countries with a large number of non-contributive pensions such as Brazil it is of about 76%. Decomposition of old-age coverage rates into social security and non-contributive pensions' coverage is presented in Figure III.2. Mexico also has non-contributive pension programs for the elderly but the increase in non-contributive pension coverage was not expected until 2007.[12]

It may not be appropriate to conclude that the social security agencies that were created to insure only a specific group of workers are not performing well in terms of total coverage in a country, as these

Table III.4
Coverage and Benefits of Social Security Pensions, Selected Countries: 2004–2006

		Coverage 1/			Replacement rates (average pension/average wages) 3/					
								Survivors		
		Percentage of total Population 2/ (1)	Percentage of the EAP (2)	Percentage of older adults in population (3)	Old-age (4)	Disability (5)	Workers' compensation (6)	Widows (7)	Orphans (8)	Other 4/ (9)
Brazil	2004	32	42	76	85	57	72	N.A.	N.A.	N.A.
	2005	33	43	76	84	58	73	N.A.	N.A.	N.A.
	2006	33	44	74	83	59	72	N.A.	N.A.	N.A.
Costa Rica	2004	69	60	27	59	42	N.A.	29	16	20
	2005	71	59	27	75	53	N.A.	36	20	24
	2006	72	63	26	61	42	N.A.	29	16	19
Dominican Republic	2004	13	10	N.A.	N.A.	94	N.A.	30	27	--
	2005	15	17	N.A.	N.A.	46	N.A.	25	28	--
	2006	17	21	N.A.	N.A.	51	N.A.	28	28	--
Mexico	2004	52	44	23	35	25	28	28	8	8
	2005	54	45	24	38	27	30	30	9	8
	2006	56	47	25	40	27	31	31	9	8

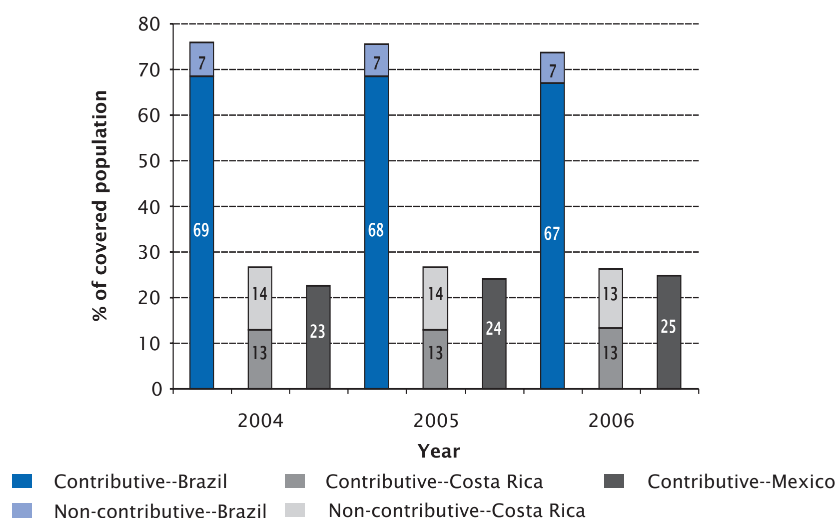
N.A. = not available.
Notes: 1/Coverage in the countries correspond to the general regime; in Brazil it includes the own regimens (public, civil, and military servants). 2/Data include the dependants of the active affiliates, when this information is available. 3/Average replacement rate defined as the average monthly pension of the affiliates to the general regime (salaried workers) as a proportion of national average monthly wages. In Costa Rica, the reference wage is the social security contribution wage for the population aged 15 to 59. 4/In Costa Rica it refers to parents and siblings, in Mexico to parents.
Source: Own elaboration using information gathered from CISS member institutions. ILO (2004-2006) for the EAP in Costa Rica. Population data for the Dominican Republic were obtained from the following source: http://www.one.gob.do/index.php?option=com_docman&task=cat_view&gid=5&Itemid=122.

[12] Most non-contributive old-age pensions provided by SEDESOL started in 2006. Another program in Mexico City started earlier.

agencies are indeed providing pensions to the population they are intended to insure. Several studies have concluded that a revision of the fragmented design of pension systems' is needed to increase coverage in LAC (Rofman 2005) and that complementary pension programs must be integrated to avoid duplication and inefficiency (CISS 2007).

Columns 4 to 8 in Table III.4 display the calculated pension replacement rates in relation to average wages of each country. Average replacement rates of old-age pensions in 2004-2006 are of around 84% in Brazil, 59-75% in Costa Rica, and 38% in Mexico. Replacement rates for disability pensions (column 5) are of around 57% in Brazil, 42-53% in Costa Rica, 46-94% in the Dominican Republic—variation due to inflation rates—and of about 27% in Mexico. Workers' compensation replacement rates[13] (column 6), which are higher than the disability rates, are around 72% in Brazil and 30% in Mexico. For some of these countries benefits for widows and orphans have also been reported in columns 7 and 8. In Costa Rica, the Dominican Republic, and Mexico, replacement rates for widows are about 25% to 35% with respect to the wages of each country. The replacement rates for orphans are lower than those for widows because in these countries a stipulated amount of benefits should be divided among the number of beneficiary children.[14]

Figure III.2
Old-Age Pension Coverage (Contributive and Non-Contributive Regime) of the Population 60+ in Selected LAC Countries[1, 2]



Notes: 1.Old-age coverage refers to the population aged 60 years and over, including non-contributive programs. 1/Contributive coverage in Brazil includes the so-called "own regimes" (public, civil, and military servants). It neither includes the category "pensioners," special pensions (per Law no. 593/48), or retirees from the extinct CAPIN classified under the category "others" (General Regime), nor the category "pensions" (Own Regimes). In Costa Rica and Mexico contributive coverage refers to the general regime (salaried workers). 2/Non-contributory coverage in Brazil is for 2007; in Costa Rica to the period 2003-2008; in Mexico the program was started by SEDESOL in 2006.
Source: Own elaboration using information of CISS member countries, ILO 2004-2006 for the distribution of the population aged 60+ in Costa Rica.

[13] It includes pensions and non-monetary benefits.
[14] In Mexico, the replacement rates for orphans reported in Table III.4, column (8), correspond to the average benefit per orphan.

By examining average monthly pensions relative to average wages we can get an estimate of the adequacy of pension benefits. These figures show that there is no unique pension level appropriate for all countries; the appropriate level depends upon the number of contributions made, wages earned, the manner in which pensions are taxed, mortality rates, rules for pension calculation, and returns on invested funds. However, it should be noted that such replacement rates partially represent standards of living. Therefore, if benefits are fixed in USD a relatively high replacement rate of 90% in one country may be equivalent to a much lower replacement rate in another. To analyze this phenomenon in detail, it is helpful to examine old-age and disability pensions in relation to U.S. pensions, which are shown in the lower rows of Tables III.5 and III.6. While Canada has higher replacement rates than does the U.S., the remaining countries have considerable lower replacement rates due to variations in the generosity of pension systems and prices.

Table III.5
Average Monthly Old-Age Pension, Selected Countries: 2004–2007

Year	United States	Canada	Mexico	Brazil	Costa Rica
Monthly Average Pension in Nominal USD					
2004	$951.25	$1,260.39	$134.04	$195.34	$249.04
2005	$998.50	$1,280.55	$158.55	$267.67	$323.34
2006	$1,041.05	$1,303.92	$166.34	$309.42	$290.02
2007	$1,053.70	$1,332.15	$193.77	$362.54	$333.97
In Relation to U.S. Old-Age Pensions (%)					
2004	100	132	14	21	26
2005	100	128	16	27	32
2006	100	125	16	30	28
2007	100	126	18	34	32

Source: Own elaboration using information gathered from CISS member institutions, Statistics Canada, and SSA 2004-2007.

Table III.6
Average Monthly Disability Pension, Selected Countries: 2004–2007

Year	United States	Canada	Mexico	Brazil	Costa Rica
Monthly Average Pension in Nominal USD					
2004	$883.50	$994.59	$96.98	$130.87	$178.74
2005	$928.05	$1,012.05	$112.38	$185.08	$228.00
2006	$968.60	$1,032.91	$113.67	$220.96	$200.59
2007	$1,021.20	$1,055.67	$128.04	$263.53	$229.66
In Relation to U.S. Disability Pensions (%)					
2004	100	113	11	15	20
2005	100	109	12	20	25
2006	100	107	12	23	21
2007	100	103	13	26	22

Source: Own elaboration using information gathered from CISS member institutions, Statistics Canada, and SSA 2004-2007.

III.5.2 Recommendations

Based upon the information presented thus far, social security agency are recommended to:

- Construct data sets with the information needed to study social security coverage trends, especially when pension systems are fragmented, as total coverage figures may remain unknown in much of LAC.
- Analyze whether the goals of the pension system have been reached, and identify what has been the role of implemented reforms across the region for in addressing concerns related to the assessment of proposed pension system reforms.
- Review the design of pension systems in LAC as fragmentation and low levels of coverage remain in spite of costly structural reforms.

III.6 Economic Approach: the Effects of Pensions

An economic evaluation approach focuses on the impact of government interventions, typically that of a pension system reform on economic outcomes of interest, such as labor market choices (i.e. labor force participation and retirement), consumption and saving choices, and related aggregate variables, including wages and rates of employment, saving, and poverty. This approach attempts to provide insights into developing effective pension policy interventions. The methodologies used to perform an economic evaluation of pension programs are mostly based on micro-econometric analyses, some of which have been described by Angrist (1999), Blundell and Costa-Dias (2002), Heckman and Robb (1985), and Heckman, et al. (1997 and 1999).

At the center of an economic evaluation is the comparison of the outcome of interest among people who have been treated by an intervention (a treatment group) and people who have not been treated (a control group); for example, those who have been affected by a change in pension rules and those who have not. This is, however, a difficult task because rigorous impact evaluations usually require special data collection for the event under study. When it is econometrically possible to identify the desired effect, such as that of social security pensions on saving, usually under certain assumptions, causality is believed to have been established, such as the conclusion that saving is affected by social security pensions. This Section reviews econometric analysis in the study of pension systems in LAC and their effects on labor market and saving outcomes.

III.6.1 Effects of Pensions on Labor Market Outcomes

This section addresses the following considerations: Do contributions to pension programs have significant effects on employment and wages? Do pensions affect the decision of working in the formal sector? How does accrued pension wealth affect the age at which people retire?

Employment and Wages

The relation between social security and employment and wages has been studied to assess the costs of regulation. It has been argued that social security is based on strict employment regulations that may penalize employers by increasing their production costs. In consequence the main hypothesis has been that the level of employment and the wages paid are reduced when employment protection policies are implemented. Some references on this topic are Heckman and Pagés (2005)—and all the studies therein, Garro and Melendez (2004), CISS (2003), and Marrufo (2001). The main finding of these studies for several LAC countries is that contributions to social security have indeed had a negative effect on wages and employment, to the extent that contributions are perceived as taxes instead of benefits.

Retirement

The literature on retirement in developed countries has greatly expanded over the last three decades as societies have perceived retirement ages as excessively young. Most studies understand retirement as a transition between full time work to

either partial work or inactivity. Several theoretical models have been developed to explain the decision of stop working. Early models assume static framework, perfect capital markets and income uncertainty; some examples are: Boskin (1977), Boskin and Hurd (1978), Burkhauser (1979, 1980), and Gordon and Blinder (1980).

In more recent dynamic models of retirement it is affected by the present value of income streams at the time of retirement. These models have been used to examine the influence of social security programs on retirement decisions (Burbidge and Robb 1980, Burtless and Moffit 1984 and 1985, Fields and Mitchell 1984, Stock and Wise 1990).

Surveys on the effects of public and private pensions on retirement in developed countries are presented in Atkinson (1987), Lazear (1986), Lumsdaine (1996) and Lumsdaine and Mitchell (1999). A generalized result in studies that focus on the effects of pensions in OECD countries is that social security provides strong disincentives to participate in the labor markets at old age; mainly due to pension schemes' generosity (Gruber and Wise 1999, 2004, Duval 2003).

Among the few studies that examine labor force participation and retirement decisions in LAC are Aguila (2006), Miranda-Muñoz (2007), and Lanza-Queiroz (2008). The first two studies corroborate that higher pension wealth reduces participation in the labor market. A relevant issue in developing countries is the fact that pensioners can take up a job in the informal sector after claiming their pensions. As a consequence of informality the retirement age is not likely to be equivalent to the pensionable age, as in developed countries.

III.6.2 Micro and Macroeconomic Effects of Pensions on Saving

The life-cycle model (Modigliani and Brumberg 1954, Deaton 1992) provides the economic framework to examine savings behavior. The hypothesis of this model is that individuals smooth their consumption during their lives by increasing their savings when young to use them when old. One derived hypothesis that has been examined by several authors is that compulsory saving in the form of pensions might reduce other forms of saving (Feldstein 1974). Aguila (2006) and Charles (2005) find a reduction in saving for individuals in Mexico[15] and Argentina, respectively, as a consequence of the pension system reform.

The literature on pensions and saving considers that it is through increased private saving in the pension system that economic growth is spurred, which indirectly affects the well-being of individuals. After the wave of pension reforms in LAC, some authors have suggested that total saving in a fully funded pension system should increase (Schmidtt-Hebbel and Servén 2001). Chapter III in CISS (2003) has been devoted to examine this topic and provides evidence for several LAC countries.

The life cycle framework has also been used to study the effects of reforms on consumption patterns and GDP growth rates (see for example in Kohl and O'Brien 1998 an exercise of the effects of hypothetical reforms in OECD countries using general equilibrium[16] models). Studies on the effects of pensions on the poverty of families in developing countries are scarce. Schwarzer and Querino (2002) and Scott (2005) examine the topic for Brazil and Mexico, respectively. These studies emphazise that the availability of pensions prevents people from poverty at old-age, although pension systems can be regressive.[17]

[15] For more details on the Mexican pension system reform see Sales, et al (1996) and Solís and Villagómez (1999).
[16] These models attempt to explicitly account for second order effects.
[17] When they offer higher protection to the rich.

III.6.3 Recommendations

- Promote training in economic evaluation methodologies for rigorously assessing the effects of pension reforms.
- This in parallel implies the effort of collecting the best possible data to apply such methodologies.
- Advocate the use of formal and credible economic evaluations in pension policy debates.

CHAPTER IV
EVALUATION OF HEALTH INSURANCE AGENCIES AND PROGRAMS

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IV.1 Introduction

When compared to other governmental systems, the scope of a healthcare system is likely among the most extensive. Developing such a system entails far-reaching action that goes beyond that of creating a specialized bureaucracy in charge of producing a well-defined output. In a broad sense, the role of national governments includes regulating the system, organizing healthcare management and delivery, and executing public healthcare actions, all in order to attain the goals of the healthcare systems—improve health and attain equity, efficiency, and customer satisfaction.

How do we evaluate this complex mix of factors? Adding to this challenge is the fact that the relationships between institutions and citizens, between insurers and families, and between patients and physicians are complex. Problems of "adverse selection" and "moral hazard" have been recognized as challenges to be overcome when designing healthcare systems, agencies, and programs, and should be taken into account in the evaluation.

Evaluation depends on questions that are not easy to answer: How should the healthcare system be organized? Should it be vertically integrated, with hospitals and healthcare funds forming a single organization? Should it be horizontally integrated (i.e., should hospitals be autonomous or part of large conglomerates)? Should the government actively participate in the financing, organization, and management of healthcare consumption and provision, or should these functions be left to private/non-for-profit parties? Is it necessary to create autonomous and specialized agencies for surveillance or should this task be performed by the judicial system? Why are there many healthcare programs that do not achieve ideal outcomes? Why do we see limited budgets and inefficient operations at the same time?

Previous CISS report (CISS 2007) presented a framework for disentangling the processes that constitute a healthcare system to facilitate addressing these questions. It is hoped that such an approach can help provide understanding that what is best for one country might not be an option for another. Similarly, such an approach can show that some policies that might have seemed misguided at first sight have proven to be successful. This lack of consensus, to some extent, is due to a poor history of evaluation. However, we may have to humbly accept that even when a country makes a strong effort to understand the issues, it faces significant limitations to measuring the actors' behavior and results.

While national health authorities often invest resources in disease evaluation, it is less common for them to invest resources for evaluating healthcare services, such as determining hospital performance or client satisfaction. This can be explained, at least in part, by the fact that experimental designs to evaluate health system policies more rigorously are

difficult to organize both technically and politically (Murray and Evans 2003). However, this situation has already begun to change. Pressure from stakeholders, added to by citizens, is leading to the promotion of improved models. Many countries, pursuing greater accountability, have introduced some form of customer service or quality evaluation into their systems. Others have done the same for the sake of efficiency or because current technologies allow it at an affordable cost.

Evaluation is needed to verify that we are headed in the right direction. It tells us whether a certain policy actually functions so that we can make decisions about future courses of action. It provides data to help us determine whether a program should be terminated, continued as it is, or expanded. It can offer a constant flow of information relevant to the beneficiaries of the system, the agencies involved, the agency managers and regulators, and legislative bodies. It can provide ideas regarding how to reward success and avoid failure. Because most changes in healthcare systems are incremental, driven by experience and evidence—more so than by theory or ideology—evaluation has a critical role (Naylor, et al. 2002).

The challenge for effective evaluation of any policy is gaining understanding of the functioning of what is being implemented, defining the right objectives, analyzing relevant data to verify progress, and assessing effectiveness. The quality of the data collected for these processes is more important than is the quantity, a fundamental concept for any system, agency, or program specialized in healthcare, an area that has many variables.

This chapter aims to provide an overview of evaluation in social healthcare insurance for systems, programs, and agencies. The chapter is organized as follows: Section IV.2 describes the frameworks for evaluation, the methods for obtaining a thorough understanding of the programs and policies, and the manner in which objectives can be measured through the use of indicators. Section IV.3 explains the most common approaches and Section IV.4 describes the multiple evaluation approaches used in the Americas. Finally, Section IV.5 concludes the chapter.

IV.2 Framework of Healthcare Evaluation

Any framework of evaluation must start by identifying the goals of the systems, agencies, or programs. In the field of healthcare, the goals may relate to one or more of the following four issues: 1) improving health, 2) achieving horizontal and vertical equity, 3) attaining micro- and macro-level efficiency, and/or 4) improving user satisfaction.

Two important aspects must be understood when considering these goals. First, many refer specifically to healthcare systems. As such, overall measures are established to assess the whole system of a country (see OECD 2005; WB 2007b; WHO 2000). Nonetheless, it is important to distinguish among systems, agencies, and programs. Systems are collections of agencies and programs, and the appropriate evaluation tools must be used for each. While systems, agencies, and programs may share goals, an appropriate evaluation system recognizes that each needs its own metric.

Second, as has been explained in previous CISS reports (see CISS 2007 and CISS 2008a), it is very useful to identify three core functions that are performed in all healthcare systems: funding and allocation, organization and management of healthcare consumption (OMCC), and provision of services. These core functions can be performed by a vertically integrated agency in a centralized manner or by different agencies in a decentralized manner. Recognition of the three core functions is fundamental for evaluation because each must be evaluated in a particular way to gain a better understanding of the performance of agencies and their interactions.

Moreover, as was explained in Chapter II, evaluations can take a particular perspective, whether economic, actuarial, fiscal, OR, or administrative. These perspectives reflect alternative concerns, which translate into objects (indicators) for monitoring or evaluation or both. Each perspective uses different

tools from its own or other areas of research. For example, the administrative perspective focuses upon finding the right balance between strategic interventions and an agency's internal proficiency in order to satisfy clients and reach stated goals. In doing so, administrators focus upon finding indicators that can monitor progress toward the attainment of a set of targets. Administrators may sometimes assign a secondary role to the evaluation phase of a program or system, as they are more concerned with the internal changes in the agencies that can lead them to better internal performance. It is not that they are not concerned with the overall results but that their main goal is to do their jobs right.

Together with the goals, four central elements of evaluation should be understood. The first refers to the understanding of how the system, agency, or program works. For the evaluation of programs, this is sometimes referred to as the theory of the program, a map of how the system, agency, or program works and what objectives and tools it has to address the identified problems. In practical terms, this translates into tools that organize information and indicators, but it is more than a way to apply indicators within a tool. As we will see in the sections below, widely used tools have been developed according to this logic, one of which, that of strategy maps and their related balanced scorecards, have been developed especially to deal with the administrative perspective.

The second element is identifying the indicators that help monitor progress toward the goals. Broadly called performance indicators, these types of indicators are usually accompanied by the targets that they are supposed to reach. While generic goals are usually stated within laws or regulations, targets are defined less often. An agency's effectiveness is likely to be a function of its ability to define targets that are accepted by stakeholders and actual internal possibilities to reach them. As it is unlikely that legislators or regulators will ever have more than a small fraction of the information available to an agency, effectiveness of a program or agency is based upon that mix that comes from providing trust to external parties and actually improving management.

The third element refers to identification of the sources of information. Broadly speaking, data can be obtained from administrative records or directly collected from surveys or interviews. In the area of healthcare, there is an interesting debate on the advantages and disadvantages of each of these sources. Finally, in the case of specific interventions through programs, an evaluation is desirable. Evaluation can be further divided into design, implementation, and impact evaluation,[1] which will be discussed in more detail in Section IV.3.

The evaluation, including the logical framework, indicators, data sources, and definitions of the aspects to be evaluated, should be agreed upon among all relevant stakeholders and, as the objective is to improve performance, a well-designed strategy for the disclosure of results should be set in place. In this regard, the order in which the system for monitoring and evaluation is developed is important. While a system of evaluation can be implemented at any time, it is desirable to have a well-developed system in place before changes in a system, agency, or program are implemented. It is important to develop the elements of the system in the following recommended order: 1) identify the participants in the design of the evaluation; 2) design the logic of the system, agency, or program; 3) define the indicators and targets; 4) identify the sources of information; 5) perform the evaluation; and 6) set an strategy for the disclosure of the results. While the order of these steps may appear obvious, it is, unfortunately, not always followed. Indeed, it is rare that the evaluation system of a new program is in

[1] Cost-benefit analysis measures both inputs and outputs in monetary terms. Cost-effectiveness analysis estimates inputs in monetary terms and outcomes in non-monetary terms.

place before program implementation begins. Given the contemporary state of technology, it is recommended that whenever possible, evaluation, even for small or low-income countries, should be based upon individual data and analyzed using modern tools and methods.

IV.2.1 Frameworks for Organizing Information

It is not uncommon to find programs or agencies producing large amounts of information in the form of indicators that cannot be understood by the average user. The perceived need for evaluation has led many institutions to create indicators and contract out evaluations indiscriminately without an appraisal of the kind of information that the program truly needs to produce. This waste of resources often occurs because the program or agency is not thoroughly understood. This section addresses this issue by describing the most widely used tools, whose core objectives are to identify appropriate measures and present them in such a way that they can catalyze change.

The design and implementation of social policies can be complex in healthcare, where outcomes can be the product of many different factors. In this context, it is not clear which aspects of an intervention should be subject to evaluation. While the goals of a healthcare system may be clear, it is not always easy to disentangle how the system's components fare at achieving them. It is certainly known that there are resources used and processes involved, but it might not be optimal to gauge all the elements of a program or agency. Resources are scarce and a strategy needs to be followed. The key lies in finding the elements that reveal the most about the program or agency. First, all stakeholders should be involved; it is desirable to include managers, evaluators, users, and every affected party when making decisions about evaluation. Second, it is necessary to develop a framework that will allow every stakeholder to understand how the program or agency intends to solve a problem. Once the context and functioning of the program or agency are understood and expected outcomes stated, it is easier to decide which aspects need to be monitored and which examined more carefully through evaluation.

As evaluation has become more widespread, frameworks to study the functioning of programs, referred to as program theory by Donaldson and Lipsey (2006), have also become abundant. The logical framework, the theory of change, and results-based management are only some of the methods used to describe program theory. Because the diverse use of terms can be confusing for the newcomer, it must be kept in mind that they all aim at showing how a program works and how to measure progress. They all generally focus upon three elements: the context in which the problem prevails, the functioning of the program, and outcomes. To explain these elements and the relationships among them, these methods usually employ some kind of mapping and/or matrix construction. After building a logical model in which inputs, processes, and outputs are clearly specified and related to each other in a complex chain of actions, these methods require the design of indicators and their correspondent targets (in numeric terms), sources, and assumptions made. The two main frameworks used in healthcare evaluation are the logical framework, often used by the World Bank, and the strategy maps balanced scorecard, originally proposed by Kaplan and Norton (1996).

On this topic, we can see that although balanced scorecard (BSC) approaches are most commonly used in healthcare-related agencies, usually with significant success (see Inamdar et al. 2002; Zelman, et al. 2003), and logical frameworks are used to monitor programs, BSC approaches can become helpful tools for monitoring programs as well. The challenge lies in identifying stakeholders and the mapping processes and innovation at which agencies that manage programs should excel to attain consumer and stakeholder satisfaction in a context in which much of the processes are performed by external agencies. Examples of the development of BSC approaches in

public health agencies can be found in the works of García (2004), Villalbi, et al. (2007), and Woodward (2004), while the Superintendencia de Salud of Chile maintains its BSC on its Web site (see http://www.supersalud.cl/568/propertyvalue-1734.html).

IV.2.2 Healthcare Performance Indicators

Performance indicators, which measure several elements of a program, agency, or system, lie at the core of evaluation because they can be used to monitor the inputs, processes, and outcomes of any public policy. They can also be used to monitor external variables that can impact the outcome of a program. Indicators are important for every party involved because they help keep track of operations and outcomes. For healthcare managers, indicators warn of failures and indicate achievements while a policy or program is being implemented. This information supports decision-making, auditing, the timely correction of errors, and improvement in performance. For the government, indicators allow assessment of the value-added of a policy and provide insights into what would have happened if the policy had not been implemented. For users, indicators can aid the decision-making process within healthcare markets. For payers, published indicators—as long as they are easy to understand—allow determination of how their resources are being used and if there has been any progress. However, not all indicators are useful for decision-making. Useful indicators are only those that provide information on some of the elements in the logic of the system.

In order for indicators to be readily available, data must be produced on a regular basis. Monitoring is a task that is better operated continuously rather than at discrete and sporadic intervals. Thus, a good system of indicators will perform better if it is planned during the design stage. This does not mean that policies that have been already implemented cannot be monitored; a good strategy to develop a database will be operational at any time. Still, the sooner the need for information is recognized, the easier it will be to collect it. A database that provides quality information will not only be an important source of indicators but also central for making further assessments; that is, for performing evaluations.

Developing performance indicators usually requires some time because they need to have certain "ideal" features: 1) measure clear and specific conditions; 2) measure performance directly, in quantifiable terms when possible, although if this is not feasible some proxies can be used; 3) be inexpensive and easy to obtain and use; 4) be based upon clearly identifiable and reliable data sources; 5) be periodically updated or, ideally, continuously updated at low cost, in the case of administrative data they are produced in the performance of the process; and6) only monitor the best available indicators, not all the indicators.

Once the indicators have been selected, a monitoring plan should be designed. It is necessary to specify how the data will be generated; when the data will be gathered and by whom; and how the data will be processed, analyzed, and disclosed.

Indicators can be classified in many ways. In relation to the processing of information, indicators are categorized in complete, partial, or complex. If they measure the phases of completion of the program, the indicators can be classified as resource, output, or impact indicators. In relation to the variables involved they can be classified in elementary, derived, or compound indicators (Tavistock Institute 2003). Here we classify them into simple indicators and complex indicators. Simple indicators are statistics that relate the value of two variables, typically as a ratio, with the purpose of making comparisons. Complex indicators are those that have a theoretical or counterfactual basis. Table IV.1 shows examples of simple indicators used for systems, agencies—along all three main processes—and programs. The examples below show the usefulness of this approach.

Table IV.1
Examples of Simple Indicators Used to Follow Healthcare Goals

	System	Agencies			Programs
		Funding and allocation	OMCC	Provision	
Improve population health	Age-adjusted mortality rates Morbidity measurements Recovery/survival rates Status of the population Access to healthcare services that have a demonstrably large impact on community health status	Enrollment rates (universality)	Number of interventions in the package of services (comprehensiveness) Types of interventions provided (completeness) Effectiveness of care: 1. Number of visits 2. True access to different Interventions/ treatments 3. Appropriate treatment/manage ment for some conditions 4. Preventive or supportive care Certification	In-hospital mortality rates Access to different Interventions/ treatments Appropriate treatment/manag ement for specific conditions Certification	Specific mortality and/or morbidity rates
Horizontal equity	Constitutional entitlement Enrollment rates Equal access to health services that have a demonstrably large impact on community health status	Resources across groups of affiliates	Value of package of services across population groups Access to different interventions/treat ments across population groups	Access to different interventions/tre atments across population groups	Target population
Vertical equity	Private spending	Premiums, deductibles, and copayments across affiliates	Deductibles and copayments	Payment at the point of service	Cost of participation
Macro-efficiency	Overall health expenditures	Budget deviations	Budget deviations	Budget deviations	Budget deviations

Table IV.1 (continued)

	System	Agencies			Programs
		Funding and allocation	OMCC	Provision	
Micro-efficiency	Several measures of outputs per inputs used	Enrollment rate of potential population	Administrative average cost per affiliate	Several measures of cost and outputs per inputs used	Average cost per beneficiary
	Administrative cost	Payment of contribution of enrolled population			
		Average cost of enrollment	Medical loss ratio per affiliate	Operating revenue	Targeting
		Operating revenue			
		Net income	Operating ratio	Net income	
			Net income ratio		
User satisfaction	Measures of time Choice	Subjective measures of satisfaction assessed by surveys	Subjective measures of satisfaction assessed by surveys	Subjective measures of satisfaction assessed by surveys	Subjective measures of satisfaction assessed by surveys
	Attention to users	Reenrollment rates	Reenrollment rates	Consultation rates for different diseases	
	Other measures of satisfaction assessed by surveys				

Sources: Hurst and Jee-Hughes 2000; OECD 2003b; PAHO 2007; www.ncqa.org; WHO 2003 and 2008.

When we assess healthcare systems or programs, we are usually concerned with basic issues such as coverage. Although broadly used, an indicator for coverage can lead to different answers, depending upon what it is actually measuring. Coverage is alternatively measured according to the criteria of constitutional entitlement, explicit guarantees, or access. Constitutional entitlement refers to rights stipulated in a constitution or the fundamental statues of a country, which encompass jurisprudence (see CISS 2008a for a discussion on entitlement). Another use of entitlement is that which refers to explicit guarantees established in the programs; this is the definition used by the WHO (1998). Under this context, programs are classified as either entitlement or non-entitlement programs. The former are those in which there are explicit guarantees of healthcare and the latter are those that provide those healthcare services that can be afforded by the budget.. Typically, payroll-based funded systems are entitlement based (called *Bismarckian* systems) while budget-based systems are non-entitlement based (called *Beveridgian* systems). Finally, it is very common to see indicators that measure access to services that are used as measures of coverage.

The main challenge is the ambiguity in measuring coverage, sometimes at the level of funding, sometimes at the level of enrollment, and other times at the level of access to services. A successful approach achieves coverage at all three levels. Viewing the problem as an entitlement question may have some use in politics by promoting public action to secure funding, but by itself entitlement means little if not backed by coverage at the level of services.

These indicators, when compared to basic information or other types of benchmarks, are useful

to describe and assess aspects of healthcare systems, programs, and agencies. Nevertheless, because the indicators are calculated as the ratio of two variables, they give only partial information, and thus may lead to erroneous conclusions. One example of this situation was described in Chapter II. We describe another common situation in the following paragraph.

Infant mortality rate (IMR) is one of the main indicators used when assessing healthcare outcomes in a society. When combined with data on healthcare expenditures, it usually provides an assessment of healthcare system performance. An example of its use is that by researchers who argue that the United States ranks below many European countries based upon IMR. However, when other indicators, such as access to cancer treatment, are included, we can see that the performance of the U.S. healthcare system ranks above those of Europe.

In general, healthcare systems cannot be gauged by healthcare outcomes because outcomes are the result of many determinants (Naylor et al. 2002). To gauge a healthcare system, many indicators should be taken into account, and simple indicators based upon ratios give only partial information. Partly for this reason and partly because of greater data availability and computational capability, more sophisticated indicators are being developed. These complex indicators give more consistent results, answer more questions, and are more useful for evaluation purposes. However, they are not perfect, and because some continue to measure healthcare outcomes, they may be subject to the same criticism discussed in the previous paragraph. Table IV.2 shows the most widely used complex indicators in healthcare.

After reviewing the indicators that countries have regularly reported using to assess their healthcare systems, we can make the following conclusions (for a complete report on this issue, see CISS 2008b):

- The PAHO has an initiative aimed at gathering key indicators for LAC. The information produced by such an initiative is, in many countries, the only information regularly produced.
- The use of complex indicators is not as common as the use of simple indicators. Some indicators are not produced systematically by national healthcare systems; in fact, they are mostly produced by academia in developed countries, but not as part of a regular evaluation system.
- Most countries generate basic indicators regarding mortality, mobility, and service coverage, and much information is produced within the same aggregate indicators; for example, mortality is discussed by age, disease, etc.
- In relation to the performance of healthcare systems, equity can be measured along vertical and horizontal dimensions. In the former, simple indicators such as public and private spending are commonly used while more complex indicators, such as catastrophic and impoverishment expenditures, are seldom used. Almost no country measures horizontal equity with complex indicators.
- Overall health expenditure is the most common indicator used by countries to measure macro-economic efficiency. Micro-economic efficiency is measured through the ratios of users to infrastructure and human resources.
- In regard to user satisfaction, few countries use indicators aimed at gauging user satisfaction. Moreover, until now any of them use complex indicators.
- In many cases, information is not updated frequently, a situation that may reflect that standardized process are not in place.
- A number of countries administer national surveys on a regular basis to assess the health of populations and other indicators of interest.
- In some countries, the ministry in charge of health issues has a strong department of statistics. These countries maintain a micro-site within their ministry Web site to provide basic information and tools to generate some statistics.

Table IV.2
Examples of Complex Indicators Used to Follow Healthcare Goals

	System	Agencies			Programs
		Funding and allocation	OMCC	Provision	
Improve population health	Health-related quality of life (HRQOL), e.g., quality-adjusted life years (QALYs), effective coverage			Patient safety indicators	HRQOL, e.g. QALYs for specific diseases, effective coverage
Horizontal equity	Outcomes and access inequality measures, e.g. inequality with respect to life- years and QALYs				Outcomes and access inequality measures, e.g. inequality with respect to life-years and QALYs
Vertical equity	Financial inequality measures, catastrophic and impoverishment expenditures	Willingness to pay			Financial inequality measures, catastrophic and impoverishment expenditures
Macro-efficiency	Fiscal solvency of system Death weight, loss of provision of healthcare services	Fiscal solvency of population enrolled	Fiscal solvency of agency based upon package provided and population enrolled	Fiscal solvency of package provided and population enrolled	Fiscal solvency of program Death weight, loss of provision of program
Micro-efficiency		Efficiency curves, e.g. DEA	Efficiency curves, e.g. DEA	Efficiency curves, *e.g.* DEA, technical quality of providers, avoidable hospitalization	
User satisfaction	Expected adjusted satisfaction of users	Expected adjusted satisfaction of users	Expected adjusted satisfaction of users Economic analysis of wiliness to pay	Expected adjusted satisfaction of users Economic analysis of wiliness to pay	Expected adjusted satisfaction of users Economic analysis of wiliness to pay

Sources: Hurst and Lee-Hughes 2000; OECD 2003b; PAHO 2007; WHO 2003 and 2008.

- In the United States, the National Center for Health Statistics of the United States, a public agency affiliated with the Department of Health and Human Services, is a rich source of public information regarding health indicators.
- In Canada, the private Canadian Institute for Health Information provides public information on health.

Based upon the discussion above, we propose the following recommendations:

- *Countries should start developing all relevant indicators, including those not currently developed in a regular format, such as administrative cost. While efforts have been made to produce healthcare outcome indicators, a complete perspective can only*

be achieved when there is information regarding equity, efficiency, and satisfaction.

- *Countries should start developing complex indicators. In Mexico and Chile, for example, complex indicators are now being produced.*
- *The targets for indicators should be agreed upon among the key stakeholders. They should be not so ambitious that are unreachable but not so modest that they result in only minor improvements. Targets should reflect realistic outcomes of what can be achieved within the current context, taking into account the actions needed to pursue them.*

We should remain aware that the global ranking of healthcare system performance based upon aggregate indicators is extremely difficult, as it was shown to be in the World Health Report 2000 (WHO 2000). This report was criticized for the weights used in the calculation of indexes for the use of healthcare services provided as indirect measures of healthcare system performance, as well as for the way it assessed healthcare system equity. The OECD has been making a valuable effort to create cross-national comparisons of healthcare indicators (see for example OECD 2006).

The metrics used to monitor the agencies responsible for healthcare are few in number and not always readily disclosed. Broadly speaking, we can summarize that agencies are monitored according to the following perspectives: 1) the administrative perspective, in which managers establish a strategy, tasks, indicators, and metrics that should be reached by different areas of the organization, and for public agencies 2) the fiscal perspective, in which agencies are monitored regarding the use of public funds and other relevant issues, such as budget deviations and procurement challenges. When considering these perspectives, two issues arise. First, even if agencies have their own strategy, external monitoring based upon the fiscal view dominates the efforts of most public agencies. This is, unfortunately, the result of managers' rational behavior; the period for which most managers are selected is very short in comparison to what must be achieved to follow a long-term strategy. Managers' personal success may depend upon not failing in terms of financial control in the short run rather than achieving success in the long run. Second, in agencies that perform more than one function, such as vertically integrated agencies, there is a risk of overlooking one of the functions. For these reasons, we recommend the following:

- *external monitoring of public agencies must be more comprehensive and incorporate some elements of the administrative perspective into the fiscal perspective*
- *vertically integrated agencies should endeavor to work as if a separation of functions prevails (e.g., financing, OMCC, and provisioning) and develop indicators accordingly*

One type of agency that has received significant attention is that of hospitals. A significant amount of information has been published about hospitals in both academic and non-academic publications. Hospitals are closely monitored according to key indicators such as budgets, the ratio of beds to patients, and physician load, and are also regularly monitored for compliance with sanitary regulations. Nonetheless, we believe that additional improvements can be made, several of which are the following:

- *Once a hospital has constructed a reliable system of simple indicators, it should begin to develop complex indicators. Although these may not be unique, as it is the case of ratio indicators, extensive literature supports their use and assess the advantages and disadvantages of indicators proposed.*
- *Hospitals should be monitored in a comprehensive manner encompassing all perspectives. The OR approach for evaluating a system of hospitals, rather than the administration of individual cases, has proven to be particularly useful in assessing hospital efficiency.*

In comparison to systems and agencies, programs receive more comprehensive attention, often because they are based upon specific public funds assigned to complete a task. In many cases, programs are

monitored with respect to an actuarial and a fiscal view. On the other hand, scholars usually try to evaluate healthcare programs as part as their academic agenda. The main reason for the lack of a complete evaluation of healthcare programs in LAC is that programs are often implemented before the evaluation strategy is in place. For this reason, we recommend:

- *Evaluation should be a key aspect of the design of programs and programs should be implemented in such a manner that a reliable system for evaluation can be put into place.*

The following recommendations apply to systems, agencies, and programs:

- *Aggregated indicators, including those at the national level, are very useful for some stakeholders, such as political leaders, but may not be useful for managers. Thus, it is very helpful to disaggregate indicators for processes and programs.*
- *Indicators should be based upon individual data. In this regard, IT systems should be put into place to measure information at the individual level (e.g., cost per treatment).*
- *The system that develops indicators should be sufficiently flexible to adapt quickly to new developments.*
- *Health outcomes are the result of many interacting factors, such as socio-demographic characteristics and education. For this reason, some argue (see for example Naylor, et al. 2002) that some markers outside healthcare systems should also be followed in order to better assess healthcare systems and understand inequalities.*

IV.2.3 Information Sources

There are two main sources of healthcare data—administration data and survey data and also two types of measures—objective and subjective. Administrative data provide objective measures and, if systems are well designed, databases can be fed directly out of operative events. Surveys can provide both objective data, such as blood-based measures, weight, height, and other indicators that are easily measured during interviews, and subjective information. Subjective data regarding health status is further divided into self-assessed measures of global well-being and reports of the incidence of chronic conditions. In the following section, we summarize the findings on the advantages and disadvantages of using the two types of data and the two types of measures. We also offer several suggestions for improving the data-collection process within healthcare systems. The most common issues regarding administrative data are the following:

- Administrative data on health, such as medical and discharge records and vital statistics, provide reliable and objectives measures of health. Nevertheless, physicians, nurses, and administrators can make errors when adding data to a database. Proper training in the use of information systems and electronic healthcare records should improve the collection and quality of data provided by administrative sources.
- Because many public agencies follow a cash-flow budgetary approach to accounting, they do not produce some important information. In particular, information on assets and liabilities is not easy to obtain and the pricing of processes is difficult in the absence of financial accounting methods.
- Even though administrative data are collected on a regular basis, they may not be immediately available. Although one of the features of administrative data is that they can used shortly after they are generated, even on a real-time basis, doing so is not feasible if information must first be consolidated, organized, and verified. With advances in IT a proper system, carefully designed with clean information loaded since the beginning should avoid these problems.
- Administrative data consist of disconnected pieces of information from the same individual. Healthcare systems typically collect individual information in terms of wages, contributions (but

not when healthcare services are not provided under an insurance mechanism), and admission and discharge records for each interaction of the individual with the healthcare facility. Nevertheless, it is often difficult to create a record that contains all of the individual's information; indeed, sometimes two discharge records for the same individual for the same diagnosis, the product of two hospital stays, cannot be linked. Again, the use of electronic health records can resolve this issue, especially if the system is embedded within an IT architecture centered upon the citizen (see CISS 2007 for more information).

• Administrative data are often not continuously updated. As was explained in previous CISS report (CISS 2007), two processes that can yield improved results in social programs are account maintenance and customer care (AM&CC). It is very important for agencies to launch a modern approach to AM&CC. Although expensive and ineffective in the past, current technologies have greatly increased the gains from managing individual relationships in a detailed manner.

• Administrative data contain very little information on socio-demographic characteristics. Although this information may not be directly relevant for managing a program, it allows agencies to develop personalized services, and becomes key when performing analyses of public policy issues. Surveying a representative sample of the affiliates and linking the administrative information with that of the surveys has proven very useful (see Arenas de Mesa et al. 2006 for a case analysis of the pension system in Chile).

Survey data can be very useful in providing information on several dimensions not captured by administrative data. Survey data can supplement the lack of administrative data, although it is not the best source for monitoring and evaluation. The following are several particular concerns regarding health and income data from surveys:

• Income may be under-reported or over-reported, depending upon the true income of the individual, and as such is not very useful in making assessments.

• Survey-based measures of health give point-in-time estimates unless panel data are available. Moreover, if the delivery of the data is delayed, the data are less useful for continuous monitoring. However, they can be very useful for evaluation because the data can capture information in many dimensions.

• Self-reported measures of health are often erroneous because respondents are being asked to provide subjective judgments, and as such, there is no reason to expect that these judgments will be comparable across individuals (Bound 1991).

• It has been argued that measurement error may be higher for self-reported aggregate measures of health than for, still self-reported, measures of specific illnesses or information for subsequent mortality as proxies for health. Nevertheless, recent studies have shown that this may not be the case (Baker et al. 2001). To address this problem, several researchers and organizations have used different measures of health, such as relative measures, which ask the individual to compare his or her health to that of a person of the same age and economic condition. As of the present, this seems to be the best option when using self-reported measures of health.

Based upon the previous discussion, we can make the following conclusions regarding the implementation of an evaluation and monitoring strategy:

• *Data sources and the use of databases should be considered from the beginning and they must respond to a long term strategy if more of the systems want to be obtained.*

• *When possible, information should be obtained from transactional systems.*

- *Information systems must be integral and centered on the individual. By integral, we mean that information on all processes is collected, including enrollment, collection, allocation, OMCC, and provision data regarding the entire continuum of care. Moreover, data must be collected on health outcomes and cost measures (see CISS 2007 for more information).*
- *Intranets and the Internet should be used to collect information whenever possible.*
- *Surveys should be seen as sources of information supplementary to administrative data and not as alternative sources.*

IV.3 Evaluation

Broadly speaking, evaluation in social programs can take three forms: 1) evaluation of program design; 2) evaluation of program management, which in turn is an evaluation of the functions performed by the agencies that manage the programs; and 3) impact evaluation. The evaluation of the design of the program is useful when designing a new program, as is determining whether the design will function by verifying if the program has a clear logic and consistency among objectives, inputs, processes, and outputs.

Evaluation of the management of the program consists of empirically verifying how the program is run with the purpose of identifying implementation issues. Overall, it is an evaluation of how the different agencies that participate in some process of a program are accomplishing their responsibilities. Impact evaluation assesses how the program, whether managed by one or multiple agencies, succeeds at attaining its goals. The three types of evaluations work complementarily in assessing whether programs and agencies meet their objectives and identifying areas of opportunity given the current knowledge of markets, and individual and firms incentives. The evaluation of programs and agencies often leads to design changes, which in turn are often translated into legal changes.

The monitoring of key indicators, whether simple or complex, and their comparison to basal measures, targets, or benchmarks is a straightforward form of evaluation. This is the type of evaluation that most systems, agencies, and programs perform and is the focus of the efforts of international initiatives, such as the Millennium Development Goals Initiative presented in Box IV.1.

Benchmarking using the latest developments to calculate indicators can be very efficient in assessing the performance of different agencies. Box IV.2 provides an example of benchmarking using a cost and output comparison.

Box IV.1
Millennium Development Goals in Healthcare

The Millennium Development Goals (MDGs) are the objectives of a strategy aimed at reducing the world's extreme poverty by the year 2015. They have been promoted by the United Nations, and every country in the world, as well as the most prominent international organizations, has committed to fulfilling them. The MDGs try to improve the well-being of the poorest people by improving their health and education. They also stress the importance of developing a global partnership for cooperation and preservation of the environment.

To make this project a reality, and not just a set of good intentions, the United Nations associated realistic targets with each of the goals in order to measure progress. With 1990 considered the year of inception, the targets are expected to be met by 2015. The table below shows the MDGs and their related targets (and implicitly some of the indicators to be monitored). It is worth observing that the targets for the last two goals are ambiguous. To overcome this issue, the United Nations associated

Box IV.1 (continued)

various measurable indicators with them. For example, for the target of Goal 7—integrate principles of sustainable development into country policies—indicators such as the area protected to maintain biological diversity and proportion of the population using solid fuels are used.

MDG	Target(s)
1. Eradicate extreme poverty and hunger	Halve, between 1990 and 2015, the proportion of people who suffer from hunger
2. Achieve universal primary education	Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling
3. Promote gender equality and empower women	Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015
4. Reduce child mortality	Reduce by two thirds, between 1990 and 2015, the under-five mortality rate
5. Improve maternal health	Reduce by three quarters the maternal mortality ratio between 1990 and 2015
6. Combat HIV/AIDS, malaria, and other diseases	Halt and reverse the spread of HIV/AIDS, malaria, and other major diseases by 2015
7. Ensure environmental sustainability	Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources [1/]
8. Develop a global partnership for development	Comprehensively address developing countries' debt [1/]

Note: 1./These goals are associated with more than one target.
Source: United Nations 2006

The most important aspect of the MDGs is their focus on health improvement. Three out of the eight goals directly relate to health: reduce child mortality, improve maternal health, and reduce the incidence of certain diseases. Nevertheless, it is not easy to distinguish among the MDGs, as research has proven that factors such as increased material well-being or better education are closely related to improvements in health. This consideration is very important for healthcare systems. As their range of action does not have clear boundaries, the use of indicators and the completion of targets is only part of their task. In some cases, further assessment to establish cause-and-effect relationships is required to confirm the effectiveness of a policy.

Being comprehensive in the area of health, the MDG initiative is a wonderful example of a well-designed strategy that includes goals, targets, and indicators. Moreover, to make countries accountable and push them toward compliance with the MDG initiative, the United Nations publishes an annual report (available online) that illustrates the progress that has been made during the period. For instance, the report has shown that LAC is not making good progress toward the completion of the MDGs. The region's main successes are the reduction of hunger and infant mortality rates, whereas the other indicators only show mild to moderate results (UN 2005).

Box IV.2
Comparing Healthcare Services: Kaiser Permanente and the United Kingdom's National Health Service

In the past, the National Health Service (NHS) of the United Kingdom was perceived as an efficient provider that could resolve many of its main challenges through additional investment, rather than through the restructuring of its organization and management. Nevertheless, a detailed study published in The British Medical Journal in 2002 that compared the outcomes and costs of Kaiser Permanente (KP) and the NHS found that these organizations provide a similar range of services and for roughly the same number of years. The NHS is a national public agency that is generally believed to be the key factor in keeping British national health expenditures low while providing high-quality services at an acceptable level of access. On the other hand, KP is a private organization operating mainly in California, which is considered to have one of the most expensive healthcare systems in the world. However, after controlling for age and socio-economic differences between the two populations, KP patients were shown to receive better healthcare services than were NHS patients for roughly the same cost. In particular, KP patients were offered more comprehensive and convenient primary-care services and enjoyed much more rapid access to specialist services and hospitals. In addition, they were hospitalized one third of the total days that KP patient were, the most striking difference between the two populations.

The researchers noted that KP achieves better performance at roughly the same cost because it has 1) better integration of care throughout the system, 2) efficient management of hospital utilization, 3) the benefits of competition, and 4) higher investment in IT. The researchers explained that KP has a high level of integration between physicians and administrators that allows control and accountability across all components of the system. For example, KP can manage patients in the most appropriate setting, implement disease- management programs for chronic conditions, and make trade-offs in expenditures based upon appropriateness and cost effectiveness, for which it has a reliable system of costing. The fact that KP spends less on hospital bed days makes it possible for it to maintain a staff of more and better paid specialists; perform more medical interventions with much shorter waiting times; and spend more on improved IT, comprehensive and convenient primary-care facilities, ambulatory surgery centers, and other facilities.

KP's use of more sophisticated technology and efficient IT systems reduces administrative time, particularly clinician time spent taking medical history, dictating information, and locating patient records. KP has invested 2% of its total budget to extend this virtually paperless patient care system to its 423 outpatient centers and over 11,000 clinicians, whereas the NHS has invested only roughly 0.5% of its budget on IT.

The comparison of NHS and KP focused upon cost and performance. Cost was measured by determining the total operating costs of each system and adjusting for four factors: 1) the package of benefits offered, 2) special circumstances not common to the systems, 3) the relative costs of the medical environment in which the two systems operate, and 4) the age and socio-economic characteristics of the populations served. Performance was measured by comparing inputs, access to services, responsiveness, and limited quality indicators.

Source: Feachem, et al. 2002.

In vertically integrated agencies, the monitoring of key indicators across different processes and units should be straightforward given that the gathering and internal disclosure of data should not face obstacles. In decentralized markets, where many independent units operate as OMCC agencies or providers, the establishment of benchmarks is not always simple, as it is difficult to gather information and incentives for disclosure may be weak. The computation of indexes for the purposes of benchmarking and the sharing of best practices across different agencies is more of a voluntary effort organized around an external initiative.

For example, the Institute of Hospital Engineering, Australia (IHEA; 2008) provides a system of asset benchmarking for healthcare facilities management to which hospitals voluntary adhere. This system collects data through surveys and analyzes, ranks, and discloses information on several indicators to its members. The information is presented in such a way that each individual unit can compare its status with the best and worst practices within comparable groups (e.g., rural to urban hospitals).

On the other hand, the National Committee for Quality Assurance (NCQA), a private not-for-profit organization in the United States focused upon improving healthcare quality, is an association to which healthcare plans adhere in order to obtain a seal indicating that they have been subjected to a rigorous and comprehensive review. All members annually report on their performance on the Healthcare Effectiveness Data and Information Set (HEDIS), which assesses quality standards and performance measures for a broad range of healthcare entities. The measures and standards are disclosed so that not only managers but also policymakers, users, researchers, and other stakeholders can use them to improve their performance and make decisions.

The IHEA and NCQA initiatives reflect something common across the world: Much of the effort in the evaluation of healthcare has been concentrated on healthcare plans and provision rather than funding and allocation.

Although the monitoring of certain indicators may be very useful, it is possible to enrich the evaluation, especially of programs and agencies, by employing more sophisticated tools that can be used according to the economic, fiscal, actuarial, and OR perspectives. As explained in Chapter II, the economic view focuses upon understanding the behavioral responses of firms and individuals to the rules of a program. In the design of healthcare programs, it is paramount to use models that predict these responses, given that the healthcare market suffers from many failures, such as the use of asymmetric information that leads to opportunistic behaviors, adverse selection, moral hazards, externalities and public goods (especially in terms of public health actions), as well as cost structures that can lead to noncompetitive results.

For example, in systems characterized by formal and informal labor markets, as is common in less developed countries (LDC), or in countries with segmented healthcare programs such as the United States, it is very important to understand how enrollment and labor market mobility adjust to changes in contribution rates or benefits provided. Guerrero (2008) uses a framework to understand and measure the different factors that have prevented the realization of universal healthcare coverage in Colombia. In his analysis, he hypothesizes that the large informal market deters workers from enrolling in the program, a barrier that was not considered when the Colombian reform was designed.

Unfortunately, few studies have analyzed causal relationships among labor markets, program designs, program coverage, labor mobility, and health outcomes for LAC, and no consensus has been reached. Indeed, few studies have been able to systematically examine the effects of healthcare reforms in developing countries (Gakidou et al. 2006). One exception is Mexico's evaluation of its *Seguro Popular* (public documentation of the evaluation can be accessed at http://www.coneval.gob.mx). This lack of evaluation is striking, considering the number of healthcare reforms that have been conducted in LAC.

Some of the latest studies to analyze the effect of healthcare reforms in LAC, such as that of Guerrero, were presented in September 2007 in a conference organized by the CISS, and will be published in Well Being and Social Policy Vol. 4 No. 2, a journal edited by the CISS.

A significant number of researchers in the United States have studied the effects of segmented healthcare insurance (see for example the review of the literature in Chapter VI of CISS 2004) and have analyzed the effect of the extension of health insurance coverage on health outcomes (see for example Currie and Gruber 1996a, 1996b, and 1997). Economic models have also been gaining ground as larger and better databases are becoming available. They are useful for assessing whether it is worthwhile to spend an increasing share of national income on health, on the care of individuals near the end of life, or the introduction of new drugs or therapies. Economic applications are based upon human capital theories, from which the concept of the *value of life* is derived, which refers to how much a year of life is valued (see for example Becker et al. 2007 and Hall and Jones 2004).

The actuarial evaluation approach uses numerical models to calculate demographic and financial variables over time under certain rules and assumptions regarding the behavioral responses of participants. Actuarial evaluations are typically used to calculate the overall financial solvency of a program and are a prime source of information to justify adjustments to programs. Actuarial reports are regularly produced for pension schemes but less frequently for healthcare programs, especially if healthcare is financed via budget transfers. Moreover, in many cases actuarial projections are based upon aggregate data. Nevertheless, new computational capabilities allow for the development of models based on micro-data that can result in more accurate calculations.

The use of the actuarial approach as a tool of social health insurance in a role different from that of projecting liabilities and revenues has been increasing substantially. After the application of reform programs that separately delineate a funding function, an OMCC function, and a provision function, the allocation of funds requires the measurement of risks and costs at the individual, disease and diagnostic level. The reason is that budgets are assigned following “capitates, risk-adjusted formulas” complemented by “prospective payment systems” that pay hospitals for conditions treated. Thus, actuaries are involved in measuring risk profiles of population groups, the costs of attending those profiles, and the costs of specific treatments. This sort of calculation is required by Medicare in the United States and by the health protection system of Colombia, among other organizations. The profusion of actuarial information used for decision-making purposes naturally lends itself to the development of regularly updated databases and the evaluation of allocation strategies.

The OR approach, which focuses upon the measurement of efficiencies in systems or organizations, has gained importance as efficiency has become a main objective of policymakers within most healthcare systems (Jacobs et al. 2006). Efficiency analysis determines if expenditures are in line with customer preferences, assesses the introduction of new technology, and ranks different agencies (within a system) or units (within an agency). The OR approach applies statistics, optimization, stochastics, queuing theory, game theory, graph theory, and decision analysis to measure efficiency. For example, it uses data envelopment analysis (DEA) to measure the efficiency of decision-making units, such as OMCC agencies or hospitals. DEA identifies the most efficient unit and those units that depart from the efficiency threshold (see Jacobs et al. 2006 for a discussion on efficiency analysis in healthcare). Lack of information on important variables that measure performance, such as quality and short-time series data, is one of the practical limitations in performing efficiency analyses in healthcare (Jacobs et al. 2006).

One final consideration is the relationship between evaluation and process certification, such as ISO9000 certification. Process certification ensures that processes within an agency are performed in accordance with process manuals. An agency that is ISO9000 certified can claim that, at least in terms of management, the agency is in compliance. Nevertheless, there are other considerations. The program may be poorly designed or have unexpected outcomes despite performing processes according to operating manuals. This is an example of why all three types of evaluation—design, managing, and impact—should be performed. It also makes clear that ISO9000 certification is not a substitute for the evaluation process.

As can be concluded from the above discussion, there is room for the improvement of evaluation beyond monitoring and the comparison of indicators against basal measures, benchmark, or target number. We particularly recommend the following:

- *Evaluation should be a priority in social programs. In this regard, resources must be allocated for data generation and human resources training.*
- *While monitoring and comparing certain indicators is very useful, doing so should be recognized as only the first step. Systems, agencies, and programs must be subject to regular design, management, and impact evaluation.*
- *Given that management and impact evaluation may be limited by the data available, establishing a strategy of micro-data development for purposes of evaluation should be a priority.*
- *Modification and the design of new programs should proceed only after a proper evaluation has been performed according to the perspectives discussed above. The economic and actuarial models should be based upon the most advanced tools.*

IV.4 Corporate Governance of Evaluation of Healthcare in the Americas

Most evaluation efforts should be made by agency and program administrators in order to improve their programs and agencies. Nevertheless, evaluation is also the function of surveillance and regulatory bodies. This section of the chapter describes other agencies involved in evaluation and what they monitor and evaluate. Regulation in healthcare markets is aimed at 1) guaranteeing the security and efficiency of health interventions, 2) guaranteeing that citizen rights are protected, and 3) promoting good market practices. Regulation goes beyond evaluation, but evaluation should be a central element. This analysis focuses upon healthcare systems, agencies, and programs as a whole rather than specific areas of regulation, such as drugs, surveillance, or advertising.

Another area of surveillance, especially if public funding is involved, concerns the monitoring of how public money is spent. In this regard, agencies and programs are subject to strict monitoring of their budgets in almost all countries, and in some countries, the evaluation of publicly financed programs is performed to assess whether public money should be spent on a program or directed elsewhere. Table IV.3 shows the areas of surveillance in relation to the goals of a healthcare system.

Governments have different agencies to conduct these regulatory actions. The role of the agencies across LAC can be classified as that of ministries, regulatory commissions, evaluating commissions, and audit authorities. In all countries, the Ministry of Health has traditionally been responsible for coordinating public health actions and stewarding the system. The growth in demand for health insurance has meant that it often enters into partnerships or conflicts with other agencies that play a role in the area, many of which have been involved in health insurance much longer than has the Ministry of Health. These include other ministries, social security agencies, and financial regulators. In several countries, the Ministry of Health is also an important provider of healthcare services, a situation that diminishes its capacity as a regulator due to the unavoidable conflicts of interest that arise with respect to its own hospitals and with respect to its competitors for public funds and patients.

There is a trend towards specializing policy issues, transferring the provision function to states, municipalities, or private parties, often non-profits. In this manner, the Ministry of Health can more credibly take a leading role in policymaking with respect to financial functions. This movement requires that some of the functions of the Ministry of Health be performed through specialized agencies that work under the umbrella of the Ministry but at a distance and autonomously in important respects. This is the case for the Public Health Agency of Canada, a dependent of Health Canada, which since 2004 has been charged with disease and injury prevention, health protection, health emergency preparedness and response, health promotion, and the undertaking of relevant research.

In most countries, an agency dependent upon the Ministry of Finance regulates insurance contracts, including those for healthcare. The responsibilities of these agencies are to (1) ensure that the operations of the insurance agencies follow the guidelines, with special focus upon the financial solvency and stability of the institutions and (2) promote the development of the insurance sector in order to extend coverage. Although the agency's stated scope should cover all insurance markets, its activities have rarely influenced social security. As part of the movement that has created specialized agencies to address health insurance, these financial agencies have sometimes assumed a main role in supporting the system or have deferred to the new agencies on matters concerning health insurance.

In Argentina, Chile, Colombia, the Dominican Republic and, if its legislature approves, possibly Uruguay, many OMCC agencies exist to serve the population, and specialized regulatory bodies (e.g., commissions or superintendencies) have recently been created. We can identify several general responsibilities for these bodies: 1) authorize and overview agencies in the system, OMCC, and providers; 2) define benefits, guarantee citizen rights (e.g., that the medical plan is provided), and serve as counsel for the defense in some cases; 3) arbitrate controversies between users and those responsible for OMCC; 4) set criteria for the establishment of contracts between those responsible for OMCC and providers and ensure that agreements are met; 5) ensure that participants maintain good market practices; 6) provide and ensure that relevant information is disclosed; and 7) manage and verify the proper use of common funds, as does the *Fondo de Solidaridad y Garantía*[2] in Colombia. These responsibilities are achieved through drafting and issuing rules and bylaws and monitoring and using faculties to establish sanctions.

These agencies are not substitutes for a legal system but often have quasi-judicial functions. In many cases, complaints against those responsible for OMCC and/or providers are settled through the judicial system. For example, in Argentina complaints against *Obras Sociales* due to lack of provision of an explicit benefit have been resolved by the judicial system. In Colombia, cases often go to a constitutional court when patients believe that a service is being unduly denied. In the United States, Medicare, the agency that manages healthcare insurance funding for the elderly, performs many of the same functions in relation to the OMCC (e.g., health maintenance organizations) and other providers that receive funding from the agency.

In Chile and Mexico, agencies have recently been created for the evaluation of social programs. The main responsibility of these agencies is to verify that social programs perform credible evaluations in order to justify the use of public funds and improve the programs. In particular, these agencies 1) establish and coordinate the evaluation of social policies and programs and 2) review the fulfillment of the

[2] The *Fondo de Solidaridad y Garantía* is a common fund in the system wherein all transfers and cross- subsidies occur between formal labor market workers and informal labor market workers by the provision of a capitated amount to all OMCC present in the system.

Table IV.3
Main Areas of Regulation

	Guarantee security and efficiency of health interventions	Guarantee rights of citizens	Guarantee good market practices	Guarantee proper use of funds
Improve population health	Ensure quality of providers through accreditation, certification, and the establishment of norms	Ensure access to healthcare services Ensure provision of all benefits Provide good system of patient allocation (references and contra-references)		
Horizontal equity		Ensure equal access for population entitled to same benefits Ensure provision of all benefits Ensure disclosure of all relevant information Ensure implementation of arbitrage systems between users and OMCC or providers Ensure targeting of social programs		
Vertical equity		Ensure equal access for population entitled to same benefits Ensure provision of all benefits Ensure disclosure of all relevant information Ensure targeting of social programs		
Macro-efficiency		Ensure coverage/package of benefits is fiscally viable		Audit program budgets and review income and expenditures
Micro-efficiency	Ensure introduction of benefits/therapies is cost-effective		Ensure no anti-competitive practices take place, authorize number of agencies, verify that transfer of accounts is performed correctly Establishment of regulations in the agreements between OMCC and providers	Audit program budgets and review income and expenditures Evaluate programs by performing cost-benefit and cost-efficiency analyses
User satisfaction	Establish agencies that attend ensure compliance	Ensure all relevant information is disclosed Establish mechanisms of compliance Ensure implementation of arbitrage systems between users and OMCC or providers		Ensure transparency in the use of public resources

objectives, targets, and actions of the social programs in order to identify areas for improvement. The scope of these agencies is often limited to programs funded by public resources. Social security-based health programs are not under the scope of these agencies. Most countries have agencies to monitor other government agencies, though their scope is limited to fiscal monitoring. The Ministry of Finance and the Congress are the entities responsible for ensuring that public programs stay within budget and spend public monies correctly. Audit offices have gained importance across LAC due to efforts to reduce corruption and increase accountability.

We believe that many of the recommendations in this chapter can help health insurance agencies simplify their relationships with these external agencies. Although health insurance agencies usually operate with a much smaller set of information and only by exception have abilities or information comparable to those of these agencies, they are key players in informing decision makers about the true condition and needs of the programs. Based upon this consideration, we propose the following recommendations for the regulation of the healthcare sector:

- *The Ministry of Health should reinforce its policymaking capabilities by specializing in policymaking functions while decentralizing some functions, such as provision, and by creating specialized agencies with some autonomy to perform technical yet non-policy tasks, such as overseeing the pharmaceutical industry. Evaluation by the leading authority suffers if it competes with other operations and is subject to conflicts of interest.*
- *The agencies in charge of health insurance programs should be monitored regarding not only their budgets but also the three functions that they currently perform—funding and allocation, OMCC, and provision.*
- *Specialized regulatory agencies should facilitate the development of permanent and consistent evaluation frameworks, and their quasi-judicial functions may become a first automatic filter to aid in enforcing laws and regulations.*

IV.5 Conclusions

Evaluation of healthcare systems and evaluation of social health insurance currently have significant overlap. While past efforts on evaluation focused upon purely healthcare issues, financing is now a key aspect. This implies that the strategy of evaluation must do the following:

1) It should recognize that three core functions are performed—funding, OMCC, and provision—and that each should be evaluated with respect to its specific responsibilities, even in vertically integrated agencies.

2) It should draft a consistent and clear map of the agencies and programs that constitute the system, identifying the functions that are being developed by and within each agency. This exercise is usually a byproduct of the development of the strategy maps-balanced scorecard approach.

3) It should define the best mix of evaluation tools drawn from the different approaches (actuarial, economic, administrative, and OR) to develop a mid-term "vision."

a) The vision should be citizen centered, not agency or government centered. In this manner, information will be provided from the bottom-up and will allow the achievement of a true linkage among the administration, the provision of services, and evaluation.

b) The vision should generously incorporate alternative technical and social views.

4) It should define the best way to apply the vision of evaluation in the short run, which likely entails the filling of many gaps.

a) It should link the information and evaluation tools to the stakeholders— families as taxpayers, the insured as patients, legislators

and regulators, budget authorities, and all others.

b) It should define an action plan to move from the short term to the long term using an information architecture plan that allows for the good selection of IT to create synergy among operations and evaluation strategies.

Being very ambitious, the evaluation strategy we are proposing may be subject to several challenges. Specifically, significant efforts would have to be devoted to coordinating different agencies and stakeholders and greater investment in IT would have to be made, but we believe that these tasks can be accomplished with political will, and that once in place, this evaluation strategy will fulfill demands for greater efficiency, accountability, and transparency.

CHAPTER V
EVALUATION OF CHILDCARE AND LONG-TERM CARE PROGRAMS

CHAPTER V
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V.1 Introduction

This chapter addresses the evaluation of the two main "care" social programs: those for the very young—childcare programs—and those for the disabled though not necessarily elderly—long-term care (LTC) programs. Both classes of programs are relatively new in the social insurance mix.

By the 1970s, a number of families in many countries were already facing the dilemma of choosing between working or caring for young children, and a number of disabled individuals were in need of support that was not being provided through a traditional monetary pension scheme. Over the past decade, both issues have grown in importance within the social agenda as more women work full time and many countries experience a dramatic decline in fertility and an increased aging of their population. Other significant factors are the knowledge that a lack of care at a very early age can be very damaging to children and increased awareness of the overwhelming pressure that permanent disabilities can put on the daily life of families.

Social insurance has been a logical means of addressing the problems of financing care programs. Childcare needs are strongly correlated with work patterns while LTC programs complement support received by pension, health, and disability programs. Evaluation of care programs involves all of the processes that were described in the CISS 2008 Report (CISS 2007) and can be subject to the perspectives stated in Chapter 2 of this Report. However, it is important to stress the conditions of families and the specific issues that surround the evaluation of care in childcare and LTC programs.

Regarding childcare, it is very important to gain understanding of the manner in which parents work, especially mothers, and the way in which a program can benefit children. Regarding LTC programs, the main concerns are whether the individual, family, and community are receiving the support necessary to prevent a permanent disability from becoming a major liability in the daily life of the disabled and unduly affecting the work and leisure possibilities of all.

This chapter analyzes the issues that surround the evaluation of childcare and long-term care programs. Section 5.2 addresses childcare program objectives and the impact that evaluation has on their performance. Section 5.3 analyzes the main objectives of LTC programs and how evaluation helps the actors involved enhance program performance. Section 5.4 concludes the chapter.

V.2 Evaluation of Childcare Programs

V.2.1 Objectives of the Program

What is childcare? Is it an educational program? Is it a program to support female workers? To what extent is it an insurance program? Even though it is not possible to identify a standard model of childcare, it

has generally been viewed from two complementary perspectives. Childcare is most commonly viewed from a labor market perspective as a "complementary tool" to ease the incorporation of women into the labor force (Pautais et al. 2004). The other perspective views childcare as the right to access education (Rosetti 2002) because childcare is no longer limited to satisfying basic needs and avoiding situations that could be potentially harmful to children but also encompasses the intellectual, physical, social, and emotional development of children (Waiser 1998).

Factors such as the increase in women's labor force participation, decrease in family size, increase in the number of single-parent families, and increase in dual-income families have driven many families to seek some type of childcare (OECD 2001). Childcare programs are often financed by social insurance funds. The models vary significantly; they include financing by providers, financing by families to pay providers, and financing by families to support family or community care. Even though informal childcare arrangements are still the main types of childcare, trends show that childcare is moving toward formal arrangements that lead to improved outcomes in two areas: early child development and the labor participation of mothers with small children. Experience has shown that childcare is an area in which participation rates cannot be forecasted with certainty; the form in which a program is organized can significantly affect families' participation decisions.

Several studies have shown that early education has positive effects on a child's academic performance and that the availability of childcare services increases the probability of mothers entering the labor market. These factors are why governments have taken different measures to improve access to childcare services. Childcare arrangements are so complex and varied that it is difficult to identify one single provider and financing pattern in any one country. Childcare may be provided by programs or institutions, formal care specifically designed to this end, or informal care. Informal care is usually provided in the child's home or in the home of the relative who cares for the child when the parents are not able to do so. Informal childcare prevails in most countries. We do not consider this type of care to be provided by a program but rather the manner in which most families care for their children. However, even in-house care is increasingly being supported financially and otherwise by public sources, including social security.

In contrast, formal care usually refers to care provided in certified institutions for young children from birth to six years of age, sometimes up to eight years of age. Preschool education is a type of formal care available in most countries, although generally restricted to children five years of age and over. Different studies have shown that preschool education promotes early development and helps children succeed in school in the short term and reduces the success gap between low-income children and more advantaged children, as well as that maternal work and the use of childcare programs do not affect child development; indeed, childcare services may actually be advantageous when of high quality (Boocock 1995). There is considerable variability in the models of formal care offered for young children. In some cases, social security or the government directly finances childcare centers; in other cases, legislation provides strong support to mothers to stay home with their children while also supporting formal care as a complement to their primary caregiving.

V.2.2 Demand for Childcare

The demographic and social changes that have occurred in recent years have increased the labor force participation of women with children. Factors such as the reduction in family size and increase in the numbers of single-parent and dual-income families have increased the need for formal childcare programs. Gelbach (2002) and Berger and Black (1992) found that childcare subsidies increase the probability of women working and paying for childcare services and that childcare services are essential for women to be able to participate in the labor market.

Connelly and Kimmel (2001) found that an increase in the cost of childcare services has a positive relationship to the granting of welfare pensions. Studies in the United States, Canada, and Germany (Anderson and Levine 1999; Cleveland et al. 1996; Connelly 1992; Lemke et al. 2000; Powell 1997; Ribar 1992 and 1995; Tekin 2002 and 2004; Wrohlich 2004) have found that an increase in the cost of childcare services has a negative impact on the employment of women with children. Caring for children makes it more difficult for women to work, and some risk becoming poor while juggling these responsibilities.

A number of researchers have studied the impact of childcare subsidies. Berger and Black (1992), Gelbach (2002), and Lemke et al. (2000) found that these subsidies increase a mother's probability of working, including women receiving welfare pensions. Tekin (2002) indicated that higher salaries increase the probability of women working and paying for their children's care. These findings show that the availability and cost of childcare services are essential factors in a mother's decision to participate in the labor market.

Childcare centers that offer limited hours of operation may make it necessary to pay for than one service and make it more difficult for women to work full-time jobs. An increase in the labor market participation rate of mothers with small children and the increasing concern to make early education available to children have generated growing demand for formal care. Demand depends upon many different factors, including cost, hours, distance, the labor market participation rate of mothers, and parents' income.

V.2.3 Supply of Childcare

Providing all children with a fair chance for early development is the main justification for developing childcare programs. Many have argued that children's well-being leads to positive externalities for society (e.g., increased human capital and less crime and violence). In reaction, governments have proposed several policy solutions to increase the well-being of children. In some countries, childcare has become a public responsibility, yet the extent of this responsibility varies significantly. In some countries, all children receive support, in others only the children of workers are guaranteed special care, and in yet others there is no explicit obligation to provide childcare, although support is provided through income tax deductions or targeted programs (e.g., for children of low-income female workers). We could say that in general, Western Europe and Canada tend to follow the first model, that countries where "traditional" social security has entered the field tend follow the second, and that most countries tend to follow the third in some manner. As in other social areas, rarely can we find a pure application, and countries mix programs according to their own historical legacy and their attempts to coordinate childcare with other social security and educational programs.

Privately financed or non-remunerated childcare services, usually provided by relatives and/or friends, are common, although to a different extent, in all of LAC. Childcare has been legislated with the goal of either fostering female employment or improving children's educational quality and access. Legislation in LAC is mainly aimed at working women. In Chile and Argentina, labor legislation requires companies with more than a certain number of female employees to provide childcare services, which may provide an incentive not to hire more women than necessary to avoid having to provide this service. Ecuador requires employers with more than a certain number of employees, regardless of sex, to provide childcare centers. Costa Rica regulates childcare centers regardless of labor legislation, striving for universal access. In Uruguay, childcare legislation is aimed at improving quality and tightening control.

In Argentina, Brazil, Chile, and Mexico, as in most of LAC, maternity leave is covered by compensation systems that do not present an additional cost to

employers if they employ women. In Chile, maternity leave is financed through a public fund, while in Argentina, Brazil, and Mexico, maternity leave is financed by the social security system. In all three countries, health benefits are financed through the social security system. While childcare services in Chile are directly financed by female workers' contributions, childcare services in Argentina, Brazil, and Chile are financed by employers, and thus employers' costs rise as the number of female employees increases and they start demanding this benefit.

In Mexico, childcare centers, like maternity leave and healthcare benefits, are financed by social security. Social security agencies are the most important childcare providers in Mexico. While coverage has increased significantly during the last ten years, it is still low. Mandatory preschool attendance has been required since the late 1990s, and recently the government launched a national program of childcare centers for uninsured women. It is not yet clear how these alternative sources of childcare will be financed in the long run. Social security used to fund and provide these services, but since the mid-1990s it has begun to limit itself to the financing function, decreasing the cost by an estimated 60%. However, coverage remains low. According to the 2004 National Employment and Social Security Survey (ENESS), care for 15.9% of children from birth to six years of age is provided by someone other than their mother, and only about 14.2% of these children attend childcare centers. This means only 2.25% of children from birth to six years of age receive care at centers and that only 0.77% of children have access to private centers. This has a significant effect on female labor market outcomes because childcare availability, either formal (provided by childcare centers) or informal (provided by relatives or individuals who may or may not receive compensation) affects a mother's decision to work.

In Costa Rica, childcare services are regulated by Law Nº 7380 (*Ley General de Guarderías Infantiles y Hogares Escuela;* General Law of Childcare Centers and Home Schools), which aims to regulate the provision of childcare services. It does not make it compulsory for employers to finance or provide any of these services. This law provides that childcare centers must provide full-day care for children aged three to seven months while their parents are working, whereas home schools (*hogares escuela*) must provide after-school childcare for children aged seven to twelve whose parents work. These centers may be public, private, or a mix thereof, and the state provides the infrastructure and partial financing.

The Ministry of Labor and Social Security is responsible for maintaining a national registry and supervising all the centers in the country. In recent years, the state has fostered the creation of Nutrition and Education Centers and Integral Care Centers for Children (CEN-CINAI Centers) and Community Homes to care for low-income children who are not of compulsory school age (birth to six years of age), but the supply has not yet met the demand. In 1999, 97% of Costa Rican mothers aged eighteen to forty-four with children under five did not enroll their children in childcare centers, although only 65% personally took care of their children. This means that 35% of mothers who have no access to childcare centers use informal childcare services (ENSR 1999).

It is very important to take into account the effects of financial incentives on labor market decisions. Childcare programs may not only increase labor force participation by offering families a satisfactory way of caring for small children but may also decrease labor force participation by providing more support for mothers who spend more time with their children, and may even encourage women to have more children. The effects of childcare on work may depend upon worker level of education and income. A number of studies have attempted to analyze which effect is stronger. Brewer (2003) found that for the United Kingdom, most families with a large number of children prefer to receive income support rather than work more hours. On the other hand, he found that the higher an individual's level of education, the

stronger the preference to resolve childcare dilemmas through increased labor force participation. When Brewer analyzed individuals by age, he found that their preference depended upon their marital status. Single individuals have a stronger preference for working more hours while married individuals have a stronger preference for receiving more income support. Brewer's analysis indicates that because each family has a different situation, applying one solution in the same way to all families may not be a good strategy. Consequently, evaluation must consider the different problems faced by different families.

In OECD countries, most benefits that are conditional on employment are targeted at low-income families. These benefits are usually paid in cash or as tax credits, often non-wastable, meaning that families apply the credit towards their tax liabilities and do not have to refund the money to the government. These non-wastable tax credits may even result in a "negative tax," which means that the family may ultimately receive additional cash. In certain countries, these benefits are designed for employees regardless of the number of family members. In other countries, benefits increase according to the number of children in the family. Examples of the latter include Canada (non-wastable tax credits), France (non-wastable tax credits), Germany (lower social security contributions in addition to childcare benefits), Ireland (cash benefits), the Netherlands (tax credits), New Zealand (non-wastable tax credits), the United Kingdom (non-wastable tax credits), and the United States (non-wastable tax credits).

For the United States, MaCurdy and McIntyre (2004) have suggested redesigning the Earned Income Tax Credit (EITC) to increase the incentive to work and targeting benefits to poor working families by applying an EITC benefit schedule based upon family hourly wages as well as earnings. In contrast, existing EITC benefits are based upon annual family earnings, regardless of whether these earnings are the result of more hours worked at lower wages or less hours worked at higher wages. The wage-based EITC benefit schedule would essentially raise net hourly wages above their non-EITC values for low-wage workers, supporting a family for hours worked up to the equivalent of one full-time worker, with the benefit rate declining as the family's market wage rises. The wage-subsidy EITC would increase net hourly wages for low-wage workers, supporting a family up to the minimum-wage threshold; this higher wage would apply to every hour worked up to full time. Consequently, both EITC redesigns would make work more attractive until the family reaches full-time employment.

It must be mentioned that although it does not have a national program that provides childcare services, the United States supports families with childcare expenditures for children up to thirteen or fourteen years of age through subsidies and tax credits. A general message that can be taken from this discussion is that separating the financing from the provision function can help in finding a solution to integrating the childcare system with the overall educational system and generally providing support to families in caring for their children.

In Canada, the National Child Benefit (NCB) Supplement plays an important role in enhancing financial incentives to work. The NCB Supplement is the Canadian government's contribution to the federal/provincial/territorial NCB Initiative aimed at preventing and reducing child poverty. The initiative promotes participation in the workforce by ensuring that families have a higher standard of living if they work. In most jurisdictions in Canada, the NCB Supplement operates in a manner similar to the way that an in-work benefit operates in certain transitions from social assistance to the labor market. Individuals with children receiving provincial/territorial Social Assistance (SA) have their SA benefits reduced by an amount equivalent to the NCB Supplement while employed individuals with children receive the NCB Supplement, depending upon their income. Provinces and territories reinvest SA savings in new or enhanced measures for low-income families with children, which can provide additional support to parents making the transition from SA to work.

The Netherlands, another country with employment-conditional programs, replaced income-based childcare benefits with a childcare tax credit in 2004. France has an integrated educational and childcare system for children aged three and over that includes the provision of preschool activities in the morning and before- and after-school care. Families with children under three receive substantial family allocations to care for their children.

Expanding its in-work benefit programs, New Zealand recently introduced new childcare provisions aimed at working parents. The maximum number of hours required to qualify for the income-based Childcare Subsidy (payable to the childcare provider) and Out-of-School Care and Recreation (OSCAR) subsidy was raised from thirty to thirty-seven hours per week. On the supply side, additional funding has been provided to increase the number and quality of OSCAR providers so that childcare access does not become an obstacle for beneficiaries and low-income workers planning to enter or remain in the workforce. In the United Kingdom, the Working Family Tax Credit includes a generous childcare component whereby families are entitled to a tax credit for 70% of childcare costs up to a certain limit, according to the number of children.

Through its National System for Family Welfare (SNBF), both the private and public sector in Colombia are primary childcare service providers. Although there are other programs run by local governments and non-governmental organizations, public SNBF childcare centers deserve special attention because of their scope, financing, and characteristics. The SNBF is coordinated by the Ministry of Social Protection through the Colombian Institute for Family Welfare (ICBF), an institution created by Law 75 of 1968. From programs that provide support to pregnant mothers to programs that provide assistance to abused children and adolescents, the wide range of services provided by the ICBF is mainly oriented towards providing protection to the poorest population, focusing upon children and vulnerable groups (i.e., ethnic and rural populations, the elderly, and people with disabilities). The objective of these services is to strengthen family ties while ensuring each household member fulfills his or her duties and protect the rights and safety of children and families.

The ICBF's main funding source is the quasi-tax, which accounts for almost 99% of its income. This tax is levied on private and public companies and directly collected by the ICBF. Even though the ICBF is funded by taxes paid by formal labor market employers, benefits are seldom targeted at them or their employees. Instead, these programs target, as noted above, the poorest population, particularly individuals who qualify as beneficiaries according to the welfare system (the SISBEN). This feature makes the SNBF an important income redistribution agent in Colombia. The ICBF provides different childcare programs, including Hogares Comunitarios de Bienestar (Community Welfare Homes), Hogares Infantiles (Child Homes), and Lactantes y Preescolares (Babies and Preschool Children). With significant exceptions, these programs usually care for children on a full-time basis. The ICBF also operates educational programs such as Jardines Comunitarios (Community Kindergartens) and Family, Women, and Children's (FAMI) Homes, whose functions and the functions of other childcare programs sometimes overlap. HCB is the SNBF's most important and most rapidly growing childcare program. Community participation in the provision of childcare services has fostered the program's growth. HCB cares for children in extreme poverty (under SISBEN standards) and provides health, nutrition, and pedagogical services.

Family Allowance (FA) programs, whose main component is a cash benefit for minors dependent upon insured members, are important in the Southern Cone countries. Argentina adds further benefits and Uruguay extends the benefit to households with low incomes whose members work within the informal economic sector. Brazil has the lowest age limit (up to a maximum of fourteen years of age) to receive

benefits. There is no age limit for disabled children, who usually receive twice the normal benefit, except in Brazil, where both parents, if they are enrolled in social security, receive identical allowances. Most of the objectives of the FA programs in Argentina, Brazil, and Uruguay are the same as those of most social security programs. Uruguay reached a conceptual turning point for this type of scheme in 1999 and again in 2004 when low-income families became eligible for the FA program even if they are not covered by social security (BPS 2007a).

Over the past fifteen years, certain Latin American countries have introduced new instruments of public policy to provide support for families with children, intended primarily to alleviate poverty among children and foster social inclusion, in addition to traditional social security programs such as FA and other state programs. It is important to bear in mind that more than 50% of the EAPs in this region is targeted to those engaged in informal employment (without social security protection) and that with the exception of Uruguay, traditional FA programs are not designed to reach a high percentage of the population, particularly the poor population, whose households include more children compared with the population in general and whose members are generally either unemployed or working within the informal economic sector.

In LAC, coverage rates are quite low. High private center prices and insufficient public care centers are a barrier to the provision of childcare. The fact that few children who are enrolled in the programs attend the centers regularly is also a problem. In industrialized countries, policies are oriented towards the inclusion of childcare programs. Different studies have shown that preschool education promotes early development and helps children succeed in school in the short term, that education closes the success gap between low-income children and more advantaged children, and that maternal work and utilization of childcare programs do not affect child development but can be beneficial if program quality is high (Boocock 1995). Box 5.1 discusses the return to human capital that investing in childcare provides.

Box V.1

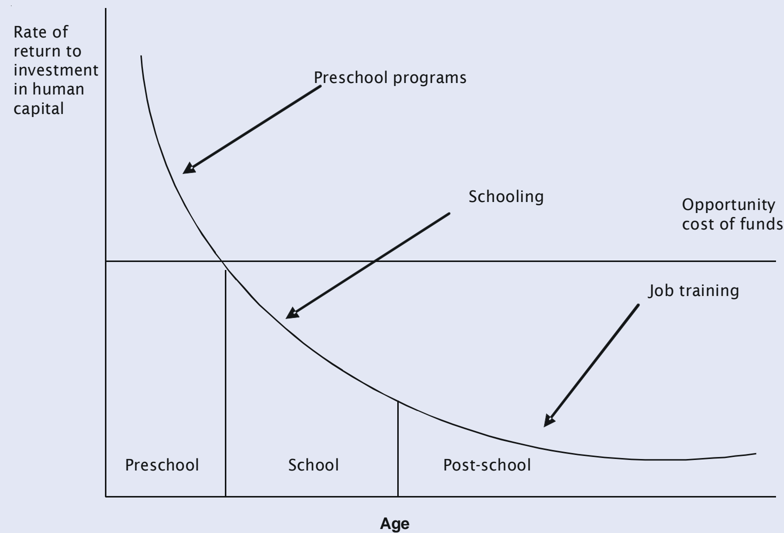
Return to Human Capital Provided by Investment in Childcare

Probably the most important study evaluating interventions for children published in many years is "Interpreting the Evidence on Life Cycle Skill Formation" by Cunha et al. (2005). The researchers' principal message is that childhood has several stages and that skills form as a result of complementary and multiplicative process whereby one skill generates more skills. They point out that skill acquisition begins in the mother's womb and continues throughout the lifespan. In this process, families have a more important role than do schools. Several skills are particularly important for success in adulthood, some of which are inherited and others learned. However, because the traditional debate on "nature versus environment" is scientifically obsolete, it is not possible to identify the genetic characteristics that are useful in forecasting future success.

What is known is that the achievement of skills in a certain stage of life increases achievements at later stages (i.e., increases self-productivity), and that early educational investments facilitate later productivity (i.e., it is complementary). Early investments are not productive if they are not followed by later investments. This is why returns on investment in human capital at early stages of life are very expensive. Repairing bad initial investments is highly costly as a consequence of their self-productive and complementary nature.

The following graph summarizes empirical evidence from a number of studies. While not a "theoretical" graph, its data are supported by the research of many academics over many years.

Box V.1 (continued)



The rate of return to human capital investment assumes investment to initially be equal across all ages.

The literature points out that early experiences in life with consequences important to development, interacting with genetics, have a profound influence on socio-emotional outcomes. Early experience in life may change nerve cell biochemistry and architecture, and there are sensitive periods for these events. During sensitive periods, some connectivity pathways among neurons became steady as a result of environmental influences to which the child gradually adapts. During sensitive periods, these paths can be distorted, but once established as structures, is difficult to change them.

Several critical periods have been identified, including those that lead to the development of binocular vision in the mammalian cortex, hearing space processing, and the learning of songs in birds. The period of acquisition of language is one of the most important periods for human beings because children tend to acquire language skills better than do adults in spite of their being more limited in most of the cognitive domain. The age of exposure to language is negatively related to the skill that is ultimately acquired in that language. The decline in proficiency begins between four and six years of age and continues until a plateau is reached in adulthood. This pattern is evident for many aspects of language proficiency, such as control of sounds and grammatical structure, for both first and second languages. Nevertheless, different aspects of language can be acquired in different stages at different ages. For example, acquisition of vocabulary and semantic processing can be accomplished relatively easily in adulthood, while the more formal dimensions of language, such as syntax, phonology, and morphology, are more difficult to acquire (Newport 2002).

In summary, scientific evidence strongly supports the beneficial effects of social interventions that support child development and early education, which are more beneficial than interventions provided in traditional educational systems. The vision of the programs of childcare as support to the working mother is limited. Profitability is very large in programs that encourage mothers to remain with their children during the first years of life, complemented by educational programs oriented to the youngest children. Certainty, it will not be possible to establish these programs by charging them to the company payroll because doing so will lead to discrimination against working mothers.

Source: Cunha et al. 2005

V.2.4 Regulation

Childcare and educational service providers should be licensed by national or local governments. In general, regulations should encompass group size, adult-to-child ratio by age, staffing, basic care requirements, nutrition, physical facilities, and health and safety practices according to center type (e.g., daycare center, family-based childcare, etc.). In addition to complying with state regulations, many centers also choose to undergo voluntary accreditation and voluntarily meet quality standards stricter than state requirements established by professional associations. Certification helps parents choose the type of care they want for their children. One issue that must be resolved is the relationship between childcare center regulation and the laws of the educational system. The advancement of governments towards establishing educational programs for younger children demands the coordination of both factors.

With the heightened demand for daycare in the United States has come a growing concern with the quality of provision. The parents of the child (purchasers) often find it difficult to assess the quality of care, and are aware that the consequences of poor quality daycare are potentially serious. Public intervention in daycare markets might be justified using either arguments commonly made for the public provision of education or arguments regarding imperfect information. State regulators, recognizing both arguments, have imposed minimum quality requirements on daycare providers. Chipty and Witte (1994) found that imposing minimum requirements has an impact on the equilibrium of prices, hours, and quality as measured by staff-to-child ratio.

V.2.5 Evaluation of Childcare

The following aspects should be considered regarding the evaluation of childcare programs:

- marketing: differentiate childcare and educational services from traditional daycare offerings and interest activity programs
- service quality: childcare and educational programs must be provided by degreed and certified educators, childcare workers, tutors, and subject-matter industry professionals in a collegiate environment
- reputation: maintain a highly regarded reputation for excellence in childcare, education, and community involvement
- profitability: control costs and manage budgets in accordance with goals

It is important to highlight the importance of having an agency or entity that regulates licensing. The primary purpose of licensing a child daycare center is to safeguard the well-being of the children served. By granting a license, the agency verifies that the childcare center has safe buildings and grounds; that staff is appropriately trained and responsible; and that the program shall, in practice, reflect an understanding of the healthy growth and development of children. Furthermore, the license provides assurance to parents and the community that children are being cared for in a safe, healthy environment where appropriate activities, time schedules, food, materials, equipment, and staff are consistently available and are used for encouraging and supporting the children's physical, social, emotional, and intellectual growth (Witte and Queralt 2001).

The application for a license generally includes the following:

- name, address, mailing address, and phone number of the prospective center
- the full name and address of the applicant
- information on the building in which the center program will be housed, including sketches of the indoor area showing the activity rooms that will be used for childcare, the kitchen or food preparation area, the bathrooms for children and staff, and the office space
- detailed information on the outdoor play area, including a sketch of this area showing accessibility to the building and the rooms used for childcare

- specification on the number and ages of children served, age groupings, and staff-to-child child ratio
- complete information on staffing, including the name and qualifications of the director, site coordinator, and other identified staff
- staff medical information
- staff employment history and criminal record
- objective of the program, including the daily schedule of activities, the philosophy of the program, and the developmental goals upon which the program is based
- A listing of the equipment and materials, both indoor and outdoor, available for the implementation of the program
- information on the daily feeding program
- financial information, including the means of financing and anticipated yearly budget for the program
- a statement signed by the applicant, acknowledging that he or has read and agreed to comply with the regulations for licensure

In the United States, the method of licensing is designed to fulfill the state's obligation to families whose children attend daycare centers (regulation purposes). A license is granted after a detailed evaluation of the facility and program has shown that it conforms to established regulations. For monitoring purposes, the licensing agency may require the licensee to make its records, staff, populace, and facilities available on an announced or unannounced basis. The monitoring activities may include reviews of financial, staff, and child records; interviews with staff; interviews with children in care and parents; and site inspections of the facilities..

Witte and Queralt (2004) have shown that placing childcare provider inspection and complaint reports on the Internet has changed the behavior of childcare inspectors and improved the quality of childcare received by low-income children. The results became widely known in part because (1) the media widely reported the availability of this information on the Internet, (2) the information was easy to locate and use, and (3) the inspector's name and contact information appeared on the first page of the reports. The researchers found that after childcare provider inspection and complaint reports have been made available on the Internet (1) inspectors produce significantly more inspection reports and (2) inspectors become significantly more likely to provide mixed reviews of centers in the course of their routine inspections, finding that centers sometimes meet minimum standards and other times fail to do so. After inspection reports are made available on the Internet, there is also significant improvement in classroom environment and center management at centers serving low-income children with childcare subsidies, comparable in degree to the improvements often achieved by more expensive approaches to improving the classroom environment or curriculum.

V.3 Evaluation of Long-Term Care Programs

V.3.1 Objectives of the Program

LTC includes a variety of services and means of support to meet healthcare and/or personal care needs over an extended period. Most LTC is provided by non-skilled personal care assistants who help with performing activities of daily living (ADLs), which include bathing, dressing, using the toilet, transferring to and from the bed and chair, and eating. The objective of an LTC program is to help older adults maximize their independence and functioning at a time when they are unable to be fully independent. LTC is needed when a person has a chronic illness or disability that causes him or her to need assistance with ADLs. While most people who need LTC are aged 65 or older, a person can need LTC services at any age. In the United States, 40% of people currently receiving LTC are adults 18 to 64 years of age (OECD 2006).

V.3.2 Demand for Long-Term Care

Individuals may need LTC for one or more of the following:

- care or assistance with ADLs in home from an unpaid caregiver, who may be a family member or friend
- services at home from a nurse, home health/home-care aide, therapist, or homemaker
- care in the community
- care in any of a variety of long-term facilities

Generally, services provided by caregivers who are family or friends are unpaid. This is sometimes called informal care whereas paid services are sometimes referred to as formal care. Paid services often supplement the services provided by family and friends. Many people who need LTC develop the need for care gradually. They may begin needing care only a few times a week or one or two times a day for specific functions, such as bathing or dressing. Care needs often progress as people age or as a chronic illness or disability become more debilitating, creating the need for care on a more continuous basis.

Some people need LTC in a facility for a relatively short period while they are recovering from a sudden illness or injury, and then may be able to be cared for at home. Others may need LTC services on an on-going basis, such as a person who is disabled by a severe stroke. Some people may need to move to a nursing home or other type of facility-based setting for more extensive care or supervision if their needs can no longer be met at home. *The Americas Social Security Report* (CISS 2006) presents a complete section on the current and projected demand for LTC in LAC.

V.3.3 Supply of Long-Term Care

In general, the provision of LTC services is achieved through fragmented and uncoordinated systems. A wide range of services and support are provided by many different public and private agencies and organizations. In the United States, for example, a person's ability to access public programs is governed by complicated state rules about financial and functional eligibility that differ by state but exist under an overarching federal framework.

The governments of many OECD countries have tried various ways to give dependent persons receiving care at home and their families more choice among care options. Doing so often involves providing cash to pay for care. These benefits come in various forms, including personal budgets to employ professional care assistants, direct payments to the person needing care without constraints on how it is used, or direct payments to informal caregivers in the form of income support. With "consumer-directed employment of care assistants" (personal budgets), older persons can employ a personal attendant, frequently with the option that this person can be a relative. Income support payments to informal caregivers have been designed for the dual purpose of increasing flexibility and mobilizing a broader carer potential that enables older persons to remain in the community longer and reduces the need for expensive institutional care (OECD 2002).

In LAC, public institutions have established several nursing home centers and, in a few cases, even programs of home-based care that more resemble healthcare than LTC, and as such are being financed with health funds (CISS 2006). In general, the LTC resources for older adults in LAC are in a stage of development or, in some cases, nonexistent. In the Southern Cone countries, nonprofit and profit organizations have developed an alternative means of supplying LTC resources due to the low supply of public resources. The National Program for Home-Based Care Givers in Argentina and the National Program of Older Adults Caregivers in Brazil are trying to professionalize home-based care for older adults and the frail or disabled population while also helping generate formal employment (BPS 2007b).

Understanding little about public programs for which they might be eligible, many people believe that nursing home or family care are the only alternatives when they or a relative becomes frail or disabled. In most cases, they are unaware of the aging network

and its services and support system. One means of resolving this issue is providing electronic tools to the potential beneficiaries in order to provide information and assistance to older adults regarding LTC options. These tools should provide the following information:

- awareness and information: public education and information about options
- assistance: options, benefits and employment counseling, referral to other programs and benefits, and crisis intervention
- access: eligibility screening, comprehensive assessment, programming and financial eligibility determination, one-stop access to all public programs, access to private-pay services, and planning for future needs

V.3.4 Evaluation of Long-Term Care

Evaluation is an essential element of a control and reporting system. It is important to accurately assess what has been or is happening compared to what was or is expected to happen (Young 2003). Monitoring helps determine whether a program has been worthwhile and effective. An ongoing process, monitoring is usually quite structured, with the aim of helping managers remain aware of agency functions in a simple manner (Whiteley 1996). It entails routinely collecting data and measuring progress towards a program's objectives through assessing the extent to which planned activities are held, services are provided, and how well the services are provided.

Monitoring is similar to the concept of evaluation but with an important difference: it focuses more strongly upon ongoing feedback to improve a program's functioning. Evaluation can perform the same function but tends to examine programs in terms of whether they have made a difference. Evaluation is "the process of determining the merit or worth or value of something; or the product of that process" (Scriven 1991) by systematically collecting and analyzing information to assess an organization's effectiveness in achieving its goals. It provides regular feedback to help analyze impacts, outcomes, and results of activities and helps assess their relevance, scope, and sustainability.

The quality of LTC services, where they are available, varies widely both between and within countries. Consequently, the quality of services often does not meet the expectations of the public or the users of the services and their families. Examples of inadequate care in institutional and community settings are numerous. Some of the effects of inadequate care are inadequate housing, poor social relationships, and lack of privacy in nursing homes. Policies to bring LTC quality up to expectations promote increasing public spending and initiatives for better regulation of LTC services, such as by establishing quality assessment and monitoring of continuous improvement. Improvement in outcomes and not only infrastructure should be the basis for setting quality standards. Some have proposed making information on the quality of care and the prevalence of adverse outcomes more open and accessible to the public on a regular basis. Publicly available information on quality assessment at the level of the provider could lead to improved consumer protection and create a climate of competition for quality, in particular when combined with greater choice on the part of consumers.

Nursing Homes

In general, the evaluation of LTC programs in nursing homes involves evaluation of the eligibility criteria (patient evaluation by the program) and evaluation by users and their families in order to obtain the best option available.

Several aspects that families should consider when evaluating LTC facilities for a relative are the following:

- staff (hiring policies and restrictions, training, turnover, and staff-to-resident ratio on all shifts)
- safety of and technology within the facility
- communication among staff, families, and residents

- safety procedures at the facilities, including plans for emergencies
- health issues (availability of a family doctor, frequency that patients are examined by a doctor, etc.)
- medications (policies regarding storing and distribution of medications, safeguards, etc.)
- provisions for ADLs

The American Association of Retired People (AARP; 2008) provides a checklist for a family considering a nursing home for an older adult relative. The checklist recommends evaluation of the following prior to making a decision: (1) basic information (e.g., whether the nursing home is licensed, its visiting policy, patient-to-staff ratio, nurse-to-patient ratio, aide-to-patient ratio, and discharge policy); (2) safety (e.g., stairs and hallways are well lighted and handrails and call buttons present); (3) care issues (e.g., exercise, quality and variety of diet, and therapies offered); and (4) quality of life issues (e.g., respect for the user, friendly staff, and outdoor facilities for visits).

The quality of LTC is fundamentally multidimensional, encompassing clinical care issues, functional independence, quality of life, and patient and family satisfaction with care (Mor et al. 2005). The patient assessment systems in all U.S. nursing homes and all home healthcare agencies (HHAs) serving Medicare beneficiaries are computerized. These assessments are performed by the nursing staff when the patient is admitted into the service and periodically thereafter (for HHAs, upon discharge). Only those patients cared for long enough to have had two assessments are included in the calculation of an aggregated measure of provider quality.

In many countries, the drive to raise quality standards in acute healthcare has been accompanied by governments taking a more active role in regulating and inspecting the quality of LTC services with two aims in mind: reducing the risk of receiving poor quality care (including the risk of harmful care) and raising average standards of service. Comprehensive publication of quality assessment could become a key to improving consumer protection and fostering a climate of competition for quality (Huber 2004). Unlike the United States, many countries have no explicit criteria or standards defining quality of care and only superficial monitoring. Funding, regulation, and monitoring of LTC of the elderly differ widely among industrialized countries. When it exists, regulation of institutional care is stricter than is that of home care. The lack of focus on outcomes of LTC may reflect difficulty in accessing relevant data or a different perspective on the value of data in assessing quality of care (Hughes et al. 2000).

Home- and Community-Based Care

People who receive home- and community-based LTC services and support comprise an inherently vulnerable population. Because they require assistance with everyday activities, these individuals are at great risk of harm if those who provide support services fail to report to work, provide services in an indifferent or incompetent manner, or act in a coercive manner. Yet despite these risks, the home environment is where most people with disabilities choose to remain for as long as possible. Providing the support that enables the elderly with care needs to remain at home for as long as possible can greatly help improve their condition. Moreover, supporting the elderly in their own homes generally costs less than supporting them in a nursing home or other residential care facility. A key factor in providing high-quality home-based care is to offer a broad range of support services, including respite care that gives informal caregivers "time off," as well as providing professional guidance to families.

In many OECD countries, home care now accounts for more than 30% of public resources spent on LTC (OECD 2002). As a result, more elderly who depend upon care can now remain in their own homes. Enabling dependent older people to stay in their own homes is not only a question of increased public spending. It has also been made easier because even

when one person needs care, his or her spouse is increasingly likely to remain healthier longer. In addition, today's pensioners have higher incomes than did previous pensioners and can afford to pay more for their own care, and housing standards have risen. In addition to progress with the expansion of services such as respite care in a number of countries, there have been other initiatives to support informal caregivers. These include granting pension credits for time spent providing care and giving payments to caregivers to compensate for loss of earnings. These policies, however, raise the question of the long-term consequences of providing incentives for caregivers to leave the labor market to provide care, particularly as many of them are women, and it may be extremely difficult for them to get back into the job market later.

The U.S. LTC system has developed an elaborate regulatory system to monitor quality in nursing home settings and, to a lesser degree, the skilled home healthcare services delivered by agencies. These systems have focused predominantly upon standards such as licensing and staff training requirements and less on evaluating the quality of life and satisfaction of the consumers. Little has been done to address quality assurance in personal care programs and the home- and community-based LTC services provided by largely unskilled workers.

Part of the difficulty in developing any quality assurance system for home-delivered services is the difficulty of monitoring the care delivered in the home. However, the increase in public funding for home- and community-based services makes the development of better systems for assuring quality essential. The growth of publicly funded home-care services and support for persons with disabilities has led federal and state governments in the United States to devote increased attention to the quality of care being provided. Traditional methods of assessing quality, such as developing standards for home-care agencies and workers, have been found inadequate in addressing whether consumers are satisfied with the care that they receive, whether they receive the type and duration of care that they believe that they need, and whether their quality of life has been maintained or improved.

As consumers have become more assertive in expressing their expectations of care providers regarding their own care and quality of life, advocates and public officials have stepped up efforts to create more "person-centered" initiatives to improve the quality of care in the home. With the support of the federal government, states are developing new quality-assurance systems around the concept of person-centered care. The Centers for Medicare and Medicaid Services (CMS) has created a quality framework for state Medicaid home- and community-based programs that requires states to address each focus area, such as consumer choice and control, with program-design strategies, continual evaluation, and problem correction. The CMS has also developed a grant system that provides funds for states to build quality systems in which program participants take active roles, to obtain consumer feedback, and to develop methods to ensure improved responsiveness to consumer needs and goals by service providers (U.S. Centers for Medicare and Medicaid Services 2008).

The United States has developed an intensive monitoring system for the assessment of care plan processes to ensure that consumer needs are being correctly addressed by care managers, who are key players in the system. In Washington, DC, a new comprehensive assessment system provides more consistent and reliable measurement of consumer needs. A fast-track financial eligibility determination process is increasing the speed of consumer access to services. Careful monitoring of care manager performance is helping ensure the development of appropriate care plans for the consumer, effective delivery of services, and improved training for care managers (Washington Aging and Disability Services Administration 2008). South Carolina is utilizing advanced IT to help care managers assist and respond to consumers more quickly and monitor consumer needs in both everyday situations and emergencies. The state has also developed an electronic monitoring system to verify that a worker is present when he or

she should be and ensure backup if a worker fails to report to work.

The federal government is guiding states toward improved person-centered quality assurance systems for home- and community-based service programs, and has imposed more stringent program requirements to ensure that quality standards are being met by the states. Its actions include the following:

- establishing a quality framework to guide state quality system redesign
- requiring concrete evidence from states that they are systematically monitoring activities and correcting problems
- crafting a new Medicaid waiver program application that requires more detailed information from states on their quality-management systems
- providing substantial grant support for quality-redesign initiatives

This approach is designed to improve the real effect on the daily lives of consumers by ensuring that authorized services are actually delivered, eligibility is determined in a timely manner, and the voices of consumers are heard by care managers and home-care workers. Much work remains, however, on measuring and documenting the outcomes of home care.

Argentina and Brazil, as previously mentioned, are developing programs in order to improve home-based care. The Argentinean National Program of Home-Based Care has a coordinator of cases whose responsibility is to select and supervise caregivers, but there is no information available regarding the evaluation system or criteria (BPS 2007b).

V.4 Conclusions

This chapter addressed the evaluation of the two main "care" social programs: childcare and LTC. Both classes of programs are relative newcomers in the social insurance area. Because childcare needs are strongly correlated with work patterns while LTC programs are complemented by pension, health, and disability programs, providing social insurance has been a logical manner of addressing the problems associated with the financing of care programs.

Childcare and LTC programs face numerous challenges because their services overlap with those of other healthcare and social services, as well as with informal care provided at home by family and friends. Problems in coordinating acute healthcare, rehabilitation, and LTC, for example, can lead to unsatisfactory outcomes for patients and inefficient use of both healthcare and LTC resources. Policies to improve coordination must be implemented in many countries through a range of measures, including national strategic frameworks. Such coordination is often conducted by multidisciplinary teams, which provide advice to households and consumers about the alternatives available and the best choices for them.

Part of the difficulty in developing any quality-assurance system for home-based services is the difficulty of monitoring the care delivered in the home. However, the increase in public funding for home- and community-based services makes the development of better systems for quality assessment essential.

CHAPTER VI
CONCLUSIONS

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This Report analyzed evaluation approaches and tools for social health insurance, pension, and social services programs for both LTC and childcare. Due to their public nature, social security agencies and programs may see evaluation as a two-sided sword: necessary to improve performance but nevertheless imposed by the Congress, a regulatory agency, the Finance Ministry, or even an international financial organization. In principle, nothing guarantees that both sides will be coordinated, and they may even become antagonistic. While conflict is a risk, it is not a foregone conclusion. A well-planned evaluation process can do much to preempt conflict.

Consistent with the arguments presented in the previous chapters, we recommend that systems, agencies, and programs maintain a comprehensive evaluation strategy that performs the following:

- *They should incorporate all the approaches and perspectives identified in Chapter II—the economic, actuarial, fiscal, OR, and administrative—based upon the latest knowledge in the disciplines that support the perspectives.*
- *They should be well structured in the sense of including all the steps in an evaluation strategy: identification and involvement of key stakeholders, not only managers; design of the logical framework; identification of indicators; setting of targets; definition of information sources; and development of the elements for evaluation and the strategy for the disclosure of the results. These elements should not be developed and applied randomly but based upon a disciplined approach to obtain the most from evaluation.*
- *They should consider the development of modern databases as an indispensable element of evaluation. While lack of information may initially lead to imperfect monitoring, collecting more consistent data over the years will allow for more consistent evaluation. At best, the most important data should come directly from transactional systems, and surveys should provide complementary data. The previous report of the CISS argues in favor of the modernization of organizations and administrations, but there is no doubt that given current IT, the intensive use of data will be part of any effective management solution that aims to guide effective evaluation.*
- *They should develop databases centered on citizens and register all contacts between them and health, pension, and social service agencies and programs. They should consolidate data and develop service models around individuals and aim for the evaluation of the state of individuals rather than the state of agencies and programs, recognizing their primary concern should be the welfare of children, the elderly, the disabled, and the sick, not agencies.*
- *They should consider implementing more incentive mechanisms. For evaluations to achieve a greater impact on improving operations, all stakeholders must*

be well informed and the structure of benefits and costs be appropriately defined with respect to the objectives.

- *They should recognize that because systems are collections of agencies and programs, any target at the agency and program level should conform to targets at the system level, and that the information at the system level is only the aggregation of targets at the program and agency levels. Evaluation should avoid destructive or ineffective competition across agencies for funding or political recognition. Again, focusing on results at the level of the individual should discipline the evaluation system to avoid deviation from agency goals.*

It is important to mention that a comprehensive system of evaluation cannot be fully implemented if agencies are not supported by other public entities. In general, agencies have much more information than do regulators regarding financial allocation, the state of the current administration, customer care, user complaints, and the status of the provision of services. Regulators and public audit instances should identify systemic means of evaluating agencies and avoid regulating through overtly specific indicators, which can lead to tunnel vision and become a source of conflict due to contradictions with the internal views of agencies.

The final concern regarding the evaluation of social programs is how much information should be disclosed to the public. In many social environments, information on price and quality is important for making decisions. However, price often cannot be quantified and quality is costly to assess when answering questions such as the following: Did a surgery go wrong because of a bad decision by the hospital or because the patient had an unexpected adverse condition? Did a child fail to learn because of the failure of his tutors or lack of individual capability? Is an elderly man demanding additional support because he suffered an unfortunate event or because he is trying to exploit loopholes in the system? Even more, social security programs generate legitimate concerns that lead them not to disclose some information: Should the hospital reveal private information on the patient only because it could help reduce future errors? How far should the agency go in subjecting the disabled to additional tests in order to reduce costs?

Another reason why the extensive use of indicators has been avoided is the possibility of unintended consequences. Skimming-off the market and convergence to the average are the most common factors cited in the evaluation literature. Nonetheless, political reasons have also proven to be factors that hinder the use of indicators or evaluation systems. Evaluation systems may pose special challenges when public officials see their careers subjected to discretionary scrutiny. On the other hand, there are strong arguments in favor of disclosing information, including to link performance and rewards, provide information to providers on possibilities for improvement, let users know what providers are actually doing, and improve policy decisions.

On the issues of disclosure and the increasing amount of information, parts of this Report have pointed out that users may sometimes need time to learn how to use information, and their efforts to do so may require some structure. A prime example is the relatively low rate of response of workers to the commissions and returns offered by pension fund managers. Similarly, it is clear that it is very difficult to increase competitiveness in health insurance simply by providing more information, as it is not easy for families to understand and process data on physicians, hospitals, and results.

However, efforts to increase disclosure can generate awareness. Moreover, these efforts have led policymakers to develop a consistent tracking system for monitoring how changes in the social security system are affecting the quality of services delivered (Lansky 2002). The limited impact of increasing the disclosure of information does not represent a failure and highlights the hurdles to be overcome by doing things differently. Past efforts did not achieve their outcomes because the general public did not consider the information disclosed to be relevant. Today, we

must work on making the members of the public aware and teach them how to use the information. Information is more useful if a national protocol of information use is established; it will be less effective if different institutions disclose information using many different protocols.

There is no straightforward manner of determining how much information should be disclosed. Privacy issues are a fully valid reason for placing restrictions on disclosure, as well as the fact that too much information can overwhelm stakeholders. Disclosing all information available may seem an easy and "transparent" strategy but the following points need to be considered:

- *The degree of openness of information at any point in time should depend upon the possibility of agencies acting to improve low performance areas. Policymakers should be aware of the consequences of disclosing public information. Providing information without also providing the capacity to make change may result in frustration among agency managers and the general public.*
- *The disclosure of information must be accompanied by any caveats that may apply, such as assumptions, limitations, and lags in data.*
- *Information should be disclosed in such a way that it is understandable to the target audience.*
- *The optimal channels to deliver information are likely to change quickly. The previous CISS report (CISS 2007) and its discussion on the informational architecture of agencies can be useful in guiding debate on this* issue.

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