厚生科学研究費補助金
社会保障国際協力推進研究事業

社会保障に係る国際協力のための専門家研修・教育カリキュラム構築に関する研究

平成12年度総括・分担研究報告書

主任研究者　小林廉毅

平成13（2001）年3月

厚生科学研究費補助金
社会保障国際協力推進研究事業

社会保障に係る国際協力のための専門家研修・教育カリキュラム構築に関する研究

総括・分担研究報告書

平成12年度（3年計画の2年目）

主任研究者　小林廉毅　東京大学大学院医学系研究科教授
分担研究者　甲斐一郎　東京大学大学院医学系研究科教授
分担研究者　内田康雄　神戸大学大学院国際協力研究科教授

目次

厚生科学研究費補助金（社会保障国際協力推進研究事業）
総括研究報告書

社会保障に係る国際協力のための専門家研修・教育カリキュラム構築に関する研究

主任研究者　小林廉毅　東京大学大学院医学系研究科教授

研究要旨：途上国における医療や公衆衛生、福祉などの広義の社会保障に係る政策立案・評価の知識やノウハウを途上国の実務者、政策担当者に効果的に伝えること、またお互いの国の経験を分析し意見交換するような教育・研修の場を提供することが、今後の保健分野の国際協力における日本の重要な責務の一つになると考えられる。本年度の研究では、そのような研修の場として短期研修プログラムを取り上げ、モデル事業を実際に企画・運営し、研修運営のノウハウ蓄積や使用する教材の開発を行った。モデル事業は連続７日間のワークショップの形式で実施し、内容は医療経済、医療政策論、医療財源論、保健医療ニーズの調査法、保健医療経済評価などを体系的に組み合わせた。また、ケース（事例教材）やパソコンを用いたシミュレーション学習を取り入れた。当該ワークショップの講師には、各テーマにふさわしい専門家を依頼した。当該ワークショップの参加者は、途上国からの留学生ならびに国際協力や国際保健を専攻する日本人大学院生等から選抜し、ワークショップへの参加だけでなく短期研修プログラムのカリキュラム構築や教材開発にも参画してもらうこととした。ワークショップ終了後、参加者を対象にしてプログラムの評価を実施した。本モデル事業を実施した結果、途上国における医療保障を内容とした短期研修プログラムの企画・運営についてのノウハウを蓄積することができた。また、参加者を対象にした評価の結果、講義形式の教育に比べてケース（事例教材）やシミュレーション形式のものの有効性が示唆された。さらに、プログラム開始前に教材を配布することや参加者の多様性を高めることにより教育効果の高まることが示唆された。これらの知見は、将来、わが国の大学や研修・研究機関が当該領域の教育・研修プログラムを企画・運営する際に、実際的な指針として活用できると考えられる。

分担研究者　甲斐一郎　東京大学大学院医学系研究科教授
分担研究者　内田康雄　神戸大学大学院国際協力研究科教授

A. 研究目的

近年、開発途上国においても高齢化の進展や人口の都市集中、疾病構造の転換、高度医療技術の普及などに伴って、国民の間における経済状態と疾病構造の二極分化が進行して深刻な社会問題になっているところが少なくない。都市部の中間層・富裕層では循環器疾患や悪性新生物などの老化や生活習慣に関連した慢性疾患が増加する一方、農村や都市スラムでは貧困問題や感染症・寄生虫疾患がまん延している。また医療設備などに関しても、都市部の大病院や民間クリニックと、農村部の保健医療施設との格差はきわめて大きい。このような状況において、医療や福祉、公衆衛生などの広義の社会保障に係る政策立案、制度設計、社会経済分析、プロジェクト評価などの知識やノウハウを途上国の実務者、政策担当者に効果的に伝えること、またお互いの国の経験を分析し意見交換するような教育・研修の場を提供することが、今後の保健分野の国際協力における日本の重要な責務の一つになると考えられる。本研究は国際協力の視点から、医療保険・医療保障、高齢者福祉、公衆衛生行政などに係る専門家育成を行うための体系的なカリキュラムや教育態勢のあり方を検討し、またそのような教育・研修カリキュラムと教育・研修の場について具体的な提言を行うことにより、わが国の国際協力の質の向上に寄与するとともに、人材育成を通して途上国の人々の健康や福祉の向上に資することを目的とする。

B. 研究方法

本年度の研究における主要な研究項目と実施経過は以下の通りである。

(1) 短期研修プログラムのモデル事業の企画：途上国の医療保障を主な内容とした研修モデル事業を企画し、講師依頼ならびに参加者の募集・選抜を行った。参加者の募集に際しては研修モデル事業についての英文パンフレットを作成し（資料1）、関係者・関連機関に配布した。

(2) 研修モデル事業の実施：連続7日間のワークショップとして実施し、内容は医療経済、医療政策論、医療財源論、保健医療ニーズの調査法、保健医療経済評価などを体系的に組み合わせた（資料2）。また、ケース（事例教材）やパソコンを用いたシミュレーション学習を取り入れた。会場は上記の研修にふさわしい設備が整っている施設を確保した。

(3) ケース（事例教材）による教育の検討：ケースを用いた教育の意義と実際の授業の進め方について検討した。

(4) 参加者による新たな事例教材の開発：ワークショップ参加者の中からカリキュラム構築や教材開発にも参画可能な研究協力者を募り、新たな事例教材の作成に取り組んでもらった。

(5) モデル事業の評価：ワークショップ終了後、参加者を対象に一定の評価フォームを用いて研修モデル事業の評価を実施した。

（倫理面への配慮）

参加者における評価フォーム記入に際しては、調査の主旨を十分に説明した上で記入を依頼した。また、調査結果は個人を特定しない形で集計した。

C. 結果と考察

(1) 短期研修プログラムのモデル事業の企画：参加者は全員で 15 名（オブザーバー2 名を含む）となった。内訳は大学院生 10 名、研究生 3 名、研究所研究員 1 名、大学生（元社会人）1 名である。また国別でみると、日本人 12 名、外国人 5 名（中国 3、韓国 1、フィリピン 1）の構成であった。

(2) 研修モデル事業の実施：ワークショップを実施したことにより、短期研修プログラム運営のノウハウや教材を蓄積することができた（資料 3、資料 4）。また、ケース（事例教材）を用いた教育についても、それにふさわしい施設を使用することによって効果を高めることが可能となった（資料 5）。具体的には、グループディスカッションが可能な広さの教室及びラウンジ、自己学習のできるパソコン室（プリンタ及びインターネットに接続されているもの）などである。

(3) ケース（事例教材）による教育の検討：ケースを用いた教育については十分知識のない者もいるので、そのような参加者に対するオリエンテーションが別途必要であると思われた。しかしそれにもかかわらず、ケースを用いた教育によって参加者は問題解決能力を深め、厳密に思考し、議論する能力を強化できると思われた。もともとケース・メソッドの目的である「自分の主張と分析の正当さの擁護」、「説得能力の錬磨」、「質問能力の育成」などは社会保障や保健医療に係る政策担当者においても基本的なスキルであるので、このような研修におけるケース・メソッドの意義は大きいと考えられる。さらに、こうした訓練・学習方法を文化や民族を異にする参加者とともに行うことは、国際協力や開発援助に関わる知的分野の場合には、とりわけ意義があると考えられる。なお詳細は分担研究報告で別途行う。

(4) 参加者による新たな事例教材の開発：参加者の関心に応じた特定のテーマによるケース（事例教材）の作成について討議を行った。今回のワークショップでは、ケースの雛形となるような事例を収集したので（資料 6）、その中のいくつかについて次年度の研究で教材用のケースとして完成させる予定である。

(5) モデル事業の評価：一定の評価フォームを用いた参加者によるワークショップの評価結果から、①参加者の評価は全般に高かった②テーマの「有用性」「教育法」「教材」についての評価（5 点満点）は、講義形式のもの（8 セッション）についてはそれぞれ平均 4.4、4.4、4.2 であったのに比べケース・シミュレーション形式のもの（3 セッション）についてはそれぞれ平均 4.6、4.5、4.4 であり、後者の有効性が示唆された③プログラム開始前に教材を配布すること、また教材の内容について工夫することが必要であることが示された④今回は日本人参加者が多かったが、参加者の多様性を高めるべきとする意見が多かった等の知見が得られた。なお、詳細は

分担研究報告で別途報告する。

E. 結論

本年度の研究により、途上国における医療保障を内容とした短期研修プログラムの企画・運営についてのノウハウを蓄積することができた。また、参加者を対象にした評価の結果、講義形式の教育に比べてケースやシミュレーション形式のものの有効性が示唆された。さらに、プログラム開始前に教材を配布することや参加者の多様性を高めることにより教育効果の高まることが示唆された。これらの知見は、将来、わが国の大学や研修・研究機関が当該領域の教育・研修プログラムを企画・運営する際に、実際的な指針として活用できると考えられる。

F. 研究発表

1. 学会発表

小林廉毅、甲斐一郎、内田康雄. 社会保障に係る国際協力のための専門家研修・教育カリキュラムの検討. 第 15 回日本国際保健医療学会総会・抄録集 (p.167)、2000 年 8 月、長崎.

研究協力者

研修モデル事業実施にあたり、以下の方々には、ワークショップの講師としてのみならず、教材やカリキュラムの検討についても多くの協力をいただいた。

Paul Talcott	(ハーバード大学、東京大学)
田村　誠	(国際医療福祉大学)
松山彰子	(熊本大学医学部)
渋谷健司	(帝京大学医学部)
北島　勉	(杏林大学保健学部)
津谷喜一郎	(東京医科歯科大学)

(所属はワークショップ開催時のもの)

——資料Ⅰ——

THE WORKSHOP ON HEALTH CARE POLICY AND SYSTEMS IN DEVELOPING COUNTRIES USING CASES AND SIMULATIONS

--- A PILOT PROJECT OF PROFESSIONAL TRAINING FOR HEALTH POLICY MAKERS AND MANAGERS ---

February 22 – 28, 2001
Tokyo, Japan

Supported by the Health Sciences Research Grants of the Ministry of Health and Welfare

PURPOSE AND COURSE FOCUS

The Study Group of the Curriculum Development of Professional Training for Health Professionals has organized a seven-day intensive workshop on health care policy and systems in developing countries. This workshop is a pilot project and has been developed in order to explore desirable curricula for professional training to meet the needs of health care policy-makers and managers in developing countries, with the assistance of the Health Sciences Research Grants of the Japanese Ministry of Health and Welfare. This seminar will, thus, be expected to be a "prototype" of a future professional training course.

The workshop will include --- health care policy and economics, policy planning and evaluation in the field of health care, along with case studies and simulations. Based on the theories and methodologies concerned, participants will be studying issues and optimal approaches in various cases, which contain complex barriers against health development. Each class will be given in English and/or Japanese. Complete attendance at the workshop will be desirable.

TARGET GROUP

This workshop being a pilot project, participants should be:

- health professionals or researchers from developing countries, who are now studying at graduate schools in Japan, and
- graduate school students from Japan who are interested in this theme.

Free admission. Participants are required to report on a theme they are interested in, on the final day of the workshop. The maximum number of participants will be 15. Early applications are recommended. Admission may be declined in case the capacity is over.

PROGRAM AT A GRANCE

	2／22 Thu	2／23 Fri	2／24 Sat	2／25 Sun	2／26 Mon	2／27 Tue	2／28 Wed
10:00		POLITICIAN BEHAVIOR IN HEALTH POLICY (Talcott)	CASE STUDY: FINANCIAL ISSUE (1) (Uchida)	ETHNOGRAPHIC STUDY IN HEALTH (2) (Matsuyama)	MEASURING BURDEN OF DISEASE AND PRIORITY SETTING (Shibuya)	SIMULATION: COST-EFFECTIVENESS ANALYSIS (Shibuya)	SIMULATION: POLITICAL ANALYSIS (2) (Talcott)
12:00	BREAK						
13:00	ORIENTATION (Kobayashi, Kai)	HEALTH FINANCING IN DEVELOPING COUNTRIES (1) (Uchida)	MANAGED CARE (Tamura)	CASE STUDY: FINANCIAL ISSUE (2) (Uchida)	SIMULATION: COST ANALYSIS (Shibuya)	POLICY AND POLITICS IN TRADITIONAL MEDICINE (Tsutani)	COUNTRY REPORT BY PARTICIPANTS (1) (Kai)
15:00	BREAK						
15:30	HEALTH ECONOMICS (Kobayashi)	HEALTH FINANCING IN DEVELOPING COUNTRIES (2) (Uchida)	ETHNOGRAPHIC STUDY IN HEALTH (1) (Matsuyama)	DISCUSSION ON FINANCIAL ISSUES (Kobayashi, Uchida)	CASE STUDY: HEALTH INSURANCE IN THAILAND (Kitajima)	SIMULATION: POLITICAL ANALYSIS (1) (Talcott)	COUNTRY REPORT BY PARTICIPANTS (2) (Kai)
17:30							

(17:45～ RECEPTION)

資料Ⅰ—1. ワークショップ・パンフレット

LOCATION

Sumitomo Metals Tokyo Training Center, 5th Floor

（住友金属マネジメント研修所 5 階）

Address: 1-12-18 Ikenohata, Taito-ku, Tokyo（台東区池之端 1-12-18）

Telephone: 03-5814-3007

Access: 5 minute walk from Yushima Station, Chiyoda Line (subway)

Also, within walking distance from the University of Tokyo

DATE AND TIME

February 22 (Thu) – 28 (Wed), 2001

10:00 - 17:30

* Only on the first day (February 22), the class starts at 13:00.

WORKSHOP DIRECTORS

(The Study Group of the Curriculum Development of Professional Training for Health Professionals)

Yasuki KOBAYASHI, MD

Professor, Graduate School of Medicine

The University of Tokyo

Yasuo UCHIDA, PhD

Professor, Graduate School of International Cooperation

Kobe University

Ichiro KAI, MD, MPH

Professor, Graduate School of Medicine

The University of Tokyo

SECRETARIAT

Department of Social Gerontology

School of Health Sciences and Nursing

Graduate School of Medicine

The University of Tokyo

（この項、以下省略）

資料Ⅰ—1. ワークショップ・パンフレット

APPLICATION FORM

"THE WORKSHOP ON HEALTH CARE POLICY AND SYSTEMS IN DEVELOPING COUNTRIES USING CASES AND SIMULATIONS"

Last name: First name:

Gender: ☐ male ☐ female Country: Age:

Present affiliation:

Present address:

Telephone: FAX:

E-mail:

Complete attendance: ☐ yes ☐ no

A brief statement (about 100 words) on how you would benefit from and contribute to this workshop.

Please E-mail or FAX the completed application to:

（この項、以下省略）

資料Ⅰ—2. ワークショップ日程表

2／22 (木)	2／23 (金)	2／24 (土)	2／25 (日)
	POLITICIAN BEHAVIOR IN HEALTH POLICY (Talcott)	CASE STUDY: FINANCIAL ISSUE (1) (内田)	ETHNOGRAPHIC STUDY IN HEALTH (2) (松山)
BREAK			
ORIENTATION (小林、甲斐)	HEALTH FINANCING IN DEVELOPING COUNTRIES (1) (内田)	MANAGED CARE (田村)	CASE STUDY: FINANCIAL ISSUE (2) (内田)
BREAK			
HEALTH ECONOMICS (小林)	HEALTH FINANCING IN DEVELOPING COUNTRIES (2) (内田)	ETHNOGRAPHIC STUDY IN HEALTH (1) (松山)	DISCUSSION ON FINANCIAL ISSUES (小林、内田)

資料Ⅰ—2. ワークショップ日程表

	2／26 (月)	2／27 (火)	2／28 (水)
10:00	MEASURING BURDEN OF DISEASE AND PRIORITY SETTING (渋谷)	SIMULATION: COST-EFFECTIVENESS ANALYSIS (渋谷)	SIMULATION: POLITICAL ANALYSIS (2) (Talcott)
12:00			
13:00	SIMULATION: COST ANALYSIS (渋谷)	POLICY AND POLITICS IN TRADITIONAL MEDICINE (津谷)	COUNTRY REPORT BY PARTICIPANTS (1) (甲斐)
15:00			
15:30	CASE STUDY: HEALTH INSURANCE IN THAILAND (北島)	SIMULATION: POLITICAL ANALYSIS (1) (Talcott)	COUNTRY REPORT BY PARTICIPANTS (2) (甲斐)
17:30			

資料Ⅰ—3. ケース教材

「PROSALUD」

(World Bank)

Case 8. PROSALUD: Marketing and Financing Primary Health Care

Study Questions

The PROSALUD case extends the previous case's assessment of alternative mechanisms to delivering and financing basic health services to low income groups. Carlos Cuellar of PROSALUD must assess what factors and conditions have been essential to the success of PROSALUD, whether these can be replicated in another setting, and how expansion is likely to contribute to long-term financial sustainability. The reader will want to rely on concepts and tools discussed under many of the other themes.

1. What are the characteristics of the market for health services in Bolivia? In Santa Cruz?

2. What factors or market forces worked in favor of the development of PROSALUD?

3. What factors or forces presented obstacles for PROSALUD?

4. What characteristics differentiate PROSALUD from other available health services?

5. What advantages and disadvantages are there for collaboration between PROSALUD and the MOH? PROSALUD and the private sector?

6. Is it possible to expand or replicate PROSALUD in other areas of Bolivia? Why or why not?

7. What conclusions do you draw for the potential of PROSALUD-type endeavors beyond Bolivia?

PROSALUD: Marketing and Financing Primary Health Care

Toward the end of 1989 Carlos Cuellar, the director of PROSALUD, received a draft copy of the final evaluation report on the Bolivia Self-Financing Primary Health Care Project. This was the project, now six years old, supported by the U.S. Agency for International Development (USAID) under which PROSALUD had been established with technical assistance from Management Sciences for Health. The project intended to improve the health status of semi-urban and low-income rural workers and their families in selected areas of the Department of Santa Cruz, Bolivia and to become financially self-sufficient.

Dr. Cuellar had been working with PROSALUD since it was established, although he had not been the director during the early years. He was a doctor in his mid-thirties, and his energy and enthusiasm were contagious. He had previously managed a rural service for the Bolivian government, and the service had become financially self-sufficient based on revenues generated through user fees.

At the time, PROSALUD operated thirteen primary health care (PHC) centers (see Exhibit 1), and fifteen were to be opened under the PROSALUD system by the end of 1989. By the third quarter of 1989, the existing PHC centers had achieved an average self-financing level of 87 percent, but costs of the Management Services Unit (MSU) were not included in this self-sufficiency calculation (see Exhibit 2). PROSALUD estimated that it was providing services to approximately 125,000 people in the Santa Cruz area.

Carlos considered the evolution of PROSALUD over the past years, and the many turns along a road that were never mapped out in the original project design. The lengthy evaluation report contained no surprises for him and it was effusive in its praise of PROSALUD's accomplishments. The evaluation report called for further expansion of the PROSALUD system in the Santa Cruz area, replication of the PROSALUD model in other parts of Bolivia, and an annual external funding of US$80,000 and US$90,000 to support these activities. Carlos realized that the future course of PROSALUD might provide even more complex choices for the organization than those it had confronted at past junctures.

Bolivian Health Sector

Approximately 30 percent of the 6.5 million Bolivians did not have access to modern health care. The Ministry of Social Welfare and Public Health (MPSSP),

This case was written by Maggie Huff-Rousselle and Catherine A. Overholt with funding provided by the Economic Development Institute of the World Bank through John Snow, Inc., Initiatives, Inc., and CARICAN Initiatives, Inc. Case material was obtained from documents and reports on the Bolivia Self-Financing Primary Health Care Project, as well as from conversations with Carlos Cuellar, John Fiedler, Paul Hartenberger, Rafael Indaburu, Patricia Moser, and Pamela Putney. The case was preapred as a basis for classroom discussion rather than to illustrate either effective or ineffective handling or managerial or development situations.

although officially charged with providing services to 80 percent of the Bolivian population, was providing coverage to an estimated 38 percent. The social security system was estimated to be providing coverage for 26 percent at an annual per capita cost of US$36; the private sector covered approximately 5 percent; and other organizations provided coverage to 1 percent.

Prior to the severe and prolonged economic crisis of the 1980s, the National Treasury (TGN) had provided approximately 90 percent of health sector funding in Bolivia. However, from 1980 to 1987, the MPSSP's share of that funding had shrunk from 4.5 percent to 2.0 percent. MPSSP expenditures declined from US$37 million to less than US$17 million. Funding for the MPSSP had shifted increasingly toward reliance on user fees. Exhibit 3 provides detail on expenditures and sources of funding.

MPSSP expenditures were allocated toward central-level activities and the hospital sector. Between 1984 and 1989, central headquarters expenditures had increased by nearly 300 percent, while regional office budgets grew by 17 percent. Hospitals accounted for approximately 75 percent of the MPSSP expenditures, although occupancy rates were generally less than 50 percent. MPSSP salaries had fallen in real terms by 43 percent between 1984 and 1988. The turnover rate averaged 30 percent, absenteeism and tardiness were major problems, and most staff now worked six- rather than eight-hour days.

Santa Cruz Health Sector

Santa Cruz had been a growing metropolitan area for nearly twenty years, sustaining an immigration rate of 10 percent for more than a decade. The estimated population of the Department of Santa Cruz in 1988 was approximately 1.1 million. Roughly half of the residents lived in the department's urban areas. Education and income levels in Santa Cruz were higher than in the rest of Bolivia (see Exhibit 4). The formal business sector was growing rapidly.

The trend toward user fees in the Santa Cruz health sector was even more pronounced. The MPSSP's Santa Cruz Regional Health Unit received 48 percent of its total income from user fees in 1987 and 57 percent in 1988 (see Exhibit 5). Private sector health care in Santa Cruz grew from 35 to 40 percent between 1984 and 1988.

Evolution of PROSALUD

The Self-Financing Primary Health Care Project, as designed and approved in mid-1983, was intended to serve the members of three cooperatives in Santa Cruz on the basis of a prepayment scheme. The absence of marketing studies, other planning techniques, and preliminary organizational work with the three cooperatives led to the collapse of the original agreement in 1985.

The MSU, originally intended to operate through one of the cooperatives, became an independent legal entity, PROSALUD, in August 1985. PROSALUD was able to establish its first six clinics during 1986 by working enthusiastically with the communities and other institutions to generate interest in and support for PROSALUD clinics.

PROSALUD based its method for selecting a site on seven criteria: (1) population size, (2) geographic accessibility, (3) absence of other health services, (4) existing physical and human health resources, (5) community organization, (6) financial capacity, and (7) possibilities for expansion.

In addition to these criteria, the guidelines for selecting a site identified the types of people and institutions with whom PROSALUD staff should confer. According to PROSALUD's director,

> Nothing can substitute for learning about and taking into account the psychology of the people and the sociology of the community . . . The different medical needs of different neighborhoods or different communities are simply technical issues. They are not as difficult as the social questions . . . figuring out how to gain the confidence of the people. The trick is to learn what motivates people, what turns them on . . . You have to gain people's faith, and faith is believing in something you can't see.

PROSALUD reached another critical juncture when it developed a market analysis model in early 1987 and tested it during the following year. This model put into place basic elements of the PROSALUD system as it existed in late 1989. It helped PROSALUD to reduce costs in both the centers and the MSU (see Exhibit 6), and to assess better the financial viability of operating centers within specific communities. Exhibit 7 contains market survey results on communities served by PROSALUD.

According to PROSALUD market studies, approximately one-third of the population of Santa Cruz was not served by the government health care system. PROSALUD estimated that its market share of clinics in communities it served was less than 40 percent.

In June 1987, the MPSSP offered PROSALUD the opportunity to administer the rural primary health care facility in El Paurito, near Santa Cruz. Demographic and economic data were gathered and analyzed. Using its market model, PROSALUD estimated that the El Paurito center would recover less than 50 percent of its costs during its second and third years of operation. The offer was rejected.

Structure and Staffing

The PROSALUD service delivery developed into a three-tiered system. It began with Level I, which consisted of health promoters. PROSALUD had selected 160 persons from their communities and trained them between 1985 and

1989. Three Level II facilities, basically sanitary posts, were staffed by a full-time auxiliary nurse. These evolved into feeder posts for the Level III facilities. The ten Level III facilities (with two more planned prior to the end of 1989) were placed in both urban and rural areas. By late 1989, approximately thirty-five of these health promoters remained actively in the system, working out of the Level III facilities and successfully promoting each center's services. Incentive schemes had been developed to retain and motivate the health promoters.

For urban centers, full-time staff included a medical director/physician, a graduate nurse, two nurse auxiliaries, and one dentist; part-time staff included a laboratory technician, an obstetrician/gynecologist, and a pediatrician. In the rural centers the specialty services (dentistry, pediatrics, and obstetrics/gynecology) were not available.

Exhibit 8 gives personnel costs for the clinics operating during 1988. A major focus of the cost reduction activities that resulted from the development of the market analysis model was on the elimination and/or redesignation of staff positions. Night watchmen, for example, were replaced by auxiliary nurses, allowing the provision of twenty-four hour services. Laboratory technicians were shared between clinics and serviced private physicians during slack periods. Productive staff members were assigned to new clinics where they could establish PROSALUD's work ethic with new staff. By the end of 1989, PROSALUD health teams were approaching a maximum level of efficiency, but patient volume could still be increased at the current staffing levels. At the same time, an internal project review earlier in the year called for increasing the quality of care through peer review systems, in-service education, and efforts to reduce poly-prescribing practices. PROSALUD had been prompt in responding to the findings of this internal evaluation.

An employee incentive system was introduced in July 1988. Employees received a base salary, and in addition they received a bonus based on increases in the center's revenues. Revenues collected in cost centers, excluding pharmacies, were used to evaluate a center's performance. The first and last quarters of the previous year's revenues for a clinic were averaged, and the revenues in a current period were compared to this benchmark. Thirty percent of the earned revenues that exceeded this benchmark were returned to the center's staff as an incentive. Of this 30 percent, 30 percent went to the full-time physician, and the remaining 70 percent was divided among the rest of the staff in direct proportion to the share their salary represented in the center's total base salary costs. Generally this incentive plan represented approximately 10 percent of the staff's salary. PROSALUD paid its nonspecialist physicians, all of whom were former MPSSP employees, approximately 25 percent more than the MPSSP, although private physicians could earn considerably more.

In the case of new facilities, 10 percent of the income from medical consultations was paid to the physician for the first six months. This six-month