

SELECTIVE PRIMARY HEALTH CARE: A CRITICAL REVIEW OF METHODS AND RESULTS

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Abstract—In the aftermath of the Alma Ata conference, three types of Primary Health Care (PHC), have been identified. Comprehensive PHC (CPHC) and Basic PHC (BPHC) both have a wide scope of activities. BPHC however does not include water and sanitation activities. Only one year after the Alma Ata conference, CPHC was attacked as not 'feasible' and selective PHC (SPHC) was offered as an interim alternative. SPHC only addresses 5 to 8 diseases, almost all of them falling within the realm of pediatrics. Our article critically analyses the methods and results of SPHC. It contrasts the lack of supportive data for SPHC and its methodological deficiencies with the extent of its adoption by bilateral cooperation agencies, foundations, academic and research institutions, and international agencies. We suggest that rather than health factors, the major determinants of this adoption have been political and economical constraints acting upon decision makers exposed to a similar training in public health.

Key words—selective PHC, public health decisions

Selective Primary Health Care (SPHC) has attracted wide-spread attention as a major alternative to the Primary Health Care (PHC) concept announced in the 1978 Alma Ata Conference Declaration [1]. The SPHC strategy emphasizes 'rationality' and potential cost-savings [2]. By implication, it challenges governments whose ministries of health joined WHO, PAHO and UNICEF in formally adopting the program of the 1978 Alma Ata Declaration. We attempt here to describe the historical context of this alternative health service approach; to critically analyze its methods and operational structure; to explore its empirical foundation; to discuss the implications of adopting this strategy for the health of developing country populations; and finally to examine some of the economic and political reasons for its current notoriety.

THE ORIGINS OF SELECTIVE PRIMARY HEALTH CARE

Approaches to health care in LDCs

In the late 1970s, when the Alma Ata Declaration first was being implemented, the mix of health services existing in the Third World only approximated the purity of health system models. These health service structures could be grouped into three broad categories for presentational purposes:

- (1) Hospital-oriented medical care;
- (2) Vertical or disease-specific programs;
- (3) Community-based primary health care.

Hospital-oriented systems. In most developing countries, health ministry planning and policy agencies are dominated by a concern with treating the sick. The hospital orientation associated with this curative view has two distinct forms in most LDCs. One form is a facsimile of European or American systems. It is urban-based, highly technological and often includes a major private sector component.

Originally designed to cater to a colonia population, this system now serves the national or expatriate middle- and upper-classes.

The other hospital-oriented form targets rural or peri-urban needs, serves poor population groups, and is usually state or church operated. In practice, the hospital sector in LDCs encompasses both forms of the hospital-oriented system and consumes about 80% of total health care expenditures [3].

Vertical or disease-specific programs. The success of specific disease control measures that contributed to the elimination of yellow fever, smallpox and typhus in North America and Europe in the early 20th century encouraged the growth of vertical campaigns. These programs, targeted upon specific LDC diseases, were recognized as having residual benefits for the industrialized countries as well (e.g. the construction of the Panama Canal and the U.S. military occupation of Cuba). Large American foundations (Rockefeller, Ford) joined the U.S. military in the early development of vertical disease control programs and continue to show interest in this strategy today.

Early WHO programs, typically vertical in nature, enhanced the popularity of vertical interventions by creating time-limited disease eradication programs. Only the failure of campaigns against malaria and trypanosomiasis in Africa and Asia (and to a lesser extent in Latin America) has cast doubt on the ability of vertical control programs to achieve significant reductions of suffering and mortality in the long-run.

Community-based primary health care. Just as the vertically-oriented smallpox campaign was reaching its successful conclusion, the WHO and its Director-General, Dr Halfdan Mahler, began to advocate a comprehensive effort to reach the entire world's population with horizontally-integrated primary health care services (PHC). The personal and public health services of the PHC model sought to improve health status by the use of health auxiliaries and

appropriate health technologies. The model sought to provide acceptable, accessible services based upon local initiative and maximum levels of community participation.

The community-based PHC model was by no means a new notion. For decades, community-based services were advocated by King in Africa and Shaw in India. As a member of the Bhore Committee (1946), John Grant argued for the integration of vertically designed health interventions into a core of more comprehensive health services [4]. Similarly, Hugh Leavell, a Professor at the Harvard School of Public Health and Edward MacGavran, a Dean of the North Carolina School of Public Health, have firmly supported an integrated PHC approach [4].

Through the Alma Ata Conference Declaration, WHO and UNICEF formalized a consensus about PHC standards that had already proven themselves in many Third World Nations. By acknowledging that Third World diseases result from poverty and that the health care system, "can be a lever for increasing social awareness and interest, initiative and innovation" [1], the conference declaration implied that political commitment toward a reallocation of scarce resources is required for implementing the PHC concept.

There remains considerable practical debate as to what constitutes appropriate primary health care in developing countries. PHC, by the WHO definition, is broad in scope and includes:

- health education
- food supply and nutrition
- water and sanitation
- maternal and child health programs
- immunizations
- prevention and control of locally endemic diseases
- treatment of common diseases and injuries
- provision of essential drugs.

Because of its great range, this approach is often called 'Comprehensive Primary Health Care' (CPHC) as distinguished from approaches which consider water, sanitation and food supply to be outside the scope of health care system responsibility. The latter view is frequently referred to as 'Basic Health Services' (BHS). Finally, PHC presupposes that its referral and supervisory network will be built into a stable health network.

Selective primary health care

Just as PHC concepts were first being implemented by Alma Ata signatories, Walsh and Warren presented the SPHC approach to a joint Ford/Rockefeller Foundation Symposium on Health Services in Bellagio, Italy. As an alternative to PHC, selective primary health care would institute, "health care directed at preventing or treating the few diseases that are responsible for the greatest mortality and morbidity in less-developed areas and for which interventions of proved efficacy exist" [2].

Instead of a full health infrastructure based upon primary health care, the SPHC approached would reduce the scope of health services in accordance with the findings of cost-effectiveness analysis. Presumably, cost-effectiveness analysis justifies a selective elimination of PHC services since (1) PHC in the

Alma Ata context (CPHC) is "unattainable because of the cost and number of personnel required" [2] and (2) even without water and sanitation included, basic health services (BHS) would cost billions of dollars in the view of the World Bank [2].

The operating assumptions of SPHC are determined by one variety of rationalized choice. The selection of a limited number (usually 5-10) of health interventions is established by prioritizing diseases of importance on the basis of prevalence, mortality, morbidity data and on 'the feasibility of control'. As a result, SPHC health services "concentrate on a minimum number of severe problems that affect large numbers of people and ignore interventions of low questionable or unmeasured efficacy". Examples of interventions that would be ignored because they are difficult to control, are: treatment of tuberculosis, pneumonia, leprosy, trypanosomiasis, meningitis and helminths. These types of health problems, "may better be dealt with through the investment in research", since, in terms of potential benefit, "the cost of research is low".

Warren suggests that the SPHC health services structure would be a Christmas tree upon which ornaments (independent interventions of 'proven efficacy') might be hung, one by one. The initial nature of the structure would necessarily emphasize vaccinations in order to gain the high coverage (greater than 90%) required to interrupt transmission of the major diseases such as measles. Interventions such as oral rehydration therapy for diarrhea which require a more stable, community-based health service structure would be introduced later on. Health services such as malaria, chemoprophylaxis or vaccines, schistosomiasis treatment, or other new vaccines would be added rationally to the structure as they become cost-effective in areas where such diseases were of high importance.

Despite its virtual overlap with the initial adoption of the PHC concept, the SPHC approach has continued to attract support. The American CDC has developed a series of training manuals for the Expanded Program of Immunization (EPI/WHO) and the Control of Diarrheal Disease Program (CDDP/WHO) based on the 'priority setting' method [5]. Specific CDC international programs emphasize a selective intervention approach.

In late 1982, the U.S. Agency for International Development (USAID) sent telegrams to all Latin American health stations orienting them to the employment of the priority-intervention approach when possible. Despite its deep involvement in the PHC concept at the time of the Alma Ata Conference, UNICEF's current health policy, as elaborated in the December 1982 strategy, reflects a SPHC approach [6]. A. W. Clausen, in his first health-related pronouncement as President of the World Bank, stated that child mortality in the world could be cut in half through the implementation of the new 'technological breakthroughs' of oral rehydration therapy and vaccinations by means of an SPHC-like structure [7]. In addition, the World Bank appears ready to place billions of dollars behind the SPHC approach: the former World Bank President, Robert S. MacNamara and Dr Jonas Salk recently announced the formation of a world-wide organization

devoted to speeding up the application of selective immunization interventions and diarrhea therapy in low-income countries.

The WHO leadership and other PHC supporters have been less than enthusiastic about the SPHC approach to primary health care. In an April 1983 address to the World Health Assembly, Dr Halfden Mahler, Director-General of the WHO warned:

"Honorable delegates, while we have been striking ahead with singleness of purpose in WHO based on your collective decisions, others appear to have little patience for such systematic efforts, however democratically they are applied. There are unfortunate signs that negative impatience is looming on the horizon and some of it is already peeping over and gaining superficial visibility. . . . I am referring to such initiatives as the selection by people outside the developing countries of a few isolated elements of primary health care for implementation in these countries; or the parachuting of foreign agents into these countries to immunize them from above; or the concentration on only one aspect of diarrheal disease control without thought for the others. Initiatives such as these are red herrings. . . . Without building up health infrastructures based on primary health care, valuable energy will only be wasted, and you will be deflected from your path".

The SPHC alternative has already been the core issue of critical articles. With democracy and equity as key criteria, Banerji [8,9] has contrasted SPHC methods with those entailed by the development of a national health service. Briscoe [10] followed Walsh and Warren in the acceptance of cost-effectiveness ranking as a major criterion in the assessment of health services but reached dissimilar conclusions on the exclusion of water and sanitation activities. Others have described the SPHC alternative as a thinly disguised return to technologically-oriented vertical health care programs [11]. Also the cost effectiveness technology used to justify SPHC as a system of rational choice-making has been questioned with respect to its validity [12].

Clearly, a major controversy is brewing with issues about how billions of dollars will be allocated for international health services and with choices concerning millions of lives hanging in the balance. The following sections of this paper offer both a conceptual and empirical analysis of the underpinnings of the selective strategy for primary health care.

METHODOLOGICAL ISSUES REGARDING SPHC

Obviously, quantitative planning is necessary for any health manager—whether he holds to the 'SPHC' position or to the 'Alma Ata spirit'. Since a wide variety of quantitative planning methods are available, health managers have options to exercise. For instance, in the realm of health manpower planning a manager could assess manpower needs through a planning base that emphasizes: (1) health needs (epidemiological information), (2) activity objectives, (3) health demand or even (4) arbitrary standards (e.g. agent/population ratios) [13, p. 94]. The variety of planning methods not only have specific technical advantages, drawbacks and justifications, they convey as well a strong political valence.

Planning methods articulate with political structures in at least a two-fold manner: (1) specific

planning methods converge with the political structuring of health systems (e.g. activity objectives best suit centralized health systems while health demand-based planning methods apply readily to systems of private medicine) and (2) health planning methods are always to some extent 'structure determinative'.

Of course, the choice of a planning method should follow from the force and power of the method, not primarily from its political goodness of fit. The wide-spread appeal of the SPHC method must be examined in this light. Only if it suffers from major internal methodological flaws could its political and economic attractiveness account for its enthusiastic reception.

An exploration of the SPHC prioritization method raises a series of questions about SPHC methodological adequacy. This approach to priority-setting—one based upon the use of epidemiological information and extensively used by the American CDC—must proceed along several lines: the way the SPHC approach determines its programmatic objectives, the SPHC view of resource utilization, and the planning structure entailed by the application of SPHC principles [14].

Setting SPHC priorities

The basic objective of SPHC is the control of diseases in order to improve the health of a population. Improved health in this case amounts to the reduction of morbidity, mortality and disability, such reductions being demonstrated by the diminution of disease-specific mortality rates among 'priority' diseases. Walsh and Warren characterize the SPHC disease prioritization method as follows, "in selecting the health problems that should receive the highest priorities for prevention and treatment, four factors should be assessed for each disease: prevalence, morbidity, mortality, and feasibility of control (including efficacy and cost)". CDC training modules prepared for mid and upper-level EPI program managers use the same method only summarized concisely in the form of an equation:

$$\begin{aligned} \text{PRIORITY} = & \text{Importance of Disease} \\ & \text{mortality; incidence; disability} \\ & + \text{Likelihood of Success} \\ & \text{government commitment; technical} \\ & \text{and management factors; public} \\ & \text{response.} \end{aligned}$$

The SPHC prioritization method is inseparably integrated into the next step, the selection of an appropriate health care system for intervention. Appropriateness turns upon the 'reasonable cost' and 'practicability' of the health care system in question and Walsh and Warren analyze health system structures on the basis of these criteria [2].

The interventions relevant to the world's developing areas which are considered are comprehensive primary health care... basic primary health care... multiple disease-control measures (e.g. insecticides, water supplies), selective primary health care and research.

This set of objectives appears to follow from the application of a logically related series of procedural steps: (1) an objective selection of diseases of great

importance for an area, (2) their prioritization on the basis of whether they can be controlled feasibly and (3) the creation of a health system around the intervention scheme which has been selected.

Objective selection of diseases. The characteristics of epidemiological data in the less developed world may jeopardize the validity of the simple and apparently sound SPHC method. Epidemiological data required for an initial SPHC prioritization as well as for subsequent monitoring of disease-specific mortality rates are of uniformly poor quality in LDCs. Cause-specific mortality rates are particularly unreliable due to the lack of adequate diagnostic measures.

A high percentage of causes of mortality cannot be identified, even when surveillance programs established expressly for that purpose have been developed. The 1980 Bangladesh child mortality survey, for example, failed to identify the cause of 44% of infant deaths [15]. In addition, seasonal fluctuations compound the difficulties of analyzing annual rates that summarize mortality. The intermediate aim of reducing disease-specific mortality suffers thus from data imprecision.

Relatedly, the uncertain weighting scheme used in prioritizing diseases for intervention through the SPHC method combines conceptual ambiguity with data imprecision. Obviously, the product of a relatively precise parameter and a defective coefficient will be a parameter which is itself defective. Clearly, it is questionable to rely upon this method not only for the identification of disease priorities but above all for the designing and planning of the related health system.

Feasibility and SPHC objectives. Determining 'feasibility of control' is not simply a matter of scientific assessment. Obviously, the absence of a biomedical tool suitable for treatment or prevention of a condition rules out its control. When a tool is available, however, its 'feasibility' is often a function of the health system that uses it. Tuberculosis control, for example, is not feasible in a vertically-oriented system that uses interval-bound mobile teams or poorly trained Community Health Workers (CHWs). Tuberculosis control, on the other hand, may be feasible in the context of an integrated CPHC or BHS system where medical assistants practice primary care with the aid of well-crafted treatment strategies and adequate supervision.

As SPHC proponents proceed to gauge feasibility of control, they are often selective in their view of 'feasible' health systems. The feasibility of control permitted by PHC systems is assessed in terms of the existing state of organization and management in LDCs, usually called 'inadequately developed' and overly exhaustive [16-18]. On the other hand, the health system structures involved in determining feasibility of control for SPHC systems tend to be judged on the potential efficiency of future technologies (e.g. new vaccines, single-dose therapies) rather than upon their current or demonstrated effectiveness.

While potential technological developments appear to offer hope for improving health status in the future, the SPHC literature envisions little prospect for improved management, training, and organiza-

tion or for the re-allocation of resources in the health sector of Third World countries.

The 'likelihood of success' feature of SPHC and CDC priority-setting procedures makes evident the value-laden nature of 'feasibility'. The feasibility of control of a particular disease is as much a function of value preferences about health systems as it is a matter of empirical analysis. Immunizable diseases and diarrhea treatment, for example, are thought 'feasible' because they are viewed as diseases that can be effectively managed in a vertically-oriented system. Pneumonia treatment requires the skill of a medical assistant and a continuous drug distribution network, facts which reduce its 'feasibility of control'. On the other hand, mobile teams are ruled out altogether, since they cannot address the treatment of acute conditions, due to the absence of the mobile team when the episode occurs.

The overall impression created by 'feasibility of control' in the SPHC method is that it amounts to a circular logic. A selective analysis of health care organization determines priorities for disease control while it is being claimed that prioritization leads to the choice of health care intervention systems.

Diseases of importance. By the account of Walsh and Warren, medical interventions appropriate to prioritized diseases are stratified, "from the most comprehensive to the most selective" [2]. But the decision to focus on only 8-10 diseases, regardless of which diseases are eventually selected, limits health services, predetermines the level of medical intervention and concentrates attention on diseases that cause high mortality. Largely ignored are the majority of conditions, i.e. those which cause the bulk of pain, suffering, and disability among a population.

This is true even when appropriate interventions might be available. Although the SPHC approach to 'importance of disease' draws upon a definition of considerable theoretical scope, the practice of SPHC method [19] leads to an almost exclusive consideration of diseases which cause high mortality and which enjoy 'feasibility of control'.

One important result of the SPHC emphasis on mortality is an overriding interest in childhood conditions. As Julia A. Walsh put the matter [20], "since infants and young children are at greater risk of mortality and morbidity, then health care should be primarily directed towards them". Infants and young children are at greater risk than most other population groups. They represent a large component of total mortality in LDCs and SPHC appropriately addresses itself to their pressing problems. While the SPHC strategy does not by-pass adult disability and suffering intentionally, the constraints of the SPHC method establish prioritized objectives and preferred intervention schemes that do very little for adult health problems.

When the 'importance of disease' measure is further refined, as Berggren *et al.* [19] and the Ghana Health Assessment Team [21] have attempted, the SPHC/CDC prioritization approach only serves to compound the problems involved in concentrating upon childhood mortality. Their substitution of 'days of life lost' or 'years of life saved' for total mortality figures suggests that a day of life at any age is equally valued. In consequence, the value of a 7-day-old

infant with neonatal tetanus is 'twice' that of a 20-year-old with tuberculosis. The life expectancy patterns in most LDCs, however, calls this into question. Life expectancy in Liberia in 1971 [22], for example, was only 45 years and the chance of dying before age 4 was almost 24% in Malawi. Nevertheless a 25-year-old male's life expectancy was nearly equal to that of a person living in a developed nation (38.3 in Liberia, 1971; 47.3 in Canada, 1971) [23].

But even if 'days of life lost' were somehow 'properly' weighted to reflect factual life expectancies, the SPHC method would still yield a high priority for childhood mortality diseases due to its focus on 8–10 conditions. The relatively high valuation of children's health problems by the SPHC approach raises serious questions for planning applications of the SPHC method. Third World communities may hold value preferences distinctly at odds with an emphasis on childhood mortality, in part, at least because adult manpower is indispensable for community survival.

Expected intermediate outcomes for SPHC

Intermediate SPHC goals are almost all related to a single, general intermediate goal, namely reducing disease-specific mortality. The methods of SPHC explicitly assume that a reduction in a certain few disease-specific mortality rates will result in a reduction of the overall mortality rate for a population. This assumption is uncertain at best in developing nations where mortality follows from the myriad health insults associated with poverty and where suitable epidemiological information is in very short supply.

It is likewise questionable whether an attempt to reduce the disease specific mortality rate of a very few pathologies can yield success in the reduction of a population's overall mortality rate. Noting the difference between diseases registered as the cause of death and the determinants of death in an area, Mosley [24] has proposed that child and infant death has no discrete cause. Childhood mortality is, rather, the result of a long series of recurrent infections and deficiencies, particularly deficiencies of food intake. To overlook the complex nature of childhood mortality could lead to: "recommendations for disease-oriented technical intervention programs that fail to achieve their goals, a typical example being supplementary feeding programs to combat malnutrition" [24].

Recent reports from Kasongo, Zaire have underscored the serious nature of Mosley's contentions. These reports suggest that measles vaccination programs which result in a reduction of measles mortality may simply shift mortality to other diseases and conditions without affecting the overall mortality of the population [25]. The results of the Kasongo study, it should be noted, are a matter of current debate [26]. Nevertheless, critics concede the seriousness of the questions raised and call for further study of the Kasongo report's major questions.

The SPHC method, through its focus on medical interventions of narrow scope aimed at reducing disease-specific mortality among the children of an area, appears to overlook the cautionary issue raised by the Kasongo study. If it is true, that measles-vaccinated, malnourished children perhaps will die of

pneumonia instead of measles, then this disease specific mortality shift from one disease to another requires a wider scope of PHC activities.

It should not be thought, however, that measles vaccination stands alone in raising questions about SPHC intermediate goals. Oral rehydration is a compulsory component of any selective strategy [2, 7, 19] due to the fact that: "... in most developing countries, diarrheal diseases rank among the top three 'causes of death' among infants and young children along with respiratory diseases and malnutrition" [24, p. 33]. However, Mosley considers that it is a great leap of faith to expect that oral rehydration therapy can reduce the overall mortality rate: "... it becomes evident that a strategy which is directed toward treatment of the diarrheal cases is likely to be ineffective, while a strategy which can reduce the diarrheal incidence may expect to achieve substantial reduction of mortality" [24, p. 34].

Areas dominated by poverty and malnutrition are not likely to respond to narrow SPHC activities. Technical approaches too frequently gloss over this underlying problem: "... in any PHC program that takes the narrow technical or 'selective' approach, an underlying premise must be that there is no absolute poverty or severe food shortage in the population" [24].

These observations about SPHC intermediate goals are especially pertinent, given the cost-effectiveness contentions that serve as the underlying SPHC rationale. If SPHC methods target a reduction of disease-specific mortality among children in resource-poor areas of the world, then selective disease-control programs are most likely to be used in the very areas where an unfavorable nutritional background may doom the SPHC intervention to failure. As WHO notes, 47% of Asian preschool children and 30% of African preschool children were wasted in 1983 (China not included) [27].

SPHC method and resource utilization

Selective methods apparently encourage the rational use of scarce health resources in developing countries since a narrow group of activities are targeted for the control of 5–8 prioritized diseases. In several major health planning areas, however, the consequence of using SPHC methods may be a misuse of scarce resources, not a rational plan for their conservation.

Physicians and hospitals. With the physician and hospital-centered elements of most LDC health infrastructures absorbing 80% or more of developing country health care budgets, attempts to rationally introduce primary health care must include referral functions in overall planning.

However the SPHC approach calls for extremely limited curative roles through its selectivity. Walsh and Warren indicate only malaria, diarrhea and schistosomiasis [2]; UNICEF suggests only diarrhea and malnutrition [6]; both the GOBI-FF program and the Deschappelles program [19] propose diarrhea, malnutrition and tuberculosis as priority disease conditions requiring curative activities. On the other hand, Walsh and Warren call for 'temporary' controlling for tuberculosis, pneumonia, leprosy, trypanosomiasis, meningitis and helminth [2]. These

choices tend to isolate PHC from curative services by reducing the scope of the curative role to 2 or 3 treatments at the PHC level.

With curative roles focused on only 2–3 disease conditions, hospital utilization patterns are not likely to be modified by the creation of a PHC network. It is significant to note that these utilization patterns are known to be unfavorable in the Third World. At Mityana hospital, for example, a utilization analysis showed that 40% of those in the wards could have been treated by 'self-care' facilities [28]. The same hospital showed that, "the average number of outpatient attendances per person per year falls precipitously the greater the distance that separates the patient's home from the hospital" [28]). The study concluded that, "Taking services to the people is the main way of correcting this imbalance" [28].

In Kasongo, the SPHC key interventions are part of a basic health service package—one emphasizing both curative and preventive activities. These interventions account for an 85.6% reduction of hospital admissions due to diarrhea, diphtheria, pertussis, tetanus, malaria, malnutrition and measles in areas covered by the project. As compared to total excess hospitalization in areas not covered, this coverage-related reduction still represents only 28.6% of the reduction possible through a basic health services (BHS) package (unpublished data of the Kasongo Project Team).

The modest Kasongo results were achieved by medical assistants working in a health center network. Of necessity, Village Health Workers (VHWs) would find it most difficult to apply appropriate referral criteria. Similarly, mobile teams would not offer the permanent presence required by curative activities. In relation to the reduction of excess hospital utilization, the SPHC results are likely to be lower than those observed at Kasongo.

As a consequence, hospitals will continue providing primary health care, though access to hospitals will remain restricted to those living nearby and to the wealthy. The isolation of primary health care from curative services encouraged by the SPHC method will sustain this arrangement.

Physicians raise similar problems. Because of their relative scarcity, physicians in LDCs must be used where their skills are needed most. Encouraged by their Western-training and by the location of hospital facilities, physicians in developing countries commonly remain in their nation's largest cities or they emigrate to more developed countries.

To meet the test of rational resource allocation in this regard, SPHC should require the redirection of physician services from the over-doctored cities to the doctor-scarce countryside. But the methods of the selective strategy are not suited to accomplishing physician redirection. Within the PHC system and pursuant to the narrow scope of foreseen activities, an SPHC approach would confine physicians to extremely simplified, mostly non-medical work, including personnel management, supply maintenance, and limited epidemiological surveillance. A manager with narrow epidemiological training might function as well as a physician in such a role.

Since a PHC system would address only 2 to 3 curative activities when operating under SPHC

assumptions, it would not be able to screen patients, successfully referring patients to levels of care requiring physician skills. These physicians would remain within the classical first-level of curative responsibility.

In consequence, SPHC methods put a double burden on any attempt to decentralize and redirect physician skills in LDCs. First, in restricting the physician's role to a few skill areas, the SPHC approach tends to rob the physician of motivation to leave urban areas. Second, by reducing rural interventions to management tasks, SPHC methods discourage LDC physicians from incorporating public health notions of their nations into their day-to-day activities.

By contrast, Comprehensive Primary Health Care (CPHC) systems and methods would formalize, standardize and subsequently delegate to medical assistants the curative and preventive tasks performed by a general practitioner. Since such a comprehensive approach would require that physicians be involved in carefully analyzing their own work in order to write strategies and instructions for medical assistants, the physicians of developing countries would be deeply and rationally involved in PHC activities. Under the CPHC design, this involvement would also call for regular physician supervision of medical assistants.

SPHC methods, on the other hand, apparently deny a role to medical assistants. Disease control activities limited to less than 10 conditions do not require the broad skills of a medical assistant. General practitioners, like medical assistants, would find that the SPHC structure offered them no effective supply system, no regular supervision and virtually no referral network. Under-utilization of medical assistants and other general practitioners would be the likely result of any attempt to supplement SPHC methods with a more rational use of personnel.

Community health workers. Selective methods give community health workers (CHWs) a pivotal role. In fact, the inclusion of CHWs is presumed to be a rational characteristic of SPHC, one distinguishing it from strictly vertical programs. In theory, the CHW links selective interventions with the community, thereby lowering program costs. Though not described uniformly, village health workers have as primary tasks the organization of communities for vaccination and the administration of oral rehydration solutions.

The claim that CHW activities such as these are comparatively inexpensive does merit examination. Much of a CHWs resource efficiency stems from the CHWs short training period and low wages. An analysis of 52 USAID assisted health care projects [29]—most of which were designed along the lines of SPHC concepts—reveals that 86% of the CHWs involved were trained for less than 2 months. More than one-half were trained for 2 weeks or less.

While training of this sort obviously lowers direct, financial costs, the training is not adequate for many of the tasks identified through the use of selective disease-prioritization methods [30]. Most targeted SPHC conditions, for example, involve immunization only. The limited training of CHWs would not permit them to perform these immun-

izations, thus necessitating the use of mobile vaccination teams. Field studies conducted in accord with selective methods, such as those by Berggren *et al.* in Haiti [19], rely upon hospital-based activities instead of the interventions of CHWs. Only oral rehydration therapy appears well-suited for the competence of the CHW and even this intervention requires experience and clinical judgment for successful case management.

The apparent cost-savings which accrue from the use of CHWs also must be matched against the opportunity costs of such volunteers, including time lost from harvest and cultivation. These losses to the local economy combined with other pressures, such as the difficulty CHWs face in gaining community respect and acceptance, tend to produce a high level of attrition and turnover among CHWs. In Nicaragua the rate is reported to exceed 35% [31]. The stress of SPHC upon undertrained village health workers turns the question of cost-savings into one about rising long-term costs and the reliability of undertrained health workers. The statement by Walsh and Warren that, "these services could be provided by fixed units or by mobile teams" [2], is a claim of flexibility not supported by CHW capabilities and one that is undercut by program limitations. In consequence, the selective strategy appears compelled to fall back to a first reliance upon mobile teams at the expense of other health infrastructure elements.

Vertical structure and selective methods. Because selective primary health care methods rely upon the mandatory use of mobile teams, the SPHC operational structure closely resembles that of a traditional vertical program [8]. Typically vertical programs are organized along military lines. As a result, they tend to be isolated units standing apart from the larger health care structure about them, both in terms of budget and administrative functioning. Verticalist concepts have been characterized as favoring, "categorically specific, hierarchically organized, discrete disease control programs" [32].

Although preventive care may be provided by periodic services, curvative care requires the presence of a permanent structure. As a result, multiple health problems are not included within the scope of effort of the mobile team program. In addition, vertical schemes overlook the advantage of integrated preventive and curative health care [33].

The CHW/mobile team structure that SPHC requires enjoys neither the increased health team prestige that results from its curative efforts nor the improved coverage and effectiveness which belongs to a system whose personnel gain an increased socio-cultural knowledge of an area as they remain in one location. Further, vertical structures by their nature cannot take advantage of information generally available through CPHC approaches, particularly the integrated, centralized information that CPHC systems gather regarding medical histories and preventive health statuses.

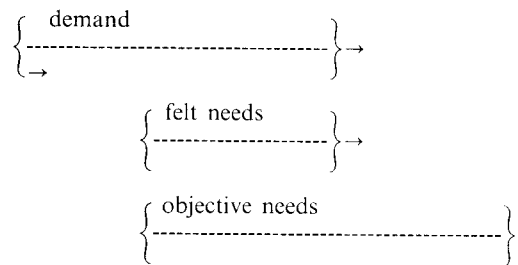
In practice, the costs of vertical intervention structures frequently undermine whatever feasibility exists in their program design, thereby placing a burden on other health system structures. As Oscar Gish has noted: "special campaigns [vertical programs] ab-

sorbed more resources than did the whole of the country's health services located outside the larger cities and towns" (Note that this statement does not refer to a specific country [32, p. 207]).

Finally, SPHC interventions tend to place tight limits on popular participation in the planning of programs. They require an extremely close fit between focused goals and the elements of vertical design so that the selective strategy almost certainly precludes participatory modification of the health care agenda created for an area. With participation reduced or practically eliminated, perceived community needs—already understated by the SPHC emphasis upon the problems surrounding childhood mortality—tend to be overlooked. To ensure that health problems match-up with the SPHC approach, community participation is likely to be replaced with community manipulation.

Quantitative planning: an alternative to the epidemiologically based planning approach

As noted above, epidemiologically based planning is but one specific form of quantitative health planning. An alternative form includes normative considerations. Instead of defining health planning objectives as the reduction of a few disease-specific mortality rates, these objectives could represent the commonality between the felt needs of the population (mostly curative ones) and health needs as defined by professionals. This more normative approach can be schematized as follows:



This is a dynamic scheme which takes the demand factor into account thus enabling health services to communicate with people so as to

(1) attempt control of 'irrational' demand ("irrational" quest for therapies such as vitamins or injections)

(2) increase the felt needs, that is make people aware of "objective" needs.

Under this scheme, the fit between the planned health structures and related health activities could not be too tight.

A normatively grounded alternative to epidemiologically quantitative health planning would stress two characteristics for planned primary health care systems: (1) they should rely upon polyvalent health teams and (2) they should consist of sufficiently decentralized but fixed units. Pivotal determinants of concentration of health professions and facilities would include the following elements:

- (1) geographical accessibility via decentralization
- (2) PHC facilities scaled to 'human size'

- (3) consideration of decentralization costs
- (4) reduced technical performance linked with highly decentralized effort
- (5) resource constraints.

The normative-quantitative planning alternative recommends a structure-based planning approach within which activity objectives would be regionally and locally established. Such a planning strategy does not eliminate the need for well-defined priorities. For example, health center supervision can underscore the importance of oral rehydration or immunization. Instead, it advocates quantitative planning on both professional and local or community criteria.

JUSTIFICATION FOR THE SPHC POSITION

Empirical support for the SPHC position is quite limited since there are only a few field reports available to support its claims. In addition, the cost-savings claimed for the selective approach to primary health care involve an unorthodox approach to cost-effectiveness analysis.

Empirical support for SPHC

The SPHC approach formally described by Walsh and Warren relies upon 7 field reports for its substantiation, one of which remains unpublished. Walsh and Warren first cite a field study from Guatemala. Gwatkin *et al.* [34] have suggested that numerous complications prevented the Guatemala investigators from reaching unambiguous conclusions.

The Jakhmed (India) project, a second study that Walsh and Warren cite, cannot be used for substantiating the SPHC position since the project under investigation provided, "... a wide range of nutrition, health, and family planning services" [34]. This makes the Jakhmed project inappropriate for bolstering a SPHC viewpoint. Because it was clearly a simple, vertical program and not a selective one, the Hanover (Jamaica) project listed by Walsh and Warren cannot be used as evidence for the value of SPHC; furthermore it dealt only with malnutrition. The Walsh and Warren reference to the Ghana primary health service system is in fact a reference to a comprehensive not a selective system. Finally, the Narangwal project [35] cited by Walsh and Warren as empirical support for SPHC involved projects in 4 villages, each with a different health care activity: nutrition, curative care with a physician back-up, nutrition and curative care, and a control village. The separate Narangwal activities best fit either simple, vertical intervention formats or coincide with CPHC functions, not SPHC medical intervention schemes. In a critique of the studies Walsh and Warren list as support for the selective strategy, Gish remarks that the, "... authors [Walsh and Warren] confuse diverse pilot project research results with World Bank estimates [and] with their own data based on [an] African model area" [32].

Substantiation for the selective disease-control strategy reduces itself primarily to the field report from Berggren *et al.* [19] conducted in the Deschapelles area of Haiti. The results of the Haitian project are cited as evidence of what a selective approach ("the same approach advocated in our

paper" [20]) can achieve. Because it is central to the credibility of the selective strategy for disease control, it is worth examining the design and empirical claims of the Berggren *et al.* study.

Haiti project. The Deschapelles project prioritized 8 identified disease conditions and then targeted them for intervention in a small (5 × 5 km) census tract. The population of the area was approx. 10,000 and the tract contained a 150-bed hospital with a staff of 13 physicians. Before and after medical interventions, the authors measured disease and age-specific mortality rates in the census tract. They concluded that a selective approach significantly lowered mortality rates. These claims are open to dispute since the study exhibits a number of deficiencies. In particular, its outcome indicators are not controlled, it uses external standards in a context bereft of external validity, and the program appears to be more expensive than SPHC programs.

External standards. Results from the Deschapelles study are presented by a comparison of death rates in the targeted area and available national estimates. Kenneth Warren cites the outcome of this comparison as evidence for SPHC effectiveness: "mortality rates fell progressively during five years to levels only one-fourth as high as the national estimates" [20].

The Haiti Project's use of external standards is open to question in 4 major respects. First, beginning and final figures of the study are not derived by similar methods. The beginning figures came from interviews while the ending ones came from a process of longitudinal follow-up. Second, during the project's first year, the mortality rate for 0-1 age groups in the Deschapelles area was 55/1000 while the comparable figure for all Haiti was 146.6/1000 [36, p. 14], a figure almost three times greater than that of the experimental area. Third, among all areas of Haiti, the Deschapelles sector showed the lowest prevalence of Gomez' Stage-III malnutrition [37], still another indication that it was an exceptional area. Finally, the superiority of agricultural production in the Artibonite valley, where Deschapelles is situated, makes it one of Haiti's superior rice producing locations.

In consequence, the use of internal comparisons and beginning-to-end death rate figures suggest that the selective Haiti program may have had a much lower impact (if at all) upon the mortality of the Deschapelles area than a comparison with 1972 national figures would suggest.

Confounding socio-economic factors. Forty-three per cent of the total mortality decline claimed for the selective interventions of the Haiti study can be attributed to malnutrition deaths averted. There are sound reasons for skepticism concerning this claim. First, the zone of greatest mortality reduction for the Deschapelles program falls into the second priority of diseases listed in the Walsh and Warren version of SPHC [2]. It is surprising to see this element of the Haiti project succeed more markedly than activities more highly favored by the SPHC strategy, for example measles or tetanus. Second, the reported 43% decline in malnutrition deaths averted is particularly surprising. Results of a Colombian study [38, p. 167] indicate that the greatest reductions of infant mortality rates are to be achieved through supple-

mental feeding programs that target pregnant women. This was not the approach used in the Deschapelles field trial, a fact which raises further doubt about tracing malnutrition deaths averted to the Haiti project's selective interventions.

Confounding socio-economic factors are perhaps at the root of the increasing number of malnutrition deaths averted which were reported in the Haiti study. Despite the fact that Berggren *et al.* identify a series of such factors (housing, food preparation, latrine availability, protected water supplies), they do not show their constancy across time. Even more importantly, food availability is not discussed, a fact that raises questions about the degree to which the study's overall results are confounded by intervening variables.

Confounding hospital activities. Findings in the Haiti study do not adequately control for the impact of Albert Schweitzer Hospital activities upon reported mortality rates. The facility was located less than 3 km from the surveillance area under study. With respect to this confounding influence, it is demonstrable that the introduction of prioritized health care activities failed to statistically modify the targeted disease-specific deaths as a proportion of overall deaths in the area. A two-tailed Z-test for proportion ($P = 0.2270$) does not reject the equality of 1968 and 1972 proportions at the 0.05 level. Specifically, the following assertion in the Haiti study must be called into question: "the hospital services probably achieved their maximum impact during the 12 years before the health surveillance and health services began. The impact of health surveillance and health services is therefore reflected in the changes in mortality rates after 1968" [19].

Reliance upon the findings of Berggren *et al.* as a provisionally adequate defence for selective disease control interventions poses serious difficulties. When the Deschapelles activities were extended to three other Haitian areas (each with a population of 10,000 persons), overall mortality rates only slightly decreased in two of the three while actually increasing from 78 to 89/100 in the third [39]. Further, it should be noted that the activities introduced by the Haiti use of the SPHC approach fall well within the range of comparable Basic Health Services (BHS) expenditure levels and cannot easily serve as a normative cost model.

Cost-effectiveness justifications for SPHC

Cost-effectiveness analysis is a relatively flexible and non-dogmatic mode of economic analysis which should bolster the contentions of national health care strategies. As decision-makers consider careful cost-effectiveness analyses, for example, they remain free to apply variable standards and situation-specific criteria in setting priorities and in selecting program objectives for their area.

The 1978 Walsh and Warren article sought to link SPHC and cost-effectiveness analysis quite directly [2]. Instead of demonstrating the usefulness of cost-effectiveness analysis in the planning of primary health care programs, the Walsh and Warren article sought to use cost-effectiveness analysis as a justification for normative claims, thereby exceeding the careful limits of the technique.

Empirical adequacy. In asserting that SPHC is, "potentially the most cost-effective type of medical intervention" [2], Walsh and Warren demarcate an exceptionally wide scope for their cost-effectiveness comparisons. They make head-to-head comparisons between five approaches: CPHC, BHS, Multiple Disease-Control Measures, SPHC and research. In so doing, Walsh and Warren impose considerable strain upon the cost and effectiveness data of their report.

First, the cost and effectiveness estimates relied upon in the Walsh and Warren cost-effectiveness discussion are heterogeneous and derived from multiple sources: WHO, the World Bank, bi-lateral field projects and diverse research programs. Although these cost figures may be completely adequate when taken as isolated data, the sweep of the Walsh and Warren cost analysis leaves numerous un-answered questions. Were the cost estimates of their study reported in the same manner and with equal completeness, particularly in the case of estimates about training, indirect costs at the referral level, and the value of volunteer labor [40, pp. 27-49]? Did the various sources of data rely upon a uniform method and rate for discounting reported cost figures? Were the costs discounted at all? Since pilot programs and field studies can change greatly in terms of costs when they are 'scaled-up' to national levels, it should be known whether (and how) national cost estimates were compared with those derived from projects of smaller scale. How were project and research cost figures reconciled?

Problems also appear in the Walsh and Warren effectiveness data as well. By supporting their selective strategy on the basis of heterogeneous findings, it remains unclear whether multi-outcome programs were demoted in importance by definitional fiat [40]. The decision to compare the effectiveness of research with primary health care programs designed for field implementation seems equally open to doubt.

The considerable gap between SPHC costs per capita (1978 \$0.25/capita/year) and those reported in the Berggren *et al.* field trial (1981 \$1.60/capita/year) [19] raises still further questions about the empirical adequacy of SPHC cost-effectiveness comparisons. If these disparities were projected straightforwardly to a national scale, they alone are enough to dampen enthusiasm for the potential cost-savings of the SPHC approach. Finally, it should be noted that BHS field cost reports [41] disagree with the BHS cost figures reported by SPHC supporters [2, 42].

Conceptual adequacy. Health planners and decision-makers are best served by cost-effectiveness analysis when a conceptually clear cost constraint or program objective has been set for the analysis. To compare alternatives successfully, cost-effectiveness analysis requires compliance with several procedural requirements:

- a clear operational definition (or set of definitions) for the program to be analyzed
- a careful computation of net costs and net health effects among the alternatives being compared
- an exact specification of decision rules to guide the selection of preferred alternatives
- a sensitivity analysis to probe areas of uncertainty in the study.

The Walsh and Warren comparisons violate these rules of conceptual adequacy at several points. First, comparisons between CPHC and SPHC only doubtfully meet the standards for operational definition. Second, CPHCs multiple program outcomes require that it be treated as a cluster of programs, each scaled-up individually for comparison with the single programs of BHS and SPHC. In the absence of such treatment, its net costs and net health effects are extremely hard to compute.

Third, the teasing out of cost equivalents to form valid cost-effectiveness ratios would be most challenging in this case, to say the least. Fourth, the Walsh and Warren report is silent about the subject of a conceptually clear decision rule and makes no use of sensitivity analysis. The absence of a sensitivity analysis affects the assessment of alternative approaches adversely. For example, in specific areas such as water supply, an analysis that allowed existing expenditures to be redirected away from inferior water services has shown that long-term PHC costs decline when water quality is improved [10]. Finally, the criteria pertinent to broad-scope cost-effectiveness comparisons (e.g. 'equity' and 'efficacy') are missing from the Walsh and Warren report.

Cross-strategy comparisons. Cost-effectiveness analysis is poorly suited to determining what programs a society should pursue [43]. Its forte lies in the realm of allocative choice, not normative or distributive judgment. Walsh and Warren, however, use the technique or accomplish cross-strategy comparisons. In so doing, they reveal normative intentions whose distorting impact may underlie the conceptual problems of their study. In effect, the Walsh and Warren use of cost-effectiveness analysis substitutes for measurable, comparable program alternatives a group of proxies for entire health care strategies.

At issue in these comparisons are: choices about how a population values the existence of a rural health care infrastructure, about the extent to which an area's health care system should be fundamentally participatory, about the degree to which a health system should stress objective and extra-local health criteria rather than the 'felt needs' of an area, and about the extent to which health services will be privately owned and operated. These are valutive elements in the Walsh and Warren cost-effectiveness analysis. As integral features of the proxie measures just noted, they inject value elements that confound the attempt to make cross-strategy comparisons.

DETERMINANTS OF SPHC ADOPTION

The selective strategy of disease control has prompted considerable comment and has been well received by international agencies (World Bank, UNICEF), academic institutions and research centers (Centers for Disease Control; Harvard University), bilateral cooperation agencies (USAID) and private institutions (Ford and Rockefeller Foundations). Given the empirical weaknesses, methodological problems and conceptual difficulties of the SPHC position, however, it is important to explore some of the less apparent reasons for SPHCs popular reception and for the magnitude of funding already ear-

marked for its implementation in developing areas. When this is done, SPHCs widespread appeal seems to be the coincidental result of constraints and challenges facing influential, independent decision-makers, forces leading them to endorse a primary health care strategy with strong appeal to their training in 'classical' public health.

Political and economic valence of SPHC

The expanding body of pathologies that burden the population of the Third World are paired with budget reductions [44] that threaten disaster. These constraints from the external environment of international cooperation agencies are matched by 'internal forces' of no smaller significance:

1. Results.

Donor agency funding requires "results" within the period of the agency's mandate, a pressure which encourages short-term planning and readily measured program objectives; this rules out the measurement of factors such as the avoidance of suffering and the import of participatory structures; it also slows the creation of health infrastructure.

2. Privatized Service.

International agencies, recognizing "political realities", seek to achieve larger macro-economic objectives through their funding strategies, not the least of which is the establishment of a uniform economic pattern for the recipient nation; this leads to an increasing of the private medical sector, an expanded donor agency influence over the recipient nation's economy, financially and geographically inaccessible private care and a weakening of curative and preventive service integration (the concept of health service responsibility for a well-defined population is strained greatly by rapid expansion of the private, curative sector).

3. Donor Clientel Expansion.

Leading donor agencies recognize that supporting of medical programs in recipient countries is only one element in the process of political-economic barter; as donors seek to expand their number of recipient clients, health contributions to individual nations approaches the floor below which no modification of health care can be achieved.

4. Research and Commercial Outlets

The cooperative activities of funding agencies frequently aim at the promotion of significant financial and research outlets for corporations and leading academic institutions of donor nations; this results in reversed priorities: even before the benefits of existing technologies are disseminated to recipient nations, "space age" technologies are given enthusiastic support (e.g. vaccines and other fruits of genetic engineering); the research concerns of donor agencies supplant the applied research interests of developing nations [45].

5. Financial and Institutional Status Quo.

Institutionally, international cooperation agencies and research institutions seek to respect the financial and institutional status quo of recipient nations; this favors the adoption of health program strategies placing little constraint upon national health budgets and making only minimal demands upon the existing institutions of the recipient nation.

6. Reduction of Public Expenditures.

Despite the seeming paradox, optimizing the cost-effectiveness of a health system can entail the introduction of a new level of health care services. The paradox is only apparent, however, since introducing Village Health Workers for the sake of cost-effectiveness generally leads to the dismantling of the health center and dispensary network of the state. While VHWs reputedly are self-supporting,

Table 1. Order of the priorities for the study of causes of death according to indices of incidence, importance and vulnerability (State of Aragua, Venezuela, 1960)

Causes of death (1)	Coefficient of incidence (2)	Coefficient of importance (3)	Coefficient of vulnerability (4)	Product (2 × 3 × 4) (5)	Order of priority (6)
Dysentery, gastritis duodenitis, etc. (B6, B36)	9.7	0.98	0.66	6.27	1
Premature births	8.5	1.00	0.33	2.80	2
Influenza, the pneumonias, and bronchitis (B30, B31, B32)	4.4	0.97	0.33	1.40	3
Cardiovascular diseases (B22-28)	20.3	0.65	0.10	1.32	4
Pulmonary tuberculosis (B1)	2.8	0.68	0.66	1.25	5
Transportation accidents (E802-E861)	3.9	0.83	0.33	1.07	6
Other diseases of early childhood (B44)	2.5	1.00	0.33	0.82	7
Tumors (B18, B19)	6.7	0.68	0.10	0.45	8
Accidents (excluding transportation)	5.5	0.75	0.10	0.41	9

Note: arranged in accordance with the weighted coefficient of incidence the causes of death would appear in the following order: dysentery; premature births; other diseases of early childhood; cardiovascular diseases; transportation accidents; accidents (excluding transportation); influenza, etc.; tumors; and pulmonary tuberculosis.

Source: [42, p. 27].

fixed health centers and dispensaries often generate state expenditures. The overall pattern of replacement is consistent with World Bank and International Monetary Fund and donor policies aimed at "low cost health projects" for PHC [46].

The internal and external constraints upon the cooperative efforts of international agencies have combined with the technical training of key decision-makers to encourage an enthusiastic response to SPHC. Among the features of SPHC which such agencies find appealing are the following:

This widely known effort attempted to put into practice a fully formed model for health care planning of the sort put forward in far more simple form by Drs Walsh and Warren. After many years of work and the training of several hundred Latin Americans in the methodology, it was concluded in the mid-1970s that planning of this sort was infeasible and thus to be put aside.

Table 1 summarizes the approach of CENDES analysis for Aragua State (Venezuela) [50]—an approach quite closely paralleling the method taught 20

Agency Constraint

1. An emphasis upon 'results'
2. Privatization
3. A numerical building of donor agency clientele
4. The development of commercial and research outlets
5. A concern for the financial and institutional status quo

Associated Reasons for SPHC Appeal

1. SPHC depends upon 'objective' measures and calls for little additional health infrastructure
SPHC favors a technical agenda whose items have been established by technical methods
2. By filling in functional blanks left by the private sector (preventive activities), SPHC implies no competition between public and private health units [47, 48]
SPHC tends to by-pass the issue of population-oriented health service responsibility
3. SPHC's claim to be 'potentially the most cost-effective' appeals to the desire of international and bilateral cooperation agencies to expand their clientele
4. SPHC emphasizes prospects for vehicles well-suited for 'space age' commercial technologies, e.g. vaccines derived from genetic engineering rather than prospects for management improvement of existing techniques
SPHC leaves open the option for private sector doctors to refuse standard treatments, e.g. use of standard pharmaceutical lists [49]; this excludes from the scope of PHC curative activities (except oral rehydration and chloroquine)
5. The claims of SPHC assure that it would put almost no strain upon existing financial or institutional arrangements
SPHC tends to preclude community impact upon the planning and management of health services, an emphasis which tends to sustain existing institutional practices and priorities
SPHC requires little fund transfer from hospital to primary health services.

Training of health system managers; SPHC

The SPHC appeal to international agencies of cooperation parallels the attraction of health program managers to the SPHC conceptual structure. Many of these key decision-makers have an exposure to past or 'classical' approaches to disease control as a feature of their public health training. Gish, for example, has noted the similarity between the priorities of SPHC and the CENDES approach [11]:

years later by the CDC (Atlanta) for SPHC-type prioritizations (Table 2) [51].

The kinship between SPHC and CENDES analysis is not surprising since the political constraints which confront program managers and cooperation agency leaders have been relatively constant in the post-World War II period, as was noted earlier. The program management view of primary health care retains its emphasis upon the following:

Table 2. Possible answers to the exercise on establishing priorities (module on national priorities)

Health problem	Overall importance	Most feasible control measure	Feasibility of control measure	Overall priority
Accidents	Moderate	First aid; medical diagnosis and treatment; rehabilitation	Low	Low
Diarrhoea	High	OR therapy	High	High
Diphtheria	Moderate	DPT vaccine	High	Moderate
Lower respiratory infection	High	Drug therapy	Moderate	High
Malaria	Moderate	Drug treatment	Moderate	Moderate
Measles	High	Measles vaccine	High	High
Neonatal tetanus	Moderate	Tetanus toxoid	High	High
Other neonatal conditions	Moderate	Prenatal and delivery care	Low	Moderate
Pertussis	Moderate	DPT vaccine	High	Moderate
Poliomyelitis	Moderate	Oral polio vaccine	High	Moderate
Skin infection	Low	Good hygiene and health education	Moderate	Low
Tuberculosis	Moderate	BCG vaccine	Moderate	Moderate
Undernutrition	Moderate	Education, food supplies and child spacing	Low	Moderate

Record assessments as *high*, *moderate* or *low*.

Source: [43, p. 26].

(1) selection of top-priority pathologies that require epidemiology, surveillance projects and readily quantified weighting schemes

(2) operational designs that call for the use of mobile teams

(3) a mobilization of 'popular-based' manpower in accord with anthropological understanding to the extent that it provides insight about how to increase popular participation

(4) field evaluation using cost-effectiveness analysis for single outcome, process evaluation purposes.

Not only do training and field experiences predispose program managers to selective interventions once they reach the level of national health service management, these forces also lead to a planning of national health services in terms of program management concepts—not a health service management framework:

Program Management

Short-term planning outlook
Planning for program development

Health Services Management

Long-term planning outlook
Planning for structural development of health services and functional development within these structures
Responsibility toward population covered by health services.

Given the political constraints and the program management perspective derived from successful disease campaigns such as the smallpox effort, the appeal of SPHC is a rather predictable phenomenon. This is especially the case, since program managers tend, with seniority, to obtain tenure in the public health schools of developed countries. This is not the case, however, with national health service managers hired by LDC public health schools that enjoy relatively low resource and influence levels.

CONCLUSION

This paper has set forth an historical context for understanding the current appeal of SPHC for those who urge its widespread adoption in developing countries. The weaknesses of its empirical foundation, methods and operational structure make dubious the enthusiasm with which SPHC has been greeted. Since the economic pledges to the SPHC

disease-control strategy are already considerable, however, it is essential to identify reasons for its ready adoption by international cooperation agencies and developing nations. The prime forces appear to be political and economic in nature, but these justifications are reinforced by the education and field experiences of key decision-makers.

Ultimately, the planning and development of primary health services that accord with the 1978 Alma Ata declaration will require approaches that run counter to the vertical program characteristics that typify SPHC. It appears mistaken to create extensive new financial and human resources commitments for a SPHC-type campaign. The alternative lies in the study of methods explicitly connected to the expansion of national health services. The methods of health service development must first be shown to have clear and demonstrable efficacy for attaining health for all by the year 2000.

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