3. Primary Care

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WHAT IS IT AND WHY?

Within all health care systems someone, somewhere and somehow has to provide primary care. Someone with some expertise and training has to be available and accessible to provide first-contact care and continuing care. There are certain common principles of primary care that apply to all health care systems. It is the details that differ with the variations in national and local factors. A difficulty in comparing systems is the differing nomenclature for primary care workers who carry out similar tasks and roles (*see also* Chapter 6).

PRESENT STATE AND TRENDS IN HEALTH CARE

Efforts to attain good health for all the people is beset by many problems. There is an *insoluble equation* in health care with 'wants' always exceeding 'needs' which always are greater than available 'resources'. There never will be sufficient resources to meet wants of consumers and needs of providers. The essence of good care must be fair and optimal use and distribution of available resources to meet the common needs. All of us, as individuals, professionals, administrators and politicians have responsibilities in achiev-

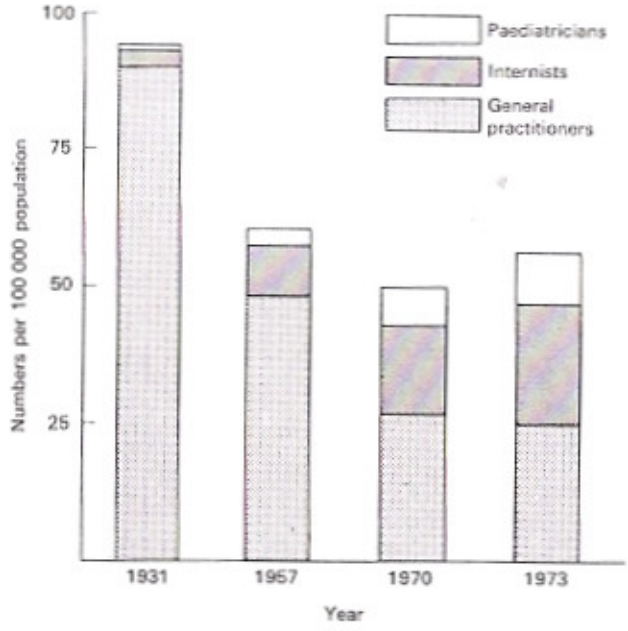

Fig. 3.1a. US physicians in primary care practice (After David E. Rogers in *Daedalus*, 1977, **107**, 86).

ing an equable distribution of care in keeping with our national resources.

Within our changing society the past 25 years has seen increasing emphasis on *specialisation* within the medical and nursing profession and in reliance on scientific technology. From the time students enter medical school, they are taught by specialists and sub-specialists who are based in hospitals. It is scarcely surprising that they graduate believing that hospital specialists are medicine's first-class citizens and that primary care physicians working in the community are second-class and relative failures. Even now with speciality boards in family medicine in USA, and Colleges and Academies in the primary care discipline in many parts of the world, there still is a tendency for other specialists to look down on it and to accord it less than equal status within academia and the profession.

An increasingly educated, expectant and demanding public that has been led to believe that the best care can be given only by specialists is now feeling the ill-effects of lack of personal, continuing primary care. Wherever primary care has been allowed to run down or disappear attempts are now being made to reintroduce it.

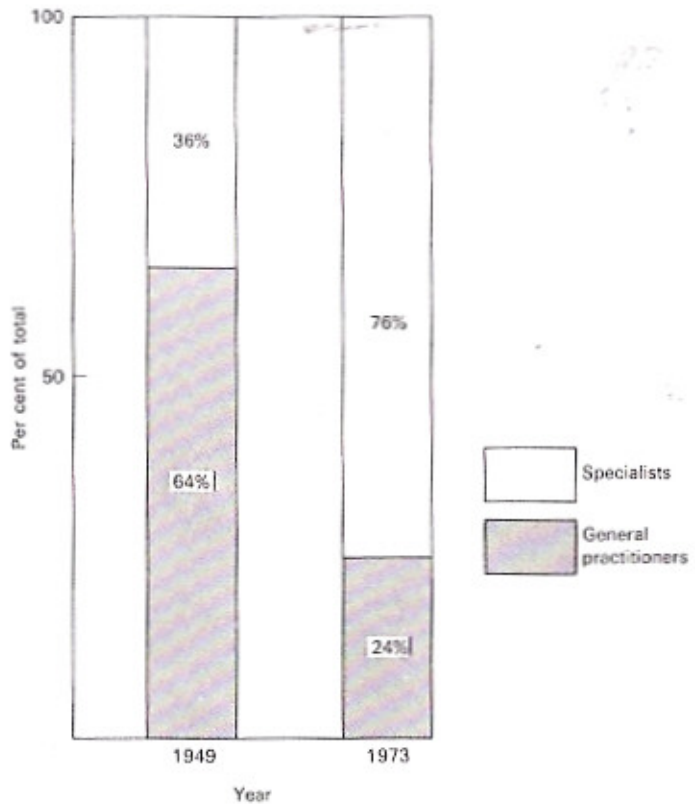

Fig. 3.1b. Proportions of specialists and general practitioners in the US.

Everywhere the *costs of health care* are escalating. Much of this is due to increasing hospitalisation, and to investigations and treatment by specialists. One of the reasons for an awakening re-interest in primary care is the hopeful belief that more and better primary care will reduce costs of health services because fewer persons will require hospital care. This remains to be proved.

The headlong rush into specialisation and the expansion of hospital departments has led to an increase in hospital *manpower* and a relative decrease in numbers in primary care (Figs. 3.1a, b). Care has to be taken before accepting a marked deficiency because, as has been shown (Rogers,

1977) in the USA, whilst the numbers (and rates) of 'general practitioners' has fallen considerably, the total numbers providing regular primary care, that is general practitioners, family physicians, internists and paediatricians has not changed very much. It still is a fact that almost one-half of all physicians in developed countries are engaged in primary care.

What has happened, and it is a problem, is the maldistribution of physicians. Physicians tend to cluster in and around the larger cities and there are large areas with none or too few physicians in rural and remote areas with small and scattered populations. There are too few physicians also in city centres where social degeneration has occurred. These problems are leading to questions as to who does and who should do primary care in these areas with gross shortages.

LEVELS OF CARE

There are four recognisable levels of care and administration in all health care systems that relate to population size and the nature of disease and other problems at each level. Fig. 3.2 depicts these diagrammatically.

The first level of care is *self-care within a family*, of say 1–10 persons. The

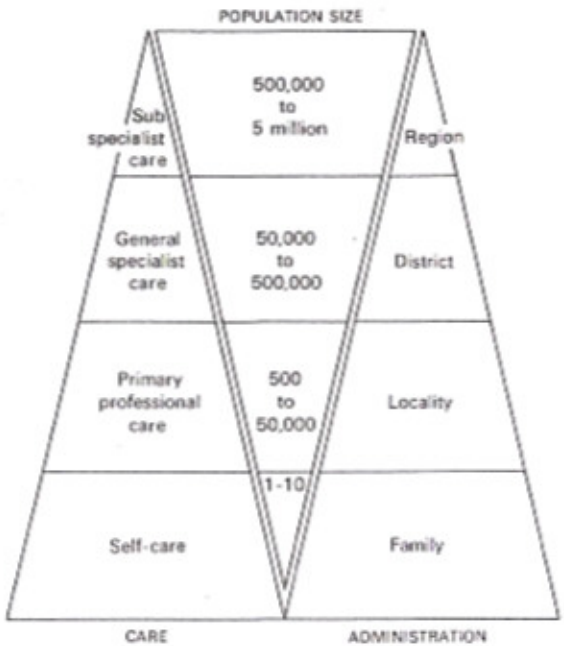

Fig. 3.2. Levels of care and administration (Fry, 1978).

majority of symptomatic minor and chronic disorders are self-cared for at this level. It is likely that less than 1 in 4 of all symptoms is taken by the public to a professional medical worker. Through self-medication, folk remedies and stoical acceptance, the public seem to do a good job of self-care.

Primary medical care provides the first level of professional care within a locality or neighbourhood. The first contact need not necessarily be a physician; other trained paramedical workers can provide such care. The population cared for is around 2500 per physician in developed countries, but is very much greater in an under-doctored developing country. In populated areas there are groups of physicians who provide care from a centre that may serve 10 000 – 50 000 persons.

Primary care in a neighbourhood will deal with minor, major and chronic disorders (*see* pages 52, 53) in numbers limited to a population base of 2500 per physician. When more specialised care is necessary, it is to the *general specialists working in a district*, that may have 50 000 to 500 000 people, that referral is made. These specialists will be general surgeons, general physicians (internists), general paediatricians, general obstetric and gynaecological (OBG) specialists and general psychiatrists. These will work from the base of a district hospital, which also will include among its staff visiting sub-specialists such as ophthalmologists, orthopaedic surgeons, neurologists, etc. Their work will be with those technical and clinical situations that are beyond the normal skills of the primary physicians.

The base for *subspecialty units is the region*. The modern sub-specialties need a population base of ½ to 5 million to warrant the expensive facilities that are now necessary. The special clinical problems referred to these units will be the very rare conditions that may occur less than once a year in primary care, but which will become the common everyday problems in a sub-specialty unit. Thus, the regional units will serve as referral centres for 200 to 2000 primary care physicians and a district hospital serving a population of 250 000 will be serving 100 primary physicians. Only if such numerical ratios are appreciated will the differences between the nature, content and needs of the various levels of care be understood.

PATTERNS OF PRIMARY CARE

Health care systems usually develop their characteristic forms and patterns through a process of *evolution* rather than through radical *revolution*. There never can be a single 'best-buy' system of health care that will fit in detail all the requirements of national, regional and local factors.

Accepting that there is a common framework which must include the four levels of care described, the details of any system have to be related to national, regional and local cultural, political, historical, economic, geographical, religious and philosophical factors. Yet in spite of the many influencing factors, comparisons between the various systems can be made through flow-diagrams (Fig. 3.3).

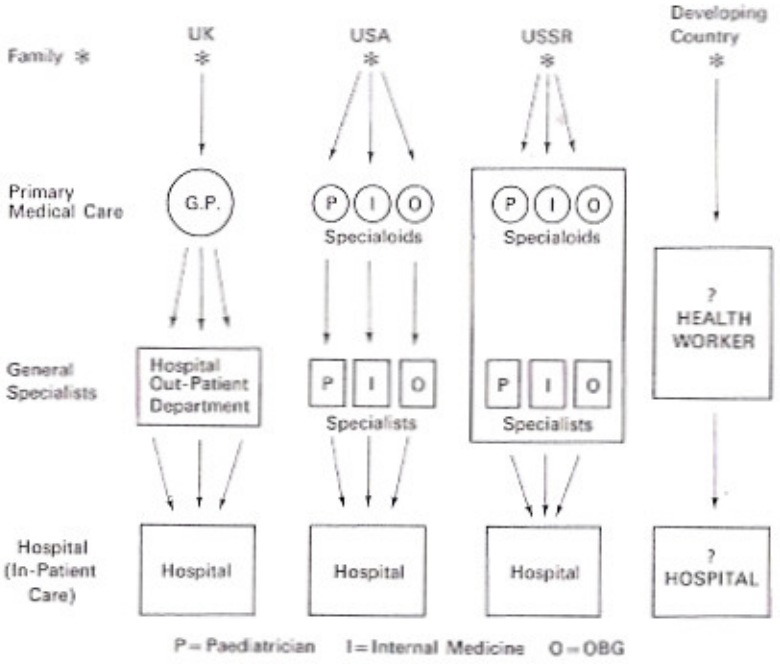

Fig. 3.3. Flow of care.

Starting with a family unit (Fry, 1978) the flow between the various levels of care will relate to the structure of the system and to the accepted process of care. Thus in the **UK** and many Western European countries, there is a single portal of entry into the health care system, the primary physician, who will then decide who requires referral to the general and sub-specialists.

In the **US** system, the philosophy of independence and free-enterprise also exists in health care and generally there is no single primary care family physician but a collection of primary *'specialoids'*, such as paediatricians, internists, OBG, psychiatrists and others, who will offer first-contact care, these also may act as general specialists. The patient in this system will have direct access to general specialists and subspecialists and there is no good communication and collaboration between the three levels of professional care.

The system in the **USSR** and similar socialist countries is geographical allocation of patients to designated physicians, with almost no free choice. Primary care in an urban district will be provided from polyclinics that house both primary specialoids and specialists. There are no generalist family physicians. Children are allocated to a primary paediatrician and adults to a therapist (internist). There will also be surgeons, psychiatrists,

rheumatologists, ENT specialists, orthopaedists, ophthalmologists and OBG specialists working in the same polyclinic to whom patients have direct access. The specialists work in the polyclinic and if the patient requires hospitalisation then a different set of hospital specialists will take over.

In a **developing country** the situation is stark because of the great lack of resources. Usually primary care will be provided by a non-physician medical assistant from a medical centre that may be many miles from where some people live and there is no reliable public, or private, transport. The district hospital where physicians work may be many more miles away.

In attempting comparisons between the various systems, it is important to appreciate the four levels of functional care and then to observe the ways in which the patient moves from one to the other and to note the interfaces between them.

COMMON FEATURES

Within all systems there are some common features of primary care, as follows:

1. The service provided must be *available and accessible* to the public. There must be a 24-hour cover and accessibility has to be provided through public or private transport if necessary.
2. Primary care implies *first contact* assessment and management. This must include a sound knowledge of the person and his problems.
3. Care is provided (in developed countries) to a relatively *small and static population* on 2500 persons.
4. This means that the *nature and content* of disease and problems in primary care will be that which occurs in a population denominator of 2500 (*see* pages 52-54).
5. This means also that in a small and static community *long term and continuing care* is possible to persons who become well known as friends.

CONTENT OF PRIMARY CARE

To get an understanding of the nature and content of primary care Tables 3.1-5 show the annual vital statistics, clinical and social content of an average British general practice of 2500 persons in numbers who may consult the physician or in numbers that occur or exist in such a community (Fry, 1978).

Although the figures are from a typical British practice, because there are reliable data available, a similar pattern occurs in any developed society.

		Nos per 2500
Births		32
Primipara	13	
Born in hospital	31	
Born at home	1	
Forceps delivery	3	
Caesarean section	1	
Infant mortality	1	
Marriages		17
Divorces		6
Deaths		25
From cardiovascular causes	10	
From cancer	5	
From strokes	4	
From accidents	1	
Population at risk		
Children – under 15		500
Elderly – over 65		375

Table 3.1. Annual vital statistics in a British population of 2500.

MINOR ILLNESS	*Persons consulting in year per 2500*
General	
Upper respiratory infections	600
Skin disorders	325
Emotional problems	300
Gastro-intestinal disorders	300
Accidents	200
Specific	
Acute tonsillitis	100
Acute otitis media	75
Cerumen (ear wax)	50
Acute urinary infections	50
'Acute back' syndrome	50
Migraine	25
Hay fever	25
Non-illness procedures (immunisation, check up, antenatal care, etc.)	300

Table 3.2. Annual minor illness and procedures in a British population of 2500.

MAJOR ILLNESS		*Persons consulting in year per 2500*
Acute bronchitis		100
Pneumonia		20
Severe depression		10
Suicidal attempt	3	
Suicide	1 in 4 years	
Acute myocardial infarction		8
Acute appendicitis		5
Acute strokes		5
New cancers		5
Lung	2 per year	
Breast	1 per year	
Large bowel	2 every 3 years	
Stomach	1 every 2 years	
Prostate	1 every 2 years	
Cervix	1 every 4 years	
Brain	1 every 10 years	
Lymphadenoma	1 every 15 years	
Thyroid	1 every 20 years	

Table 3.3. Annual major illness in a British population of 2500.

CHRONIC ILLNESS	*Persons consulting in year per 2500*
Chronic rheumatism	100
Chronic psychiatric problems	60
High blood pressure	50
Obesity	40
Chronic bronchitis	35
Anaemia	30
Chronic heart failure	30
Cancers (new and old)	30
Asthma	25
Peptic ulcers	20
Coronary artery disease	20
Cerebrovascular disease	15
Epilepsy	10
Diabetes	10
Thyroid disease	7
Parkinsonism	3
Multiple sclerosis	1
Chronic renal disease	less than 1

Table 3.4. Annual chronic illness in a British population of 2500.

SOCIAL PATHOLOGY	Prevalence per 2500
Poverty	150
Aged over 65	360
Aged over 75	100
Severe physical handicap	70
Deaf 25	
Blind 10	
Severe mental handicap	15
Alcoholism	20
1-parent families	30
Unemployed	30
'Problem families'	10
Juvenile delinquents	7
Adults in prison	4

Table 3.5. Prevalence of social pathology in a British population of 2500.

A commentary on the Tables is that 'common disorders commonly occur and rare ones rarely happen'. What is evident are the inevitable numbers of conditions, problems and events that can and will occur in a population base of 2500. It is such a base that education, training and organisation of primary care have to be related.

Primary care generally is care of the undramatic common problems. The physician and his team will become expert and familiar with these. They will become unfamiliar and inexpert with the occasional rare major events. Specialists who receive such selected and referred 'rarities' annually from 100 primary physicians will be much more familiar and to whom they are 'common'. The common conditions that present to a district general surgeon are cancers, major trauma, acute abdominal emergencies; to a physician myocardial infarctions and strokes; to a neurologist brain tumours; to a nephrologist chronic renal failure. The primary physician will see but a handful of all these in one year.

The implications are important. A medical student and resident trained in hospital practice will find himself unfamiliar with primary care conditions, likewise his training and skills for major disorders will atrophy with disuse once in primary care.

WORK PATTERNS

There are data on the work patterns of a primary care physician. It is remarkably similar both in content, volume and time (*see also* Chapter 10).

Responsibility for an average population size of 2500 persons means that in a developed society about 66% will consult him in a year and the consultation rate per person per year appears to be around 4. This means that

Population of 2500	
Annual consulting rate per person	4
Total annual consultations	10 000
Weekly consultations	200
Daily consultations	40
Time per consultation	10-15 minutes
Weekly time load	36-50 hours

Table 3.6. Primary care work pattern for population of 2500.

there will be 10 000 consultations a year, approximately 200 per week or 40 per day. These face-to-face consultations include office consultations, home visits and hospital attendances but do not include 'indirect consultations' such as telephone calls, repeat prescriptions and correspondence.

The time taken per consultation may be from 2 minutes to 60 minutes, but since a large part of the work is with minor (two-thirds) and chronic (one-fifth) conditions and since most will be with non-new but well-known patients, the mean time per consultation averages 10 minutes in Western Europe and 15 minutes in USA. The primary physician working at this rate and pace is a busy person working 6-10 hours a day (Table 3.6).

Of course it is possible to vary the factors to arrive at different patterns. Thus, in my own practice the annual consulting rate is 2, so it is possible to care for 5000 persons at this work rate. Some practitioners average 6-7 minutes per consultation, some have considerable work outside of their practice and some travel long distances on house calls or to satellite units. All these must be considered in measuring and planning to work.

ANCILLARY INVESTIGATIONS AND SPECIALIST REFERRALS

There is a lack of reliable data on the range of use of pathology and radiology services. The annual rate of pathology in my practice is a low one of 10% of population and for radiology is 6%. In some equivalent US practices the rates are more than double.

In the UK (Loudon, 1979) the proportion of use of pathology and radiology facilities by general practitioners is increasing and although the total number of investigations requested have doubled, they still account for only one tenth of all investigations in the NHS.

Likewise, there is a dearth of data on referrals to specialist clinicians. We know that in the UK, 11% of the population is hospitalised, 15% are referred to outpatient (ambulatory) specialist clinics and 20% attend accident-emergency units, and the rates are increasing (RCGP, 1979).

The range of referrals to specialists has varied by ten-fold in published reports for individuals or groups of general practitioners in the UK.

These are important interfaces in the use of health care facilities. We need more facts and studies urgently to discover optimal ways of using expensive technology and specialist services.

SPECIAL ROLES

Turning from the precise enumeration of the work of primary care, there are some more general special roles that those involved in this field must be prepared to assume and carry out.

Although the top priority must always be to apply scientific and *curative care* whenever possible much of the work has to be of a more *pastoral and samaritan* nature at a personal level by the family physician or in association with such a physician.

The primary care team must be under the *leadership and direction* of someone. This person need not always be a physician. A nurse, social worker, administrator or assistant may lead equally well (*see* Chapter 6).

There must be *co-ordination and manipulation* of all the health, medical and social services for the needs of the patient when required, by someone. That someone has to be in the primary care team acting as *linkman* as well as co-ordinator and manipulator to achieve comprehensive care.

Hospitals have to be *protected* from inappropriate patients and their problems and patients have to be protected from inappropriate hospitals and specialists. Such protectors must work from primary care.

In addition to responsibilities to individuals, primary care workers must accept their *responsibilities to the community*. These must be to promote public health and prevent disease, but also to ensure best use of scarce resources.

RESOURCE REQUIREMENTS

Primary care is an essential level of care with its own skills and knowledge and is not an inferior part of internal medicine or paediatrics. As such it is necessary for research to be carried out in primary care to develop and collect a *core of scientific knowledge* that can be applied with sense and sensibility for better care. This is a most important resource that is at present missing.

The *hardware facilities* that are required, such as premises, diagnostic and therapeutic tools, are proportionally much less than for corresponding clinical hospital-based specialties. The nature of the common conditions in primary care is such that complex investigations are rarely necessary, nor are expensive or elaborate therapeutic techniques. The basic requirements are for space for consultation, counselling, administration and some treatment by the various members of the primary care team, with adequate diagnostic and therapeutic back-up resources.

It is economically and qualitatively sensible to provide access to primary care workers for *diagnostic facilities* at a local district diagnostic centre which is usually at a hospital. It is much cheaper to transport specimens or patients to a well provided and reliable modern laboratory or radiology unit than to try to provide each practitioner, or each group, in primary care with such resources in their much smaller units.

The subject of *hospital bed privileges* for primary care is debateable from many sides (*see also* Chapter 7).

It is reasonable to argue that there is no good reason why a primary care physician and his team should not care for their patients in hospital, for those conditions in which they are experienced and can provide good quality care. On the other hand, there are arguments that it is better economically and qualitatively for those who require admission to hospital, because they cannot be nursed and treated in their own homes, to be cared for by hospital teams. The best solution must be compromises related to local and national systems, customs and resources.

It is necessary to accept that one of the major influences on the patterns of care, including use of hospital privileges, use of diagnostic facilities and forms of therapy is the way in which the physician is paid for his work. In the British system with a basic capitation system, there are no financial incentives to admit a patient to hospital, to carry out large numbers of investigations and prolonged or expensive therapy. In the US type of fees-for-services system, there are considerable inducements to hospitalise patients because the insurance arrangements will pay extra fees, to carry out many investigations because they are paid for and to undertake long-term care for fees or regular medical check-ups for even higher fees.

Important *other special resource requirements* for good primary care are collaborative support from other specialties; teamwork; close involvement with the community to ensure representation of the community's views and also recognition of its responsibilities.

CURRENT ISSUES

There exist in primary care certain common and shared issues and problems that need stating, exploring and correcting. This is a major objective of this book and many will be dealt with in other chapters.

Responsibilities

Health care, health attainment and health maintenance, is too big a subject to be left solely to the physician, to the providing agencies (government and others) or even to the individual patient and family. We all of us have to accept our responsibilities.

The individual and family must learn, follow and apply the simple rules of health and carry out considerable self-care for minor ailments and co-operate and comply much more with professionals. Physicians and other members of the primary care team must accept responsibilities beyond 'wait and see' therapeutic care. They have to go out into the community and try

to prevent disease, educate the public and improve the conditions for better health. The providing agencies must provide the incentives and the resources for good care—but we must all accept the responsibility that value for money is obtained and that unnecessary resources and activities are discouraged.

Who Does What and How?

It is important to keep an open mind on this issue. It may be that a physician is not only unnecessary as the first contact professional, but that a nurse practitioner or some trained person may give even better care. More trials are necessary.

If a physician is considered to be necessary, then should he be a *generalist* general practitioner—family physician or a *specialoid* paediatrician, internist, psychiatrist or OBG? As Rogers (1977) has shown whilst the number of generalist general practitioner-family physicians has gone down considerably in the USA, the total numbers of all primary care physicians, including specialoid paediatricians, internists, etc. have gone up. There are needs to try to measure and evaluate the differences, if any, in outcomes of care from these two forms of care.

How Many?

The aim must be to provide good accessible and available primary care for all. How many primary care workers do we need to achieve this? How many of these need to be physicians?

At present in many countries there is maldistribution of physicians. Shortage areas are rural, city centres and socially less desirable districts. Special arrangements may need to be made to provide services here, as has been attempted in the USA.

Training, paying and providing for physicians is an expensive business. There may be cheaper ways of achieving as good care. There is need to experiment with alternative methods of manpower and womanpower in primary care.

Ways of Working

There are definite trends away from *solo practice* in an office *towards groups* working from centres. What are the benefits to patients, to physicians and to others?

Much stress is laid on the importance of *independent contractor status* for physicians. The questions that might be asked are how much independence, to what purpose and for whose benefits? There is also emphasis on *clinical freedom* but again it may be asked—how much

freedom and with what accompanying professional responsibilities to the individual, to the community and to the system?

Attention has been placed already on issues of *hospital privileges* and methods and forms of incentives and *paying physicians*. The effects of various methods must be explored further.

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