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Biography

Geoff Hoare, BSc, MA, obtained his first degree in economics at the City University, London. He then studied for his master's degree at the Nuffield Centre for Health Services Studies, Leeds, where he remained to undertake research into health manpower planning. He spent last year at the Evaluation and Planning Centre of the London School of Hygiene and Tropical Medicine and helped to develop a short course in Health Financing in Developing Countries. He is currently researching into the problems of resource allocation in the National Health Service, having recently joined the staff of the newly established Centre for Health Planning and Management at the University of Keele.

Correspondence: Geoff Hoare, District HQ, Leeds West Health Authority, Great George Street, Leeds LS1 3EX, UK.

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State intervention in medical care: types, trends and variables

JULIO FRENK[1] AND AVEDIS DONABEDIAN[2]

[1]Center for Public Health Research, Ministry of Health of Mexico, Mexico City and [2]School of Public Health, University of Michigan, Ann Arbor, USA

This article attempts to develop some of the basic elements for a theory of state intervention in medical care. First, a typology of state intervention is proposed based on two dimensions: the form of state control over the production of medical services and the basis for eligibility of the population. The resulting twelve types provide a means of describing national patterns of state intervention at a given point in time. Next, in order to analyse the changing patterns of state intervention in medical care over time, changes in state control and population coverage are used to construct three hypothetical 'paths' of state intervention, which may serve to depict broad historical trends in major groups of countries. In the final section, several variables are analysed according to their expected effect on the patterns of convergence and divergence in the form and degree of state intervention between countries. This cross-national comparative perspective is offered as a strategy for building a theory capable of explaining state intervention, a process that, to a large extent, informs the medical experience of today.

Introduction

Some years ago, Michel Foucault (1976) pointed out the need to study what he called the 'model of medical development'. Just as modern economists have had to examine the economic 'takeoff' of the Western world, so anyone who wishes to understand the current dimensions of progress and crisis in medicine has to analyse the medical and sanitary 'takeoff' that started in Europe around the eighteenth century.

Any model of medical development must describe and explain the involvement of the state in the production of health services. It is not uncommon to find, in discussions of contemporary health systems, an image of state intervention as a relatively recent phenomenon, and one largely confined to advanced, 'post-industrial' societies (see, for example, Fuchs 1979). Yet the available evidence does not seem to support this view. State intervention in Europe has been traced back to eighteenth and nineteenth centuries (Rosen 1972, Foucault 1977). Furthermore, starting in the 1940s (and in some cases even earlier), the state has also become the main source of regulation or ownership of health resources in most underdeveloped nations. Indeed some authors speak of the 'universality' of state intervention in health care (Donnangelo 1975: 4). At the same time, however, the nature of intervention varies between countries: it has differed in organizational format, population coverage, the comprehensiveness of benefits and the degree of control over the production of health services.

Both the pervasiveness and the diversity of state intervention make its detailed study a key requirement for understanding the patterns of health care organization in the world. The following analysis will demonstrate the need to use a comparative perspective to develop a comprehensive theory that can help explain world patterns of state intervention in health care. But this paper takes only a step or two in that direction. In its first section we deal with the basic problem of classifying the phenomena under study. In the second section we propose some hypothetical 'paths' of state intervention in medical care. In this way, we hope to identify the ways in which, insofar as state intervention is concerned, countries become more similar to

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each other, as well as the ways in which they remain different or become more so. In the third and final section we outline some of the major variables that may explain at least a part of these patterns of convergence and divergence among groups of countries at different levels of social, economic and political development.

Despite the fact that state involvement in the health sector comprises a wide range of activities most of our discussion will focus on personal health services and, within them, on the services of physicians. We do so because, when compared to such traditional areas of state intervention as public health, medical care has offered greater opportunities for debating the legitimacy of state involvement, for playing out conflicting interests and for adopting varying forms of intervention.

Types of state intervention in medical care

Existing classifying schemes

In view of the wide variation that characterizes forms of government involvement in medical matters, it is not surprising that the literature on national health systems contains various classificatory schemes based on different criteria. One widely used classification distinguishes public assistance, national health insurance and health service (Terris 1978). Another classification recognizes, in addition to 'free enterprise' systems, three major types of public programme: social insurance, public assistance and universal service (Roemer 1960). Field (1973) bases his analysis on four 'ideal types' of health system: pluralistic, insurance, health service and socialized.

Typologies like these, though useful for broad comparative purposes, encompass under a single category total health systems that are in many cases a mixture of several very different sectors or programmes. Consider, for example, the British National Health Service, which is actually a composite of two quite different mechanisms of state intervention: one for general practice and another for specialty care in hospitals. There is an analogous organizational duality between ambulatory and hospital services in New Zealand and several Western European nations.

Another instance in which typologies of total public systems may mislead is that of many Latin American countries, where the government owns and operates two distinct subsystems: public assistance for the peasants and the urban poor and social security, mostly for wage earners. In such cases, it is frequently difficult to ascertain which of the two subsystems dominates. A summary characterization of the entire system becomes even more difficult when, as often happens in these countries, the social security system itself is made up of diverse agencies for different occupational groups (Roemer 1973).

An even clearer example of the impossibility of typifying state intervention with a single term is represented by the United States, where a series of government programmes represents practically every possible form of intervention. A complete typology of the patterns of state intervention in the world must be able to take cases such as these into account.

In summary, many of the existing typologies take total countries as their units of analysis. Authors often recognize that most nations have at least an element of each of the major types of state intervention, but they suggest that a single type can always be identified as dominant (Roemer 1960). Yet, as the examples above show, the dominant form is not always readily apparent. Furthermore, one prime difference between countries is, precisely, the degree of fragmentation of state involvement in medical care, as measured by the number and relative strength of the types that are present in each country. Using only the 'dominant' type to characterize the whole country obscures those differences.

A lower level of aggregation

This problem can be solved by basing the typology on a lower level of aggregation than the country. We will use the term 'modality' of state intervention in medical care to refer to such a level of analysis. Some countries may have a single modality of state intervention, but most health care systems are characterized by the coexistence of several modalities of varying importance. It is therefore possible to describe the national pattern of state intervention in medical care by means of a profile of modalities.

Though we advocate a more detailed analysis, we do not take 'modality' to be synonymous with 'programme'. A specific medical care programme could constitute the single organizational vehicle for a modality of state intervention in a country, but, equally, several programmes, each run by a different public agency, could form a single modality in a country. In this way, modalities represent an intermediate level of analysis that falls between the macrolevel of total health systems and the microlevel of specific programmes.

Defining modalities

Modalities are defined on the basis of one or more relevant attributes; the precise specification of these attributes becomes the crucial conceptual problem in defining the modalities and, hence, in developing a classification scheme. The choice of classifying attributes remains a controversial point in the literature on comparative health systems. For example, Terris et al (1977) argue that the essential factor for differentiating between 'national health insurance' and 'national health service' is not the method of financing, but the relationship between the government and the providers of medical care. Yet, other authors (Glaser 1970: 12, Roemer 1978) claim that the crucial criterion for classification is 'the predominant mechanism of economic support for services' (Roemer 1976: 251).

At least part of the disagreement may be due to the fact that the number of possible characteristics that could be used to classify state intervention in medical care is fairly large. Apart from the ones discussed above, potential criteria for classification include the forms of payment to providers, the degree of administrative centralization, the number of public agencies involved in medical care, the means employed by the state apparatus to control the provision of services, the extent of coverage of the population, the number and kinds of benefits to which the covered population is entitled, and the basis for determining eligibility.

It is clear that no typology can incorporate all these dimensions, since the large number of resulting categories would make the classification meaningless. A choice of criteria, even if arbitrary, has to be made. The element of arbitrariness can be reduced, however, if the criteria are selected using a theoretical framework which the typology is meant to serve. Accordingly, we have used as a guide Johnson's (1972) conceptualization of professional work, particularly the notion that state intervention represents a form of mediation between the producers and the consumers of medical services. The result is a typology based on two fundamental dimensions. The first, *the form of state control over the production of medical services*, reflects the relationship of the state to the providers of services. The second, *the basis for eligibility*, indicates the relationship of the state to the actual or potential consumers. Figure 1 presents the resulting classification of modalities of state intervention in medical care.

Form of state control: relationship to producers

With respect to the first dimension it is necessary, as Abel-Smith (1965) has suggested, to distinguish state control from simple public regulation. Furthermore, there are different forms and degrees of state control. Sometimes the state limits its role to the financing of care, while providers act essentially as private contractors. At other times the state may assume the direct ownership of health care facilities, with individual practitioners working as state employees (Teeling-Smith 1965). In the former case, the government is simply a buyer in the medical care market; in the latter, it is a producer. Other things being equal, ownership means a higher degree of state control than financing alone.

It is also necessary to take account of the administrative structure through which the state either buys or produces medical care. In any given organization, administrative control can be measured by several indicators. For our present purposes, however, it is enough to indicate the overall degree of control that the state can exercise through each intervention modality. To do so, we distinguish those modalities where state control is *concentrated* in a single agency or programme from those where control is *dispersed* among several agencies. The distinction is important because concentrated modalities signify greater state control than dispersed ones. There is, of course, a whole gradient of intermediate situations between these two extremes, but we have chosen to

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Form of state control	Basis for eligibility		
	1. Citizenship	2. Contribution/privilege	3. Poverty
A. Concentrated ownership	A1. National health service in most socialist countries; most of the national health system in Sweden; hospital care in the British National Health Service; hospital care in the national health insurance schemes of New Zealand and several Western European countries	A2. Social security in Spain; social security in Venezuela; social security in India; health care for the military in many countries	A3. Public assistance in many non-socialist underdeveloped countries
B. Dispersed ownership	B1.	B2. Social security in Mexico; public ownership sector of the USA federal government (Veterans Administration, Indian Health Service)	B3. Public assistance in many non-socialist underdeveloped countries; state and municipal hospitals and clinics in the USA.
C. Concentrated financing	C1. National health insurance in Canada, New Zealand (ambulatory care), France (ambulatory care and part of hospital care); general practice in British National Health Service	C2. Social security in Brazil; social security in Lebanon	C3. Medicaid in the USA
D. Dispersed financing	D1. National health insurance in the Federal Republic of Germany, Austria, Switzerland, Belgium, Japan; catastrophic public medical insurance in the Netherlands	D2. Social security in Argentina; non-catastrophic public medical insurance in the Netherlands; public medical insurance sector in the USA (Medicare, CHAMPUS, Federal Employees Health Benefits Program, Workers Compensation)	D3.

Figure 1. Typology of modalities of state intervention in medical care, with illustrative examples of each type

simplify the classification by focusing on the basic division between concentrated and dispersed administrative expressions of state control.

We have also adopted certain rules for classification. For example, whenever a federal health care programme is administered by state- or province-level organizations in a modular fashion that allows for constrained variation, we judged the situation to be an instance of concentrated state control. In contrast, the presence of more than one independent agency, with substantial variation in administrative procedures and benefit levels, we classified as dispersed control, even when a central organization regulates or coordinates the agencies. Note also that the category of dispersed control includes cases where there are multiple agencies *within* a modality. The typical example is a social insurance scheme administered by several sickness funds.

The combination of the two expressions of state control (ownership plus financing or financing only) with the two administrative arrangements (concentrated or dispersed control) yields the four categories of the first dimension of our typology, which are shown as the row tabs in Figure 1.

The basis for eligibility: relationship to consumers

With respect to the second dimension of the typology, it is possible to identify three principles for establishing which groups in the population are eligible for medical services that are either financed or directly provided by the state. As indicated in the columns of Figure 1, these three principles are: (1) citizenship, (2) contribution/privilege and (3) poverty. Under modern definitions of citizenship, eligibility based on the first principle includes all or nearly all the population. Indeed, this principle derives from the notion that medical care is a social right not dependent on financial contribution, previous service to the state or indigence. There is, nevertheless, an important difference between potential eligibility and actual population coverage. In the process of ascertaining whether or not a modality belongs to the category of eligibility based on citizenship, it would be necessary to go beyond official declarations and include the extent of actual coverage. One would need some criterion, say the inclusion of 85 or 90 per cent of the population, that would make it possible to accommodate those situations where a modality approaches universality but does not quite cover 100 per cent of the population.

In contrast to citizenship, the remaining two principles of eligibility are selective; they do not include all the population. Beyond this similarity, there are fundamental conceptual differences between the two principles. In one case, the state can finance or provide medical services to particular subgroups of the population because they have contributed directly to that end (as in selective insurance schemes) and/or because they have been made the privileged beneficiaries of state action (armed forces, civil servants, or certain workers perceived to occupy a strategic position in society). On the other hand, when the basis for eligibility is poverty, the state provides or finances medical services, not as a matter of privilege, but as a form of assistance precisely to the least privileged groups of a society. Consequently, the establishment of financial need becomes a necessary, though often not sufficient, condition for eligibility.

With the foregoing categorizations of the two dimensions, our classification yields the twelve types of modalities that are shown in Figure 1.

The utility of this typology, and some of its other characteristics, can be appreciated by examining the illustrative selection of cases provided in Figure 1. Besides its obvious ability to classify modalities of state intervention at any given time, the proposed typology can reveal certain worldwide patterns. We see, for example, that not all modalities are equally likely in practice. So far, we have found no cases of state intervention characterized by dispersed ownership and by eligibility based on citizenship (cell B1 in Figure 1). This absence shows that the dimensions of the typology are interdependent. It would seem, for example, that the political, ideological and economic conditions that allow a state to undertake the direct provision of services to the whole population are hostile to the fragmentation of control among multiple agencies.

Two other very infrequent modalities are those by which the state limits its role to that of only financing medical services to the poor. In one of them (D3) there seem to be no cases, and in the other (C3) the only current case is represented, to the best of our knowledge, by Medicaid in the United States. Such a scarcity of cases may reflect the fact that, by trying to subsidize the assimilation of the poor into the mainstream of private medicine, these modalities go against the long-standing practice of providing medical services to the poor through a separate state-owned system.

Apart from those modalities that, traditionally, were not used, or only rarely used, there are others that are now relatively infrequent but which in the past were much more often encountered. For example, purchasing services for limited population groups on the grounds of contribution or privilege (Cells C2 and D2 of Figure 1) used to be much more common than it is now, at least in Europe. The earliest social insurance programmes in Europe could be placed in these segments of our typology, since they were directed only to wage earners earning less than a specified level of income and generally excluded their dependants as well as the self-employed, the peasantry and the middle and upper classes (Starr 1982:238). In time, through successive extensions, eligibility came to be offered on the basis of citizenship alone, so that an analyst writing in 1965 could report that

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in every Western European country 'at least four-fifths of the population participate in some form of statutory health service' (Teeling-Smith 1965), through either single or multiple agencies. Later in this paper, we will deal in greater detail with the *dynamics* of state intervention, which is the process by which cases change from one type of modality to another.

As the previous examples show, our typology has the advantage of depicting situations (such as the various social security modalities shown in Column 2 of Figure 1) that are generally not distinguished in the more conventional classifications of medical care systems. In addition, our typology also includes the more conventional categories, but casts them in a different light. For instance, while all the cases in modalities C1 and D1 are ordinarily lumped together under the broad rubric of 'national health insurance', our classification allows for useful distinctions in the form and degree of state control. Furthermore, the typology enables one to disaggregate and classify the various modalities of state intervention that might coexist in a given country, providing a more complete picture than can be achieved by single terms.

Another important feature of our approach is that an entire nation can be characterized on the basis of which and how many modalities exist within it and their relative importance. In this way cross-national comparisons of the extent and nature of variation in state intervention can be made. The procedure of classification and comparison can be carried out for finer political subdivisions within a nation.

Trends in state intervention

With some additional refinements, our typology can also be used to search for *regularities* in the historical development of state intervention in medical care. One approach to studying the historical experiences of different groups of nations is to perceive the relationship of the state to the providers of care, on the one hand, and to the population, on the other, as a dynamic process. To do so, these two dimensions must be conceptualized as continuous variables that characterize a country as a whole. The total impact of state intervention (including all of its modalities) can be represented by the proportion of the population that is covered by all public programmes. Similarly, the degree to which a state controls the means for producing medical services can be represented by the proportion of all personal health care expenditure (both public and private) that is incurred through modalities characterized by state ownership, i.e.,

$$C = \frac{O}{O + F + P}$$

where:

C = degree of state control over the production of medical services

O = expenditure in medical care that is incurred through state ownership

F = expenditure in medical care that is incurred through state financing, without ownership

P = expenditure in medical care that is incurred without any state participation.

Paths of state intervention

Assuming the necessary information is available, it should be possible, by treating the extent of state control and population coverage as *continua*, to plot, for a particular country, the historical changes in these two features of state intervention in medical care. Countries could then be grouped according to similarities in their historical developments. To illustrate this procedure, Figure 2 presents three hypothetical 'paths' of state intervention, which could be considered as typifying the broad features of different historical experiences.

It should be stressed that Figure 2 is only intended as a useful way of visualizing some overall trends in state intervention. It does not postulate any fixed functional relationship between the two dimensions of state control and population coverage, though it is hypothesized that there is a general tendency to move towards the top right of the grid. Rather, its purpose is to show variations in the way in which groups of countries have moved along these two dimensions, without indicating the rate at which they have done so or how far along the path they have travelled. It is not assumed that all countries will inevitably traverse the full length of the path in the future. Indeed, probably the most common situation is one in which each of the nations on any given path occupies a

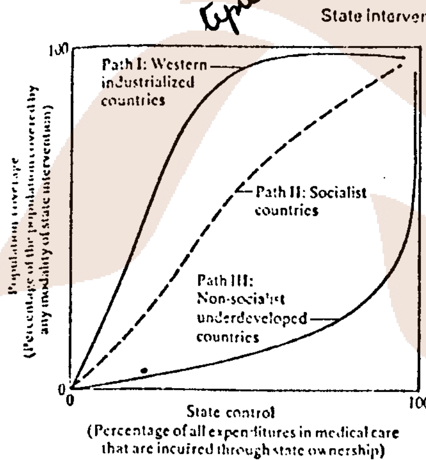

Figure 2. Paths of state intervention in medical care

somewhat different position along that path. Only the particular historical circumstances of a country will determine whether it will move further on, and at what rate.

The rate of progress along a path depends on local factors and has often taken place by leaps and bounds. This is particularly clear in the case of many socialist countries, whose experience can hardly be characterized as a 'path', since they have rapidly achieved universal coverage and total state control through sweeping acts of reform. Yet, it is also true that most Eastern European countries already had a fairly well developed social insurance system in place when they became socialist republics and that the Soviet Union first instituted a health insurance programme before moving in 1937 to a fully socialized modality (Glaser 1970: 20).

Many Western European countries have achieved a high level of coverage, but have remained at relatively low levels of state control. The only countries that have traversed most of Path I are England and Sweden, the latter even more so after the enactment in 1970 of the so-called Seven Crowns Reform, which placed most physicians on a straight salary system and eliminated private practice within hospitals (Shenkin 1973). However, after the election of a conservative government in 1976 parts of this reform were repealed (Biorck 1977), indicating that it is possible to have a movement backwards along a path, even if, as in the case of Sweden, it involves only a relatively small distance. The changes that took place in Chile after the coup d'etat of 1973 (Belmar et al 1977, Stephen 1979:345, Kritzer 1981) represent a more dramatic example of a reversal in state intervention.

By providing highly visible contrasts, backward movements such as these can help us elucidate the factors that influence the development of state involvement in medical care. At the same time, however, it is difficult in some instances to determine whether specific policies that reduce the extent of state intervention are simply temporary deviations from what otherwise is a broad historical trend towards increased intervention, or whether, on the contrary, they represent an emerging shift in the nature of the relationship between the state and the institution of medicine. The distinction is particularly important in view of recent attempts by conservative governments, for instance in Great Britain and the United States, to strengthen the role of the private sector in the provision of health services (Relman 1980, Pollitt 1982, Vayda 1983, Klein 1984). If such recent changes were to constitute major shifts in the character of state intervention, and not merely temporary deviations from a trend towards increasing levels of state involvement, it would still be an open question whether such shifts will be backward movements along the established paths or whether 'counterintervention' will proceed along completely new paths.

The general point, then, is that the paths do not imply that progression towards increased state control and population coverage is inevitable nor that movements along a path will be smooth and continuous.

Distinct patterns of development

The foregoing caveats should not prevent us from appreciating the potential usefulness of Figure 2 in interpreting some fundamental trends and in deriving generalizations which can be subject to empirical tests. Our formulation does suggest the existence of quite distinct

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patterns of state intervention, particularly when Paths I and III are compared. Most Western industrialized countries have taken Path I, by first increasing their population coverage, with the state relying heavily on the private sector both for the delivery of services and for the administration of benefits through the existing sick funds. Here, the extensions of more direct state control, beyond the functions of financing and enforcing the compulsory enrolment of successive population groups in an insurance plan, largely came about only after a high percentage of the population was already covered. Generally speaking, Path III, which represents the experience of non-socialist underdeveloped countries, is almost the mirror image of Path I. With few exceptions, state intervention in these countries was not based on the use of private resources; these remained in a separate system for providing medical care to the middle and upper classes. Instead, the state created its own network of facilities and providers to take care of relatively small segments of the population that had access to the public system because they were poor, had contributed to a fund, or were made the privileged beneficiaries of state action. Only after a state-owned system was in place did these countries start extending the provision of services to a larger part of the population.

Even though they are based on a fair number of observations, the proposed paths of state intervention should be considered as only hypothetical. One would need a more thorough empirical investigation to determine whether these paths truly reflect the historical experiences of state intervention and, if that is the case, to specify not only their precise shapes, but also the rates at which countries have moved along them. We would also have to identify, as we attempt to do in the next section of the paper, the major variables that might account for the differences in the forms of state intervention in medical care.

Divergence and convergence in medical care: major variables

The process of tracing the paths to state intervention seems to reveal the existence of two sets of tendencies that operate in opposite directions. On the one hand, there is a trend toward increased state control and greater population coverage across groups of countries. In this respect, countries seem to converge, meaning that they are becoming more alike. On the other hand, different countries, by moving through different paths at different rates, may seem, at least for a while, to remain different or even, to diverge. Such differences are most clearly seen when one compares the pattern of modalities in two or more countries at any one time using the typology set out in the first part of this paper.

There has been substantial disagreement in the medical care literature as to which of these two processes, convergence or divergence, predominates; while some authors (Field 1973; Mechanic 1975a, 1975b, Anderson 1977) believe that there is a definite trend towards convergence, others (for example, Elling 1980: 80–89) explicitly reject this view. In fact, the disagreement is not peculiar to state intervention in medical affairs. It is part of a much larger debate concerning the process of national development as a whole, a debate that has been clarified and reviewed by Meyer et al (1975).

With regard to medical care, our analysis suggests, as indicated above, manifestations of both convergence and divergence, rather than a definite predominance of either of the two. If this is so, we need to identify those variables which tend to produce similarities among the historical experiences of various countries and those which tend to produce differences. In seeking to do this, we shall adopt the view that modern nation states, while developing in response to internal forces distinctive to each, are also part of a 'world system' that materially determines the character and pace of development in all states, as it also constrains the autonomy of processes internal to any given society (Wallerstein 1974, Tilly 1975: 601–638, Meyer and Hannan 1979: 12, Bergesen 1980: 5–7). Accordingly, we shall postulate that the main reasons for growing similarities among countries in their modalities of state intervention in medical care is the pervasive presence in the 'world system' of forces which include:

- the processes of industrialization and urbanization.
- the emergence of a 'medical world economy'.
- the establishment of a 'world polity'.

As to the persisting differences among states, we shall postulate that these result from internal forces that operate at the economic, political and ideological levels. The most important of these appear to be:

- the structure of the medical care market.
- the system of interest representation.
- the prevailing norms about the legitimacy of auspices (patronage) and ownership in the health care sector.

The scope of this paper does not permit a detailed account of the effects of each of these variables. What follows, then, is only a brief explanation that may guide future research. It should also be stressed that our analysis does not include all the variables that might be potentially useful for explaining state intervention *within* a specific country. The purpose, rather, is to present a set of variables that are general enough to be shared by a large number of countries and that, at the same time, act in ways that produce similarities and dissimilarities among countries.

Convergence: a world-system approach

Industrialization and urbanization

The process of development almost everywhere in the world is accompanied by large-scale economic and political changes that include the increasing dependence of workers on labour markets and wages, the concentration of manufacturing in factories, the growth of cities, the spread of political mobilization and the consolidation of state power. There is widespread agreement on the crucial role played by some of these changes, especially those linked to industrialization and urbanization (Mechanic 1975b), in stimulating the intervention of nation states in medical care. This effect is seen most clearly in the growth of social insurance and social security systems worldwide. As Sigerist (1943) asserted, 'Social insurance is a result of the industrialization of the world'.

The strength of this factor in promoting convergence in the world system can be appreciated by considering the way in which very different patterns of industrialization and urbanization have led to remarkably similar social insurance schemes. The Western European pattern was characterized by a slow process that took place over more than two centuries. Flora and Alber (1981) have shown that during this slow evolution, industrialization and urbanization, together with the political mobilization of the working class, were critically important in the introduction of social insurance legislation there. By contrast, many underdeveloped nations have experienced industrialization and urbanization as rapid changes through forced mobilization, a process in which the state has assumed the leading role. Yet, under conditions so unlike those in Western Europe, the results in terms of social insurance programmes have been remarkably similar. For example, in most countries these programmes have started by basing eligibility on the principle of contribution/privilege, so that coverage was limited first to industrial workers and, later, to their families. Moreover, such programmes have all adopted roughly similar methods of financing. Even in countries where medical care facilities are owned by the government, the financing of social security programmes has typically been through some form of payroll tax whose proceeds go into a special fund managed with considerable autonomy and largely protected from the competing budgetary demands of other governmental bodies.

Part of this convergence is attributable to the dynamics of industrialization and urbanization as they unfold within any given society. For instance, the dependence on a labour market for cash income, which has accompanied the advance of industrialization and wage work, has caused insecurity among industrial workers everywhere. In addition, industrialization has contributed to state intervention by sharpening the need to maintain a healthy labour force capable of achieving the high levels of productivity required by industrial enterprise.

Industrialization not only creates the need for protecting the working population against the risks of sickness and disability, but also provides the means of attaining that protection. Thus, the spread of wage work and the concentration of workers in urban factories create the resources and opportunities for financing special sickness funds and for developing an organized network of medical care facilities. A similarity across

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nations in both the needs created and the opportunities offered by industrialization seems to account for at least part of the trend toward convergent modalities of state intervention in medical care.

In terms of the two dimensions underlying the proposed paths to state intervention, the advance of industrialization has had a direct impact on the extension of coverage as larger segments of the population have been incorporated into the industrial system of production. And, as indicated earlier, to the extent that industrialization paves the way to roughly similar methods of financing and organizing medical care, it also tends, other things being equal, to produce convergence in the degree of direct state control over the production of medical services.

The medical world economy

As Mechanic (1975b) points out, there is an 'international knowledge, technology and manpower marketplace' in the field of medicine. It is beyond the scope of this paper to analyse the determinants and dynamics of the various sectors of that marketplace, which include the diffusion of knowledge through meetings, journals and textbooks, the transfer of technology through multinational pharmaceutical and medical equipment companies and the migration of medical personnel facilitated by the standardization of training programmes. Each of these sectors tends to create, throughout the world, the conditions for a model of medical work based on complex organizations that, in most cases, can only be financed and operated by the state. Even in the face of very dissimilar patterns of disease, practically every nation state accepts and implements scientific medicine and the high-technology practice that derives from it. Almost everywhere, hospitals have become the central organizations for the provision of care, and physicians with fairly equivalent training have become the dominant practitioners. In the vast markets created by a medical world economy, the state has increasingly been called upon to take the lead as the only actor with enough resources to be an effective buyer, or with sufficient power to control the other powerful actors in the international private sector.

The world ideology of modernity

The mechanisms for convergence go beyond economic and technological factors. Indeed, Meyer (1980) has convincingly argued that the modern world system cannot be understood solely in terms of relationships of economic exchange. One must also take into account a shared set of rules which define the nation state as the legitimate agent of rational progress. Such rules are highly institutionalized in what Meyer calls the world polity and legitimize the expansion of state functions. Indeed, these rules '. . . are world definitions of the justifications, perspectives, purposes, and policies properly to be pursued by nation-state organizations. The state, above all, is to be a modern rational organization . . . It is to pursue progress rationally on behalf of the nation . . .' (Meyer 1980:120).

The world ideology of modernity has been a major factor leading to convergence among countries and the provision of services by a complex state apparatus has become a characteristic of advanced and underdeveloped societies alike. A health care system has become part of the institutions of modernity, and the participation of the state in such a system has become part of the definition of a modern nation state. The world ideology of modernization and progress has made it legitimate for states to be actively involved in the organization, financing and delivery of health services to their own peoples, and to collaborate with other nations on efforts explicitly pertinent to health.

Some of the most important components of the world polity are international organizations. These organizations have transcended their initial concerns with the negative impact of epidemics on commercial and military expansion. Nowadays, international bodies cover every aspect of health care organization and have been prominent in the diffusion of the paradigm of scientific medicine. Even the attempts at reforming this paradigm in order to emphasize primary care have been given decisive impetus by organizations with a global span of action. In all of these initiatives the state is accorded the leading role. For example, the Preamble to the Constitution of the World Health Organization explicitly declares: 'Governments have a responsibility for the health of their peoples which can be fulfilled only by the provision of adequate health and social measures' (quoted in Glaser, 1970:9).

Two sets of considerations have contributed to the legitimacy of state intervention in medical care. The first is the acceptance of health care as a right (Heckel and Cairns 1985). This principle, which is an extension of the concepts of civil and political rights to the realm of social affairs, can be expected, as it is more widely implemented, to produce cross-national convergence toward greater population coverage on the grounds of citizenship alone.

The second set of considerations arises from an expansion in the legitimate functions of medicine. Modern medicine provides systems of explanation and strategies for action which are presented as rational alternatives to folk or moralistic interpretations of experience. Indeed, medical explanations and solutions have expanded beyond the phenomena of disease, strictly defined, to encompass an increasing set of objects, ranging from certifying physical and mental normality to verifying the quality of air, water and housing; from crime and drug abuse to child rearing, sexuality and the full array of human habits. In its own efforts at modernization, the state as a rational agent has often utilized the systems of explanation and intervention offered by medicine, incorporating them into its views of progress. This process of medicalization has not necessarily been due to any intrinsic 'imperialistic' tendencies of physicians. Rather, members of government have often attempted to expand the boundaries of medicine beyond disease, as they seek rational explanations and solutions that justify public involvement in broader areas of social life. By doing so, they have also conferred added importance on medicine, making it a more likely object of state intervention. By adopting a world ideology of modernity, states tend to impose on medicine their own rationality, that of planning and distribution, moving in converging paths toward higher levels of more direct state control.

Divergence: internal variables

It is not infrequent to find expressions of amazement about the great similarities among the health care systems of countries that differ vastly in economic development and socio-political organization. Actually, the contrary is equally amazing. Given all the forces for convergence discussed above it is truly remarkable that individual nation states continue to exhibit such a wide range of variation in the levels and forms of state intervention in medical care. As we have seen, these differences are not random; they have patterns that the profiles of modalities and the paths to state intervention we proposed attempt to capture. What is needed next is a set of variables that can account for these persistent dissimilarities. As indicated earlier, such variables operate within each nation state. They include economic factors (namely, the structure of the medical care market), political forces (the system of interest representation) and ideological definitions (i.e., norms about the legitimacy of auspices and ownership).

Sructure of the medical care market

The structural characteristics of the market for medical services immediately before a governmental health programme is introduced seem to limit the range of options available to that programme. As a consequence, differences in the structure of the medical care market among countries are a source of corresponding dissimilarities, or divergence, in their forms of state intervention, even though state intervention itself may subsequently alter the market structure in fundamental ways.

The differential availability of private resources is a key feature that introduces differences in the modalities of state intervention. Two sets of private resources are particularly important. The first is the existence of private insurance agencies (or 'funds') which are in a position to take over the *administration* of the public programme. As Glaser (1970:15) says: 'A melange of sick funds with their attendant administrative complexity is the rule rather than the exception under national health insurance, because of the success of the private funds in gaining official status after the enactment of the statute'. It can be argued that variations in the number and power of private funds have caused divergence not only between the developed and the underdeveloped countries, but also among the former, as exemplified by the case of modality C1 compared to D1 in Figure 1.

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A similar effect can be attributed to a second set of private resources comprising the facilities and personnel that actually *produce* medical services. The extent to which a network of hospitals, clinics, and private medical offices already exists when a governmental programme is initiated appears to be a crucial factor in causing the modalities and paths of state intervention to diverge. When these resources are sufficient and available, the tendency is for government to restrict itself to financing alone; otherwise government usually builds and staffs its own facilities, instituting a more direct form of control. As a case in point, the major social security agency in Mexico at first attempted to provide medical services by contracting services out to existing private hospitals. However, as the availability of such resources fell behind its growing requirements, this agency had to build its own hospitals and hire its own physicians (Frenk et al 1980).

We conclude that the availability of private resources greatly influences the patterns of state intervention in a country. With regard to population coverage, it can be argued that the greater the availability of private resources, the faster coverage can increase. However, the more important effect is on the degree of direct state control. Other things being equal, a greater availability of private resources leads to lower levels of state control, with the state relying on the private sector for many of the administrative and productive functions of the medical care programme. A substantial amount of the difference between Paths I and III (Figure 2) can be explained by differences in the structure of medical care markets. The countries that have moved along Path I began with a fairly well developed network of private resources; they were able to extend coverage at a fast rate without greatly increasing the degree of direct state control. On the contrary, the low availability of private resources in countries that have followed Path III meant that they were able to extend coverage only at a slow rate and through a high degree of state control.

System of interest representation

Since the nineteenth century and, even more so, since the end of the Second World War, medical care has become an object of political demands, collective bargaining, partisan programmes and group pressures. The forms of health care delivery that have emerged from the interplay of these forces have been shaped by the institutional arrangements that the organized groups of civil society use to negotiate their interests with the state. Because these arrangements differ from country to country, their main effect has been a contribution to divergence among the modalities and paths of state intervention in medical care.

From among the many industrial arrangements that represent partisan interests, the one most relevant to our analysis is the extent of corporatist representation of the various occupational groups engaged in the production of medical services, most especially of physicians. We use the term 'corporatism' in a broad sense, to refer to a system of interest representation characterized by hierarchical and non-competitive occupational associations, which represent their members' interests through direct negotiations with the state (Schmitter 1979, Jessop 1979).

As we show in Figure 3, we propose that the ability of physicians to shape health care programmes closer to their own interests depends not only on the way in which they themselves are organized, but also on the nature and strength of competing associations. Physicians are most powerful when they themselves are highly organized in a corporatist manner while their competitors are not, and are least powerful when their competitors are highly organized while they are not.

For example, in the United States, by virtue of their organizational strength, physicians have long enjoyed a position of relative dominance compared to other, less highly organized interests. But, more recently, the American Medical Association has been losing at least part of its traditional political influence as other groups have increasingly engaged in direct negotiations with the state. In this respect, Starr (1978) writes: 'The enormous growth of the medical industry over the past two decades has thrown up interests at least as powerful as private physicians. Hospitals, medical school centers, and the insurance industry now count heavily in the medical system; and . . . the interests of the corporate organizations are not

		Representation of physicians	
		Corporatist	Non-corporatist
Representation of other groups	Non-corporatist	Very powerful professional association (e.g. USA)	Moderately weak professional association, possibly shared with non-medical health workers (e.g. USSR)
	Corporatist	Moderately powerful professional association (e.g. Sweden)	Very weak or non-existent professional association (e.g. Mexico)

Figure 3. Power of professional associations according to modes of interest representation

the same as those of the profession. To solve their own financial difficulties, the medical schools and hospitals have often invited federal spending, instead of resisting it. The principle of public financing was not imposed on them against their will; it was established partly by their own efforts.'

Beyond lending itself to an analysis of shifts in the power of medical associations within countries, Figure 3 can depict the wide variations in this regard among countries. To the extent that the modalities and paths of state intervention are affected by the power of national medical associations, the net effect of differences in the system of interest representation which influences this power will be a divergence among countries, a divergence most evident in the degree of direct state control. The stronger the professional association, the larger the number of health care policy arenas in which the state will have to negotiate with the association, and hence the fewer the aspects of the production of health services that will be left to the discretion of the state bureaucracy.

Norms about legitimacy of auspices and ownership

Zald has demonstrated the importance of norms about auspices and ownership to the social control of industries in general (Zald 1978) and of hospitals in particular (Zald and Hair 1972).

Differences among countries as to who may legitimately own, operate or employ the resources required to produce medical care are likely to be reflected in differences in the modalities of state intervention in health care, particularly in the degree of direct state control. A radical redefinition in the norms governing auspices and ownership seems to have been a very important element in the rapid increase of state control among socialist countries. Thus, a substantial amount of the discrepancy between Paths I and II may be accounted for by differences in these norms in the two sets of countries concerned. Even within modality A1 (Figure 1), a major difference between the socialist countries, on the one hand, and nations like England and Sweden, on the other, lies in the fact that the latter have preserved a legitimate arena for private practice. Moreover, as described during the earlier discussion of backward movements along a path, a redefinition of the norms of ownership and auspices can sometimes occur in the direction of reduced state control. Another example of how these norms can produce persistent differences among nations is provided by the United States. The fact that Medicaid represents, to the best of ou knowledge, the only large-scale governme programme that purchases health care for the poor, rather than providing it directly, may be related, at least in part, to strong ideological commitment to the private enterprise system in the United States.

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Conclusion

This paper has attempted to provide some preliminary responses to Foucault's call for analysing the model of medical development which underlies the historical transformation of the social institution of medicine. In particular, we have explored one basic aspect of that model, namely, the process of state intervention in medical care. In so doing, we have adopted a cross-national comparative perspective in order to suggest some propositions that may contribute to the development of a theory of state intervention in medical care. The types, trends and variables described here represent only a first step in that direction. It is still necessary to determine empirically the accuracy and comprehensiveness of the typology, the actual shapes of the proposed paths, the true effects of each variable, and the possible existence of other causal factors.

A fully specified theory of state intervention in medical care would have to go beyond our hypotheses concerning the separate effect of each variable: propositions are needed about the ways in which specific interactions among the variables determine net worldwide trends toward convergence or divergence at different historical moments.

The field of medical care is still far from having such a complete theory of state intervention. Yet this area of enquiry has already benefited from several intellectual traditions, both within and outside the health field. There is every reason to believe that these traditions will continue to advance our understanding of a process that has deeply shaped what medicine is today.

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Biographies

Julio Frenk, MD, MPH, PhD, is the director of the Center for Public Health Research, a unit of the Ministry of Health of Mexico which he helped found in August of 1984. Dr Frenk obtained his MD degree from the National University of Mexico in 1979. He received three advanced degrees from the University of Michigan: a Master of Public Health in 1981, a Master of Arts in Sociology in 1982, and a joint PhD in Medical Care Organization and Sociology in 1983. From 1982 to 1984, he was a fellow at the Michigan Society of Fellows and an assistant professor at the Department of Medical Care Organization of the University of Michigan. His research interests include the dynamics of the medical labour market, the organization and evaluation of primary health care and the health problems of large cities.

Avedis Donabedian, MD, MPH, is the Nathan Sinai Distinguished Professor of Public Health at the University of Michigan. He is the author of six books and numerous academic articles. Dr Donabedian received his MD degree from the American University of Beirut in 1944 and his Master of Public Health from Harvard University in 1955. His scholarly interests have centred on the systematization of concepts in health care administration, with special emphasis on the quality of medical care.

Correspondence: Julio Frenk, Centro de Investigaciones en Salud Publica, Secretaria de Salud, Mazatan 117, Col. Condesa, 06140 Mexico DF, Mexico.

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