Weak Links in the Chain II: A Prescription for Health Policy in Poor Countries

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In an earlier article, the authors outline some reasons for the disappointingly small effects of primary health care programs and identified two weak links standing between spending and increased health care. The first was the inability to translate public expenditure on health care into real services due to inherent difficulties of monitoring and controlling the behavior of public employees. The second was the "crowding out" of private markets for health care, markets that exist predominantly at the primary health care level.

This article presents an approach to public policy in health that comes directly from the literature on public economics. It identifies two characteristic market failures in health. The first is the existence of large externalities in the control of many infectious diseases that are mostly addressed by standard public health interventions. The second is the widespread breakdown of insurance markets that leave people exposed to catastrophic financial losses. Other essential considerations in setting priorities in health are the degree to which policies address poverty and inequality and the practicality of implementing policies given limited administrative capacities. Priorities based on these criteria tend to differ substantially from those commonly prescribed by the international community.

In a previous article in this journal, we raise questions about the prevailing orthodoxy concerning appropriate health policy in developing countries (Filmer, Hammer, and Pritchett 2000). That article questions the strategy of promoting of primary health care (PHC) for virtually all countries. It discusses the disappointing experience with this approach in some countries and concludes that it should not be universally promoted because the success of PHC activities is likely to be highly context specific. That article raises doubts as to the universal applicability of the approach. This article addresses the question "What is to be done?" or, given the wide variety of circumstances in different developing countries, "How do we go about determining what is to be done?" We propose a return to first principles suggested by the standard literature of public economics.

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What is PHC? Although there have been many interpretations of what constitutes PHC, the approach is best summarized by the World Health Organization's (WHO) definition:[1]

> Primary Health Care is essential health care based on practical, scientific and socially acceptable methods and technology. It is made universally accessible to individuals and families in the community through their full participation and at an affordable cost to the community and country. Primary health care is the central function and main focus of the country's health system and of the social and economic development of the community. It is the first contact of the individual, the family and the community with the national health system, bringing health care as close as possible to where people live and work, and constituting the first element of a continuing health care process.
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> Primary health care rests on the following eight elements:
>
> - education on prevailing health problems and methods of preventing and controlling them;
> - promotion of food supply and proper nutrition;
> - adequate supply of safe water and basic sanitation;
> - maternal and child health care, including family planning;
> - immunization against the major infectious diseases;
> - prevention and control of locally endemic diseases;
> - appropriate treatment of common diseases and injuries; and,
> - provision of essential drugs.

The PHC paradigm using this definition has been quite influential in the dialogue on health spending between the international health community and the governments of poor countries, if not in the actual policies implemented. Indeed, some of the words used in WHO's definition have appeared in Ministry of Health plans (for an example, see Zambia 1994).

The definition does not remove all elements of ambiguity. For example, the statement does not specify who is supposed to provide these services, that is, whether the "country's health system" is based on public finance and/or provision or on the private sector. It does not define the term "appropriate treatment of common diseases" so as to rule out anything in particular. However, the most common interpretation of this statement gives priority to public financing of these elements, usually implies public provision, and excludes public financing of secondary or tertiary hospital care.

The included activities are a mixed bag of services: those that might be called traditional public health services, such as health education, sanitation and infectious disease control; and others that involve first-level curative care. Our first article noted

the widely variable but often disappointing experience with the curative care component of PHC. It identifies two weak links in the chain of reasoning that lead from public spending on primary health care activities to people's actual health status. The first problem is the difficulty that ministries of health have found in translating public money and program objectives into real health services of adequate quality. Although it is underestimated in virtually all economic analyses of projects, the consequences of not providing proper incentives to public employees to fulfill their duties are particularly serious in the health sector due to the nature of the service. It is a very individual-oriented service requiring specialized labor and both inputs and outputs—particularly in the quality dimension—are difficult to observe. In addition, for doctors on salary, the conflicting motives of performing duties at public clinics versus developing a private business (paid by patients seen or hours worked) give inherent incentives to shirk on the former obligation.

The second problem is that the type of health care that is typically provided at PHC centers, relatively inexpensive (and therefore cost-effective) curative care, is precisely the sort of care for which there is an active private market in the vast majority of poor countries. With a direct substitute for the service, it is possible that the expansion of publicly provided care will crowd out private actors. The result may be that the net increase in services is highly attenuated. Filmer, Hammer, and Pritchett (2000) document the degree of this crowding out in a review of demand studies that analyzes such policy options as raising clinic fees or reducing distance (bringing health care as close as possible to where people live and work). We find that the degree to which visits to private providers were reduced varied widely—from near 0 to fully 100 percent with most clustering between 40 and 60 percent—when prices at public facilities were reduced or distances to them increased. The range of results is not surprising because it depends entirely on local configurations of demand and (private) supply elasticities that could certainly vary widely.

Therefore, money spent on PHC may not translate into real services and, even if it does, the net addition to services provided is attenuated by the reduction of private substitutes. These effects explain the observed, limited impact of the curative component of PHC services.

In this article, we propose that public intervention in the health sector be guided by the same principles that apply to any other sector. Namely, public interventions, including spending, should be judged to the extent that they improve efficiency and the distribution of income, particularly by improving the living conditions of the poorest. This is supplemented with commonsense notions of the relative difficulty of implementing alternatives. Therefore, we discuss the characteristic market failures of the sector and their implied policy solutions, the efficacy of PHC as a poverty-reduction strategy relative to alternatives, the relative difficulty of implementing policies of varying complexity, and how these three concerns stack up against conventional wisdom in health policy.

Efficiency and Market Failure

The standard normative approach to guiding public sector intervention would be to determine those areas of expenditures that yield the greatest improvements in welfare per public dollar spent. Our earlier article tells half the story: assess the increase in services provided publicly net of private displacement effects. But how much is this extra amount worth? If markets were working well, the answer would be "not much" because the marginal value of the service would equal its marginal cost. It is only when markets are not working that the government can actually improve matters by intervening. The existence of such market failures induces a gap between the private value and the social value of services. The size of this gap measures the value of any additional services induced by government policy; in fact, it is *only* these gaps between social and private values that matter in calculations of benefits from projects (Hammer 1997).

Although health care markets can go wrong in a number of ways, not all market failures are created equal. Two broad categories of market failures with substantial welfare losses characterize the sector. First, there are some activities that combat infectious disease and entail large externalities. Second, there is the virtual absence of private health insurance markets.

Some health-related services, usually those associated with traditional public health activities, are almost pure *public goods*—those that the private sector will not provide at all because they are nonexcludable and nonrival. The best example is certain forms of vector (pest) control, but we might also include the generation of basic knowledge (where there is no way to restrict the use of information created by research). The difference between social and private value for public goods is equal to their entire value because they would not be provided at all without government intervention.

But public goods are simply an extreme case of the more common form of market failure: *externalities*, the effects on people other than the ones making the decision to purchase or produce a given good or service. The social value of these services exceeds the private value, but the private value is not zero. Public involvement in the control of infectious diseases, vaccinations, or educational campaigns addresses these problems. Urban sanitation and guarantees of safe water supply are particularly important. The intervention need not involve much public expenditure, but rather regulation and supervision of a monopoly supplier or a public authority with substantial cost recovery policies. The social benefit from increased provision is only part of the total benefit, and this varies from nearly all of the benefit (public goods) to almost none (private goods). The importance of government involvement varies sensitively to the specific nature of the goods being produced.

The second characteristic market failure of the sector is the uncertainty of the demand for the service combined with the limited scope (if not total absence) of health

insurance markets. Speaking of the industrial countries (and thus ignoring the importance of traditional public health), Arrow (1963:946) contends that "all the special features of this industry in fact stem from the prevalence of uncertainty." A plausible theoretical explanation is that the breakdown of markets is due primarily to the asymmetric information problems of *adverse selection* and *moral hazard*. Without insurance, the observed demand for relatively expensive procedures may be much lower than is socially optimal. But what kind of services would be most affected by the absence of insurance coverage? Only expensive care would likely be affected because the cost of the procedure must be large enough such that the insurance value exceeds the administrative costs of the insurance scheme. A potential solution is to try to correct insurance markets or even circumvent private insurance by providing public health insurance. Administering such programs can be extremely difficult, and partial or faulty implementation may have many unintended consequences (Gertler and Solon 2000). Issues of the provision of health insurance go beyond the scope of this article. However, in the absence of health insurance, the policy response may need to be the provision of hospitals.

Other possible market failures in the health sector are associated with *imperfect information,* besides those that generate the breakdown of insurance markets. However, the argument that "imperfect information" is a cause of market failure must be treated with caution. Consumers are almost never completely knowledgeable of every potentially relevant feature of any good. No market is perfect, but the degree of imperfection and the welfare loss associated with it may be large or small. Only the sources of large welfare losses will be high priorities for intervention.

Potentially large failures associated with information occur when problems of *asymmetric* information are present. One area frequently mentioned in the literature is based on asymmetric information in the medical service market. Medical practitioners, acting as agents for the patients' well-being and having influence over patients' decisions, have financial interests that do not necessarily coincide with those of their clients. Supplier-induced demand is therefore always a potential problem in the medical marketplace. Its effect on welfare is subject to debate and its magnitude is an empirical issue. In poor countries where there is a strong presumption (at least among health professionals) that demand for services is generally too low, the supplier-induced-demand argument does not sound as convincing as in the industrial countries, particularly the United States, where provider decisions interact with the moral hazard induced by third-party payment schemes. The poor-country variant of this might be in the overuse of unqualified practitioners or some types of traditional healers.

Finally, the problem of the general *lack of information* may induce inappropriate demand. That is, there might be too little demand for broccoli and immunizations, and too much demand for tobacco and, perhaps, traditional healers. Again, the argument must be made with caution. It is strongest where there is no commercial

(private) product associated with the action: hand washing is less likely to be promoted than cold remedies. It is also most persuasive where there is little or no media access: societies with a large illiterate population and with little radio or television penetration may not hear information that the media would spread.

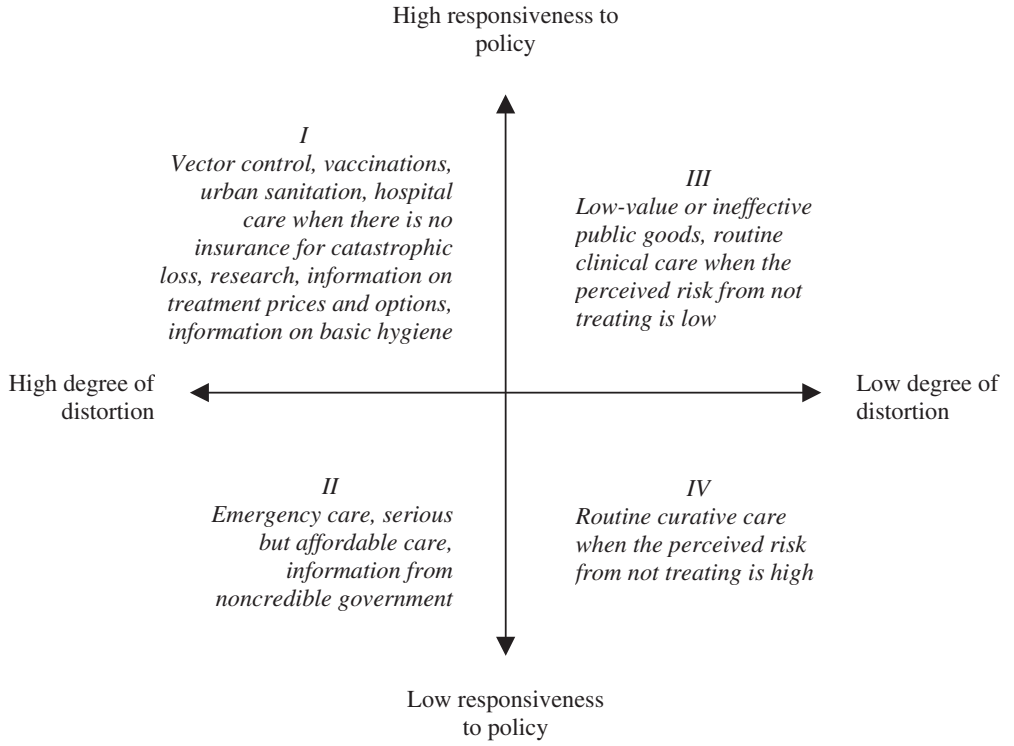
Note that the emphasis here is not just on health status but on welfare (in an economist's sense of the word) for defining the value of services over their market-supplied levels. People value good health, and to a large extent, higher welfare and better health coincide. However, sometimes they diverge. In some circumstances, health improvement might be possible, but it may come at too high a cost in terms of other things people value. For example, perfectly rational individuals, fully informed as to the impact of diet on health, might still choose to eat more fatty foods or sweets than are consistent with optimal health. The desire for goods other than health status opens up the possibility of governments improving health with current resources. However, in some circumstances, there is doubt about the desirability of doing so because it may require excessive resources or involve such a sacrifice in other dimensions of well-being that it would actually reduce welfare.

The reverse is possible as well: there can be justifiable health sector interventions that do not affect health status. The peace of mind brought by improving insurance against catastrophic financial loss may not translate into improved health status, but it may well be an important outcome of health policy. Similarly, improving proximity or amenities in health services to the extent that people desire and are willing to pay for them improves welfare but not necessarily health.

The schematic in figure 1 summarizes some of the implications of the above arguments. The figure classifies various health sector services along two dimensions. The first is the degree to which their markets are subject to serious failures that yield a large degree of distortion between public and private valuation. The second is the degree to which public intervention, provision of service or subsidies, can be expected to lead to increased total or net use of services. In general, larger increases will be associated with services having more elastic demand and less elastic alternative supply since a subsidy will induce larger demand and entail less crowding out of the private sector in these circumstances. Improvement in welfare is closely approximated by the product of the degree of distortion (the difference in social and equilibrium valuation of services) and the change in the use of the services induced by policy.

The highest-priority items from a welfare point of view are those in the upper left quadrant (I). The lower left quadrant (II) shows services in which there are large market failures but little responsiveness to public policy. The upper right quadrant (III) shows areas in which use of services may be greatly influenced by public action but that have little effect on welfare or health. As we argue in our previous article, demand for treatment of minor ailments is likely to be more highly elastic than for more serious illnesses. The lower right quadrant (IV) reflects relatively inexpensive curative care in clinics. Not much is to be expected from public provision because

Figure 1. Classification of Health Interventions by Responsiveness to Policy and Degree of Distortion



Note: Classification of health interventions by responsiveness to policy is measured by the change in equilibrium consumption as a result of a change in policy. The degree of distortion is the difference between private and social valuation of services.

people are likely to seek care anyway and the scope for market failure is limited as well.

It is important to note again that the health implications of these interventions are not completely coincident with welfare effects. For example, the absence of an insurance market leads to the possibility of large gains in welfare from public provision of hospital services at subsidized rates. Whether this gain shows up in terms of improved health status or in terms of increased peace of mind depends on the circumstances. If people tend to sell assets to get hospital care or to go into debt when serious illness strikes, there will be no health effect but a significant welfare impact. If the lack of insurance reduces access to life-saving care, the effect will show up in health status.

How does PHC fit into this picture? Different parts of the PHC package have different impacts. High subsidies for primary-level curative care will tend to be covered by

the low elasticity and low distortion quadrant of figure 1 (quadrant IV). For most serious conditions with cheap curative care treatments, demand will be relatively inelastic and there will be more substitution with the private sector. Public subsidy for this type of service will result in a transfer of income from taxpayers to patients but will have few efficiency benefits and little impact on health because these are the services for which private markets exist.

Clinical services for less serious ailments will tend to fall in quadrant III. The subsidization of first-contact clinical services without fees to screen for severity may be the most serious public policy issue raised by this quadrant. Substantial resources may be used in administrative costs and the provider's time in subsidizing relatively minor ailments. In Indonesia, many of the visits to district hospitals were for muscle aches and skin rashes (World Bank 1994). These also tended to be the ailments that fell most significantly when fees were raised. Private practitioners are well situated to handle these kinds of ailments. In the United States, the most rapid increases in Medicare payments have been for home-care services, including housekeeping, and are quite elastic. In poor countries, the satisfaction of consumer demand for clinical services very likely crowds out the delivery of more population-based public health by eating up budgets both of money (Gertler and Hammer 1997) and of time (Hammer and Jack 2001). The fact that such demand is elastic implies that the quantitative effect and loss of welfare are large.

In sum, there is reason to doubt the likely impact on health and welfare of the curative care components of PHC strategies that often account for the bulk of their expense.

Equity: A Tradeoff with Efficiency?

Some would argue that the preceding discussion is irrelevant because public intervention in the health sector, particularly at the primary level, is justified on the basis of its impact on poverty or at least on the health status of the poor. Therefore, reversing a PHC commitment because it provides low-quality services or because it provides the "wrong services" from a public goods/welfare analysis misses the point, which is that such expenditures are simply a transfer to the poor. In that case, the policy must be compared with other possible transfer mechanisms. As it turns out, some forms of health expenditure can be justified on both equity and efficiency grounds, such as those related to communicable disease control. Others, such as hospital care, involve conflicting equity and efficiency effects, creating a tradeoff to be resolved. PHC again falls into a murkier middle ground.

As far as curative care is concerned, table 1 compiles results on how the benefits of public spending on health are distributed across individuals in each per capita income (or consumption) quintile in 12 countries. Overall public spending on health

Table 1. The Distributional Incidence of Public Spending on Health

Country	*Year*	*Poorest*	*2nd*	*3rd*	*4th*	*Richest*
Argentina	1991	1	0.62[a]	0.62[a]	0.62[a]	0.18
Brazil	1990	1	2.25	3.75	3.13	2.50
Bulgaria	1995	1	1.23	1.62	2.00	1.92
Chile	1982	1	1.02[a]	1.02[a]	1.02[a]	0.50
Ghana	1994	1	1.25	1.58	1.75	2.75
Indonesia	1987	1	1.17	1.58	2.25	2.42
Kenya	1992	1	1.21	1.57	1.57	1.71
Malaysia	1989	1	0.69[a]	0.69[a]	0.69[a]	0.38
Mongolia	1995	1	1.11	1.06	1.09	1.34
South Africa	1993	1	1.40[a]	1.40[a]	1.40[a]	1.06
Uruguay[b]	1989	1	0.57	0.46	0.38	0.30
Vietnam	1993	1	1.33	1.75	1.83	2.42

Note: Values show the amount of public spending received by each income quintile relative to the poorest quintile.

[a]Distribution across these quintiles is distinguished in the original source.

[b]Quintiles are defined on household basis, not per capita basis. See Filmer, Hammer and Pritchett (1998) for additional details on the results of the studies underlying these data.

Source: For Argentina, Brazil, Chile, Colombia, Honduras, Kenya, Madagascar, Mongolia, Nicaragua, South Africa, Tanzania, Uruguay, and Vietnam, World Bank poverty assessments and country studies; for Guyana, Jamaica, Trinidad and Tobago, and St Lucia, Baker (1997); for Bulgaria and Ghana, Demery (1997); for Malaysia, Hammer, Nabi, and Cercone (1995); and for Indonesia, van de Walle (1994).

is propoor in only 3 of 12 cases (Argentina, Uruguay, and Malaysia). Only in these three did the fourth quintile receive lower per person benefits than the bottom quintile. Often the richest quintile will have low usage of public facilities because it makes up a large part of the clientele of the private sector. But the main beneficiaries of public subsidies are not among the poorest. This should not be surprising because the income elasticity of demand for health is widely estimated to be very high both within and between countries. Most estimates are in the neighborhood of 1.5. It is unclear why a high-income-elasticity good would be singled out for subsidization for the sake of the poor.

Typically, the distribution of benefits is less equal than a uniform transfer would be, but more equal than the distribution of income (so that public spending on health financed by a proportional tax would be progressive). Moreover, from the analysis above, it should be obvious that even if the distribution of public spending on health were uniform across income groups, the impact of public spending on health status would be larger for the poorest. The *net* impact on consumption of health services of

a given amount of public benefits is likely to be larger for the poorest because the displacement effects are smaller. This is consistent with the findings of Bidani and Ravallion (1997) that public spending has no demonstrable impact on the nonpoor but is important for the poor.

Table 1 shows how the distribution of public health spending varies across countries, a pattern that is true not only for health. Recent compilations show that for government subsidies to education, the ratio of the benefit received by the richest quintile to the benefit received by the poorest quintile ranges across the same order of magnitude as that for health, approximately 0.8 to 5 (Castro-Leal and others 1999; Li, Steele, and Glewwe 1999). In general, however, public subsidies to primary education are better targeted at poor households. In a review of nine Sub-Saharan African countries, Castro-Leal and others (1999) find that in all but two the benefits of public subsidies to primary education accrue to the poorest quintile more than they do to the richest. For public subsidies of food, the experience is that in the best cases the benefits are close to being uniformly distributed. When the item is an inferior good (that is, a commodity on which households will spend less as income increases), the poor will capture relatively more of the subsidy. However, because these are rare cases that do not usually consume much of the household's budget, the value of the transfer is quite low (Alderman and Lindert 1998; Grosh 1994). These two articles also suggest that the distribution of benefits range substantially, although the order of magnitude of this range is similar to that for health spending.

Evaluating the full distributional impact of public spending on health is even more difficult than calculating the incidence of expenditures because the distributional impact of raising revenue needs to be evaluated as well. The net welfare effect of using a regressive tax to fund progressive expenditures is very hard to evaluate. Combining the incidence of raising and spending revenue is rarely done, mainly because of the lack of data. Table 2 summarizes the findings of two recent studies that have attempted to combine available data to evaluate the incidence. Both studies find that the incidence of taxes was roughly proportional but public expenditures were progressive, leaving the overall incidence progressive. That is, as a share of household income (or expenditures), the poor benefit more from the combined effect of taxes and public expenditures. In Africa, where tax incidence can sometimes be regressive due to reliance on agricultural export and other trade and consumption taxes, the net effect can be very bad (World Bank 1991).

A frequent argument is that expenditures on PHC are more pro-poor than are aggregate health expenditures, which include hospitals and the like. Table 3 shows the ratio of the share of benefits received by each quintile from two different types of spending. For instance, in Indonesia, 18 percent of the benefits of spending on public health centers accrues to the poorest quintile, and only 8 percent of the spending on hospitals does. Thus, although PHC is (slightly) less progressive than a uniform transfer, the ratio of benefits of the two types of spending is 2.25 for the poorest quintile. In

Table 2. The Net Effect of Taxes and Spending as a Share of Per Capita Household Expenditure, Mongolia and the Philippines, 1990s

Mongolia				*Philippines*			
Quintile	*Taxes*	*Expenditures*[a]	*Combined incidence*	*Decile*	*Taxes*	*Expenditures*[a]	*Combined incidence*
Poorest	0.080	–0.238	–0.158	Poorest	0.208	–0.469	–0.261
2nd	0.090	–0.168	–0.078	2nd	0.205	–0.222	–0.017
3rd	0.070	–0.100	–0.030	3rd	0.201	–0.175	0.026
4th	0.100	–0.092	0.008	4th	0.200	–0.144	0.056
Richest	0.100	–0.064	0.036	5th	0.198	–0.122	0.076
				6th	0.199	–0.102	0.097
				7th	0.201	–0.087	0.114
				8th	0.197	–0.069	0.128
				9th	0.197	–0.051	0.146
				Richest	0.196	–0.001	0.195

[a]Expenditures include health and education in Mongolia and health, education, and infrastructure in the Philippines.

Source: For Mongolia, World Bank (1996); for the Philippines, Devarajan and Hossein (1995).

Table 3. How the Richest and Poorest Quintiles Benefit from Different Types of Public Spending on Health, Selected Countries, 1990s

			Subsidies that go to the poorest quintile (percent)		*Subsidies that go to the richest quintile (percent)*		*Ratio of primary or health center to hospital*	
Country	*Year*	*Type of public spending*	*Hospital*	*Primary or health center*	*Hospital*	*Primary or health center*	*Poorest*	*Richest*
Bulgaria	1995	Primary/hospital	11	16	27	21	1.45	0.78
Ghana	1994	Primary/hospital outpatient	13	10	35	31	0.77	0.89
Guyana	1994	Health center/hospital	19	28	12	14	1.47	1.17
Indonesia	1987	Health center/hospital	8	18	35	17	2.25	0.49
Jamaica	1989/92	Health center/hospital	19	25	18	11	1.32	0.61
Kenya	1992	Health center/hospital	13	24	26	13	1.85	0.50
Tanzania	1993/94	Health center/hospital	11	18	37	21	1.64	0.57
Trinidad and Tobago	1992	Health center/hospital	17	8	19	36	0.47	1.90
St. Lucia	1995	Health center/hospital	26	25	17	24	0.96	1.41
Vietnam	1993	Community health center/ hospital outpatient	9	19	39	10	2.11	0.26

Source: Data compiled in Filmer, Hammer, and Pritchett (1998).

7 of 10 cases, the poorest quintile benefits proportionately more from the lower-level facilities than from hospitals, and the richest quintile benefits proportionately more from spending on hospitals.

However, the number of cases for which the poorest quintile receives more than its population share from PHC is equal to that where it does not (see Filmer, Hammer, and Pritchett 1998 for more on the data underlying table 3). For instance, in Bulgaria, the poorest quintile receives only 16 percent of the benefits of public spending on primary facilities, whereas in Guyana it receives 28 percent of the benefits of public spending on public health centers. In both cases, however, the ratio of this share to the share received from spending on hospitals is about the same (1.45 and 1.47, respectively). Thus, recent studies tend to confirm previous findings about the favorable distributional impact of lower-level spending versus hospital care. This is not because PHC is always strongly propoor but because hospital spending is nearly always strongly prorich.

The same pattern probably extends to the comparison between the clinical components of PHC and traditional public health interventions aimed primarily at infectious disease (vector control, immunization, and sanitation). We must say "probably" because almost by definition it is difficult to assess the distributional consequences of spending on true public goods (Cornes 1995). However, existing evidence indicates that the poor suffer disproportionately from infectious diseases and would benefit most from their control. For example, in India, estimates of the prevalence of tuberculosis vary by a factor of seven between the poorest and richest deciles (by one measure of wealth); estimates for malaria vary by a factor of three. In contrast, the prevalence of blindness, overwhelmingly caused by cataracts, a chronic condition of old age, is only 40 percent higher among the poor relative to the richest of these groups (World Bank 1998; Bonilla-Chacin and Hammer 1999). Although the poor suffer from virtually everything more than do others, the differential burden is the greatest in the communicable diseases. A reallocation of health resources from public hospital services to PHC would likely improve the distribution of benefits but at the expense of corrections to the insurance problem that public hospitals might solve. A reallocation from population-based services to PHC-type clinical services, however, would result in losses in terms of both equity and efficiency.

The problems of poverty and the lack of insurance are interrelated in two additional ways. First, due to their lower incomes, poor people will find a much lower level of expenditures catastrophic. Therefore, in principle, the poor could benefit at least as much as others from the financial protection of subsidized hospital-based services provided that the management or political economy problem of ensuring access to such services can be solved (admittedly an enormous proviso). For example, a recent study calculates the value of the "risk premium" for coverage of costs of inpatient versus outpatient services by income group in India (World Bank 1998). In the absence of an insurance market, the risk premium measures the welfare loss of facing

risk in monetary terms. The study finds that the welfare loss of risk exposure—measured at the average cost of inpatient services—was as much as 60 percent of the expected cost of these services for each poor person, three times higher than for people with twice the average poor person's income. In this sense, insurance is more important for the poor. Devarajan and Hammer (1998) make similar calculations for emergency maternity services in Indonesia. Alternatively, treatments for the kinds of problems that disproportionately hurt the poor might justify lower caps on payments in public facilities.

The second way poverty and lack of insurance are interrelated is that catastrophic health events may be responsible for people falling into poverty. Two aspects of catastrophes need to be separated: the financial burden of paying for medical treatment and the loss of earning capacity from disability. On the financial burden, Narayan (2000) finds that poor people have a common fear of the possibility of having to resort to distress sales of major assets, such as livestock, as a result of an episode of bad health. Such actions could lead to outright destitution for the family. Once again, this implies that relatively expensive procedures need to be covered publicly when insurance is absent. Few people are pushed into poverty or forced to sell cattle due to payments for PHC-type activities. It is the unexpected hospital bill that would do so.

On the loss of earning capacity, the essential problem is the absence of disability insurance. Subsidized health care may have little or nothing to do with correcting this market failure, except in those cases where the postponement of medical care due to anticipated costs leads to disability. This is an interesting avenue for future research, but it requires attention to the details of the *timing* of the search for health care, a degree of subtlety captured by few, if any, demand studies. Gertler and Molyneaux (1997) indicate that the disability-inducing effect of poor health rather than the financial burden of out-of-pocket medical expenses leads to increased poverty in Indonesia. Smith (1999) finds similar evidence in the United States. This implies that policies to mitigate increases in poverty due to medical problems may have nothing to do with the provision of medical care.

Whether PHC is a good means of redistribution needs to be evaluated country by country and against other such programs. As shown above, the success of targeting, even for primary or primary-style services, varies widely across countries. Any particular country arguing for PHC as a redistributive mechanism must be careful that it is indeed achieving that aim. Moreover, there are other means outside the health sector for redistribution within a country. If the argument for PHC is based on its redistributive properties, it needs to be compared with other antipoverty schemes, some of which may be more (or less) successful at targeting and some of which may be more (or less) feasible.

Effectively targeted programs may be appealing because they appear to maximize the poverty impact of a fixed budget; however, they may be politically unsustainable. If a large part of the motivation behind public spending on health is redistribution,

then why is the current incidence of public spending not well targeted toward the poor? The reason may lie in the fact that when the number of recipients of a publicly provided benefit falls, political support for the program may disappear. Gelbach and Pritchett (1997) construct a simple economic model of transfers with voting and show how, under reasonable assumptions, the welfare-maximizing outcome for the poor is a universal transfer because when benefits are targeted to the poor, the nonpoor will vote to reduce the overall budget devoted to transfers.

Implementation: What Can Governments Really Promise?

Efficiency and equity are the bread and butter of economic analyses of policy. A less commonly analyzed area—but one that is certainly of concern to real-life policy decisions—is the assessment of the relative difficulty of implementation of different programs. We do not have the same standard tools of analysis for addressing implementation as for equity and efficiency. Our earlier article discusses certain incentive problems that plague the health sector. Here we consider how the curative care aspects of PHC differ from other health policies in terms of monitoring, enforcement and implementation.

A common problem in PHC systems is the difficulty of staffing facilities in rural areas. Statistics on this are hard to find, although anecdotal evidence is enormous. Positions in rural areas are often vacant for long periods of time in many countries. Data from Indonesia (World Bank 1994) show that in the remote province of Irian Jaya, the rate of unfilled posts is as high as 60 percent. Worse than vacant posts (because vacancies do not necessarily cost money) posted medical personnel are often not present at all. In an intensive study of a PHC post in Bihar, India, Khan, Prasad, and Quaiser (1987) find that three of the four medical officers assigned to the post were not seen in the month of the researchers' visit. Two did not live near the PHC location and were busy with their own private practices elsewhere. They did, however, draw their salary. The officer in charge did not complain, according to nurses, because the presence of the other doctors would have cut into his own private practice.

This is not an idiosyncratic problem. Medical personnel are highly educated relative to the rest of the population in all countries, and they prefer urban life for many reasons, from income-earning opportunities to urban amenities to better educational opportunities for their own children. It is always difficult to induce medical personnel to live in rural areas. In a "willingness to accept" study of Indonesian medical school graduates, Chomitz and others (1998) find that the amount of pay required to induce relocation to the outer islands is multiples of current wage rates (for students who had not come from those places originally). Poorer countries have difficulties retaining even less well-educated providers because their training is still enough to earn a premium in urban markets.

Once they have staff in PHC centers, countries may have problems providing conscientious care and monitoring the behavior of relatively elite members of society in providing a service with many unobservable characteristics. In addition, in many PHC settings, the medical personnel must do a variety of tasks—providing primary care as well as public health activities. Hammer and Jack (2001) note that when both activities are the responsibility of the facility, local pressure tends to bias time spent toward curative care and that it is hard to create incentives for maintaining the population-based activities. The fact of the matter is that it is not easy to monitor and regulate the behavior of decentralized, complex activities.

How does this compare with other kinds of health sector policies? There is little systematic evidence on this. However, single-purpose, campaign-style activities, such as immunization drives or infrastructure investments for water and sanitation, do not require continual staffing of rural clinics with educated personnel. For example, a campaign to increase polio vaccinations has been very successful in India, but it only asks personnel to go to rural areas for two or three days a month rather than to move their families (Deshpande 1999). Most traditional public health activities—health education campaigns, maintaining water and sanitation infrastructure, health inspections and immunizations—can be done with episodic visits rather than permanent residence. Permanent residence, required for PHC staffing, may well be better for the rural population but is much harder to achieve.

Similarly, it may be more feasible to maintain attendance by medical personnel by organizing them in hospitals rather than small clinics. Doctors tend to like working in hospitals, so attendance is easier to ensure, as is peer monitoring of professional work. When asked about the determinants of job satisfaction, Indian doctors ranked interaction with colleagues and access to equipment and materials that gave them the ability to make use of their training as most important (World Bank 2001). These are much more likely to be found in hospital settings.

We confess ignorance of the institutional reforms needed to improve incentives for public providers. The answer to the question of which institutional design—corporatization, regulation, or subcontracting to private providers or nongovernmental organizations—would work better in any given setting requires more in-depth work. How to get better service from public officials—whether health care workers, teachers, or those providing core central government services—should be a high priority for research in public economics. However, it is likely that managing a network of PHC clinics is particularly difficult relative to other types of government intervention.

Summary

Table 4 summarizes our argument. It contrasts six different approaches to health policy as far as the relative importance each attaches to three gross categories of health

Table 4. Relative Priorities and Tradeoffs in Health Policy under Different Approaches

Priority	*Traditional public health*	*Primary healthcare, clinic-based*	*Hospital-based care*
1. Status quo (varies widely)	Low	Low	High
2. Alma Ata (ideal)	High	High	Low
3. Alma Ata (real)	Low	High	Low
4. Economic efficiency	High	Low	High
5. Economic rationale (efficiency and equity)	Higher	Varies	Not so high
6. Full public sector rationale (efficiency, equity and implementability)	Highest	Low	High

expenditure: traditional public health interventions that are not clinic-based and/or have large externalities associated with them, the clinic-based health care component of PHC, and publicly provided hospital care.

The first row in table 4 describes the status quo in many developing countries with heavy emphasis on hospital care. Although countries vary widely in this regard, the generalization is not far wrong and serves as a foil for the second row. The second row characterizes the emphases in the Alma Ata convention, which reversed the priorities. The third row suggests an acknowledgment that, for a variety of reasons, the primary care component has tended to dominate discussions of health policy, particularly in the selective PHC approach.

The fourth through sixth rows summarize the economic arguments for the three different sets of policy options incorporating successively more comprehensive considerations. The fourth row highlights the areas in which the largest market failures in terms of welfare losses are likely to be found. These are the delivery of services that are most like public goods and, unless the endemic problems of insurance markets are corrected directly (a very difficult task), the delivery of expensive services that generally need to be done in hospitals. These would be the areas of emphasis on strict economic efficiency grounds. Note the contrast with the PHC approach. Although the fourth row emphasizes traditional public health, it questions the priority of inexpensive curative care, an area in which the large private sector competes. Although those markets are not perfect, they are better than those characterizing the other two areas of policy.

In the standard economic rationale that includes equity considerations (the fifth row), the story is less clear. Although the rationale for traditional public health interventions to combat infectious disease is reinforced, the relative weight on primary and higher-level care shifts away from hospitals. How much it changes depends on the importance of the insurance problem (and the extent to which it cannot be handled any other way) relative to the bad distributional consequences of subsidized hospitals (and the extent to which referrals to hospitals cannot be restricted to those really requiring hospital treatment).

The sixth row reflects the argument that running a PHC network is simply hard to do. This is the reason why quality is low and clinics go understaffed and underused. The entries for the other two columns are frankly speculative and represent our judgment that both traditional public health programs and hospitals are more manageable (there have been failures in these areas as well). At this point, we merely note that staffing and maintaining a wide network of clinics appear much more difficult than running fewer, more easily monitored operations.

Taken together, the efficiency, equity and implementability of policies stand as a challenge to conventional wisdom concerning PHC. The relative emphasis of the conventional wisdom, especially as often presented (the second row), is directly at odds with the economic rationale for public sector involvement.

Conclusions

If the answer to the question "What should be done?" is not "It depends," either the question was trivial or the answer was wrong. By the same token, to answer "It depends" without saying on what it depends and in what measure is equally uninteresting. Neither theory nor empirical outcomes support the obvious policy of reallocating resources from "ineffective" tertiary to "effective" primary care. There are three "depends" that must factor into public policy.

First, health policy depends on the anticipated efficacy of the public sector under existing institutional arrangements. If this is low—and it has been extremely low in many developing (and more than a few industrial) country settings—then adopting strategies that are intensive in public sector capacity are of dubious validity. Providing a population-wide network of primary-level facilities that provide quality clinical care and integrate into a comprehensive chain of referral is an extraordinarily capacity-intensive task. Kerala might be able to do it, Bihar certainly cannot.

Second, health policy depends on the underlying justification for public intervention. If it is because government is providing a pure public good and individual cost recovery is impossible, then there is no alternative to the public sector (for example, vector control or disease surveillance). However, if a supply of services would be forthcoming if there were effective demand (for example, clinical services), then even in the presence of externalities (for example, immunizations), public provision may not be the best way to increase consumption. Alternatives that leave power and choices in the hands of consumers might be preferred.

In low-income countries with low capacity in the public sector (which may well be most low-income countries), the highest priority should be basic public health, control of infectious diseases where possible, and those programs that have a track record of effective administration (for example, vaccination campaigns). The stance toward inexpensive curative services must be very carefully crafted. We have ar-

gued that public provision in these countries is extremely hard to manage. But usually in the same countries the private sector is also of very low quality. Capacity rises together in both public and private sectors. In some circumstances, leaving such services to the market (or at the very least charging for them so they do not drain public resources) may be the lesser of two evils and would at least allow countries to cover the crucial public goods. In countries with slightly higher capacity, the focus should be to regulate the market and perhaps provide demand-based instruments.

Third, the impact of health policy depends on how responsive individuals' decisions are to public actions. Health care services that are cheap and critical are extremely unlikely to be sensitive to price, except for the very poorest of the poorest countries. In higher-income countries that are further along in the epidemiological transition, the development of mechanisms to pool risk is the key element and expansion of primary curative services is unlikely to be important.

In sum, we emphatically do not defend the common developing country status quo in which the public spends large amounts on ineffective secondary and tertiary facilities that serve primarily a rich, urban clientele. That said, there are very few instances where the conventional prescription for the government to supply PHC, as currently applied, as its main strategy will be the right one.

Notes

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1. WHO, "Primary Health Care," online document available at http://www.who.int/aboutwho/en/ensuring/primary.htm.

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