CHAPTER 6

HEALTH CARE FIRMS: PROVIDERS, PRACTICES, AND PEOPLE

THE FIRM AS ORGANIZATION: PRACTITIONERS ARE NOT PRACTICES

Health care services and commodities are produced and delivered by a wide variety of people and organizations: self-employed professional practitioners, voluntary societies, large clinics and hospitals, government departments, and small or large for-profit corporations. Those people or organizations who are actually in contact with the recipients of care are commonly referred to as providers, a usage which has been followed above.

The term tends, however, to blur the distinction between people and the organizations in which they work. This distinction is of central importance to the economic analysis of production, as well as to certain aspects of health policy and planning. The economic conceptualization of production is of a process of transforming particular inputs, productive resources, into outputs of valued goods and services. The conceptual entity which performs this transformation is called a firm, and the same label is applied to actual organizations which carry out the same process. The technical constraints which govern this transformation are summarized for economic analysis as a "production function," a general description of the minimum amounts of different inputs which are necessary to produce any specified level of output or mix of outputs. The structure of this production function will then express the extent to which different combinations of inputs can be used to produce a given output bundle, or the possibilities for substitution between different types of inputs.[1]

The principal inputs to production in any field are human time, effort, and skills. But people obviously work with various forms of capital equipment -- buildings and machinery -- and use various sorts of raw materials and "intermediate" commodities. Physical capital, intermediate commodities, and raw materials are themselves produced by labour and skills applied to the natural environment, and indeed, skills themselves are acquired through time and effort and thus are often referred to as "human capital." To avoid infinite regress problems, however, it is convenient to categorize the various inputs as labour and skills, services of capital equipment, and supplies used up in production.

Health care production is characterized as highly labour-intensive, meaning that it requires a high proportion of direct labour and skills. A refinery, steel mill, or farm, by contrast, has a much higher ratio of capital or land services to direct labour input. But some amounts of other inputs are almost always needed in health care as well; only the most emergent of emergency care is provided with bare hands on a street corner.

The assembly of these inputs takes place within specific organizations, corresponding to a greater or lesser degree to the economic concept of a firm. Hospitals, for example, are obviously organizations drawing together inputs, resources of various sorts and directing their transformation into a number of specific forms of health care. So are medical or dental practices, government public health departments, or private drug or equipment firms. *But specific practitioners are not themselves firms*. A person may supply labour to a firm, working for or in

it, just as she may rent space or facilities to it or lend money to it. Or a person may perform some or all of the functions of management, either by right of ownership or because hired by the owner to do so. And of course persons own firms, or firms that own firms. Ownership implies a legal right to any surplus of revenues over expenditures generated by the firm's activities (or liability for any deficit, if the firm is not a limited liability company) -- residual claimant status -- as well as a right to direct the organization or appoint its directors. But the owner is not the organization. Thus the firm in ambulatory care is the medical or dental practice or the pharmacy or the outpatient clinic, but not the professional persons involved.

From the point of view of the supply of health care, a particular professional can be thought of as a bundle of skills or capacities, a mix of types of human capital, associated with a physical person who supplies time and effort. Neither skill without effort nor effort without skill is productive. Different professional roles or definitions are made up of different skill or capacity bundles, which tend for technical and historical reasons to be associated with each other in a particular way. Intermediate-level health practitioners, paraprofessionals, represent less extensive or "smaller" skill bundles than those of the "peak" professionals (*not* "lower quality" skills! Such a person will usually be as competent at what he does as would be a professional trained in additional or more complex functions, if not more so.) Since the bundle boundaries observed in any system are to a considerable extent arbitrary, questions of jurisdiction will often arise. But the services of each are all inputs to the process of health care production, whether or not the person possessing a particular set of technical capacities also happens to own the firm which uses those capacities. It makes no difference, from the technical point of view, whether self-employed physicians or dentists own their own firms, and hire other workers, or whether nurses own practices and hire physicians, or whether both are employed in a practice owned by the Hudson's Bay Company.

Legally, however, there is a constraint. Canadian licensure laws in medicine and dentistry (and with some qualifications, in pharmacy) prohibit the ownership of any part of a practice by anyone other than a licensed member of the profession.[2] They thus define the practice of medicine, dentistry, etc., in terms not only of certain technical activities -- diagnosis and treatment procedures -- but also of economic functions -- ownership of the organizations providing care.[3] This represents a significant extension of the licensure function; one need not, for example, be a licensed pilot to own or manage an airline or a licensed gasfitter to be a heating contractor. One must only ensure that a licensed person (pilot, gasfitter) is employed to perform the regulated functions. The public interest justification of this extension of licensure to the economic domain is presumably the preservation of the agency relationship, since it has nothing to do with assuring the competence of those actually performing the functions of providing care. As we shall see below, however, the economic dimension of licensure also has important implications for the cost and efficiency performance of private health practices.

TRANSACTIONS BETWEEN FIRM AND ENVIRONMENT: THE TIME HORIZONS OF DECISION

However it is defined, the firm in health care (or out of it) must interact with its economic environment in certain specific ways. It can be thought of as pursuing certain objectives, such as survival, professional self-expression, profits, growth, the interests of patients, or the "public interest" somehow defined, subject to constraints imposed by its environment. Its resulting behaviour and impact on that environment, expressed in terms of resources used up, goods and

services produced, and patterns of income/wealth generated, can then be evaluated from a more general social standpoint. A significant part of health policy can be considered as attempting to mould the environment in which health care firms (including relevant government departments) function, so as to promote desirable behaviour and discourage undesirable.

"Cost explosions," for example, as a policy issue, can be interpreted as health care firms (public or private) either using up more inputs than necessary for what they produce, or producing too much of the wrong sort of output, or generating too large incomes for those who supply resources (principally skilled labour) to them. "Unmet needs," on the other hand, imply either that existing firms should expand or change their output patterns, or that new firms should be induced to enter the field, drawing in new inputs and expanding total output. One way to do the latter might be to train more professionals of a particular type -- a specific set of skill bundles -- but this most common response may be much more costly and less effective than alternative ways of increasing the output of the firms (practices, clinics, hospitals) where those skills are deployed, by adding other types of personnel and/or equipment.

For some purposes it is convenient to organize the various forms of interaction between firm and environment by time horizon, into short- middle- and long-run decisions, so long as one does not take these as water-tight categories. The firm's decisions and behaviour can then be classified according to the length of time taken to plan and execute a change, and the length of the subsequent period affected by the change. The long-run time horizon, for example, is a period long enough for all aspects of production to be modified. Long-run decisions include entry to or exit from an industry, or major expansions or contractions of capacity. Decisions by a person to enter or retire from a profession, to migrate across regions, to take specialty training, are long-run decisions, as are the establishment or closure of a hospital or professional school, a major expansion, or the launching or major modification of a public program. All such decisions have a significant investment aspect, long-term implications, and are costly to make or to reverse. In the short run, by contrast, are decisions on current levels of production and pricing. The private practitioner can adjust hours of work and appointment scheduling, modify treatment patterns, and (if not constrained by regulation or co-ordination) raise or lower prices, on very short notice. Hospitals, government departments, or larger private companies may take longer to decide, but in general any organization can speed up or slow down a production process much more quickly and cheaply than it can start one up *de novo*.

Thus questions as to how health care providers decide on current output patterns, choice of technique, or mix and volume of output, and how prices are set, fall into the short-run category, while issues of manpower availability and distribution, and hospital bed and facility capacity, are long-run, planning questions. In the middle ground we may classify changes such as adding or reducing auxiliary staff in a professional practice or changing standard operating procedures in a hospital. Technically, these changes could take place from day to day; in practice the costs of adjustment are great enough that adjustment is less frequent. But for a practitioner, taking a short course on a new technique is not the same as a change of speciality, nor is a hospital's replacing its radiology equipment in the same category as building a new wing, though obviously boundaries are fuzzy.

In the Canadian context, pricing decisions for hospitals and most medical practitioners have also become middle-run. Periodic collective fee negotiation and hospital budget determination (which sets prices implicitly, in conjunction with output levels) makes these adjustments costly (at least collectively) and possible only at defined intervals. Like staffing patterns, such prices are neither instantaneously variable nor set in concrete (or sheepskin) for years at a time.

THE "TEXTBOOK" FIRM: A SINGLE-EXIT MODEL

The archetypal firm whose behaviour is analysed in the economic theory of production makes these same sorts of decisions, though for simplicity it is often assumed to use only two inputs, continuously and costlessly variable "labour" (plus associated raw materials), and "capital" which takes time to acquire and to dispose of. Short-run decisions involve choice of labour input for given capital, long-run decisions involve adjustment of capital stock, and there is no middle ground.

More importantly, however, the theoretical firm in private competitive markets is so constrained as to have no degrees of freedom for independent discretionary behaviour; its responses to changes in its environment thus become perfectly predictable. These constraints are imposed by its objectives, its technology, and its market environment, although at root the first two considerations derive their binding force from the third. It is precisely because health care firms do not, in general, operate in a competitive market environment that a number of different dimensions of their behaviour become discretionary and of interest for policy analysis. Some of the same types of issues arise in the study of non-health care firms in imperfectly competitive markets.

Most obviously, a profit-maximizing firm must always seek to minimize its costs of production for any given level of output. Existing technology, expressed in the production function, will dictate the minimum quantities of resources which can be used to produce any particular level and pattern of output. Once the firm makes its output decision, there may be one, several, or a large number of combinations of different inputs which can be used to produce that output. But the firm will never choose a combination involving pure waste of inputs -- it will always be on the production function. Furthermore, the price it pays for each input will be determinate, either beyond its control if it is a small buyer in a large market, or else an observable function of the amount it chooses to buy (defined as the input supply function) if the firm is such a large participant in the input market that its decisions alone affect price. In either case, however, the minimum cost input combination corresponding to each output level is determinate, and *must* be chosen by the profit-maximizing firm.

But prices in output markets are also either given to the firm (perfect competition) or determined by its decisions as to how much to produce and sell. In the latter case, the firm with monopoly power is assumed to face an externally determined demand curve; it can choose how much to sell, or at what price, but not both. Once one is set, so is the other, and so are all input decisions. Furthermore, the profit-maximization objective determines which price/output combination will be chosen. Analytic structures of this sort are known as "single-exit models"; the firm's field of choice is narrowed down to a single variable, which in turn has a single optimal value. And the firm's objectives require it to choose that value.

The firm's middle- and long-run decisions are determined in the same way. As more choices of technique, capacity, or field of activity become available with the lengthening of the planning horizon, the relationship between output chosen and cost of production changes, and the profit-maximizing output shifts.[4] Moves into more profitable geographic or product markets become possible. In general, the scale of the firm's response, in terms of change of quantity or mix of output, to any change in its environment will be increased as the time horizon and the range of potentially variable inputs increases. (Long-run supply functions are more elastic.) But the basic structure of optimization under constraint remains. The firm's short- and long-run behaviour will respond to shifts in the external environment -- in product demand, input availability, taxes or

subsidies, technological knowledge -- in a determinate and rather simplistic way. Its internal decision processes are unknown, or at least ignored in the economic theory of production -- the firm is a "black box," a transformation function. In any case such internal decision processes are uninteresting, since their outcome is externally determined.

HEALTH CARE FIRMS: A CHOICE OF OBJECTIVES

The health care firm is quite another matter. The organization and institutional environment of most such firms is deliberately structured so as to relieve them in whole or in part from competitive pressures, on the presumption that the resulting resource allocation in health care will be more effective, from a broader social perspective.[5] Accordingly, such firms are free to, and do, pursue a wide range of other objectives, additional to or in place of profit-seeking.[6]

Not-for-profit (NFP) firms include hospitals (other than proprietary), voluntary societies, government departments -- all organizations which lack a "residual claimant" with legal title to any surplus of revenue over expenditure generated by operations.[7] The objectives that guide the behaviour of such organizations are various, complex, and rather obscure; as discussed in chapter 8, there is no satisfactory unified theory of the not-for-profit sector. But profit per se has neither a priori appeal nor empirical support as an objective, though it might be a means to other ends such as future growth or administrative discretion.[8] Whatever else the organization is trying to do, it is not in the final analysis trying to make a profit, much less to earn maximum possible profits.

Professionally owned and directed practices and clinics, and perhaps some proprietary hospitals, nursing homes, or pharmacies, can best be described as not-only-for-profit (NOFP). Any surplus (or deficit) from operations forms part of the income of the firm owner(s), who also either is, or appoints and directs, the management. Accordingly one would expect the firm's behaviour to respond, to some degree at least, to opportunities for profit. But the self-employed practitioner is also a supplier of skilled labour and (sometimes) physical capital to the firm; payments to these inputs must be deducted, along with other expenses, from firm revenue before arriving at (positive or negative) profit.[9] Thus the proportion of total income accruing to owners of not-only-for-profit health care firms which is actually "profit" in the economic sense may be quite small compared with return to labour and human or non-human capital, and its generation must compete with other objectives of the owner/management. The firm is run in part for profit, but not exclusively for that purpose, hence NOFP.

Moreover, the process of training and socialization, the regulation of practice conduct by professional bodies, and public expectations all tend to discourage pure profit-seeking behaviour and to encourage the substitution or addition of objectives based on professional self-image or perceptions of patient interests. Indeed as emphasized in chapter 4, the social, as opposed to private professional, justification for the significant economic privileges conferred by licensure and self-government is the *quid pro quo* of professional acceptance of a responsibility to undertake the agency role and to make patient interests dominant over, or at least competitive with, private economic interests. If one assumes profit-maximizing behaviour by professionals, one has explicitly denied the agency role, and thus undercut the rationale for self-government, which then becomes solely an economic "conspiracy" against the public. Insofar as particular health care firms do act as profit-maximizers, the logical concomitant of deregulation and a return to competitive private markets becomes increasingly appealing.

Such deregulatory policy becomes particularly significant at the boundaries of the NOFP

field. The agency role of physicians, particularly with respect to highly sophisticated interventions or physically or mentally dependent patients, is central to the utilization process. But for others (paediatricians providing well-baby care?) the informational asymmetry may be much less pronounced. In dentistry, the agency role becomes even more attenuated, while in community pharmacy it is difficult to discover at all. Informational problems may remain, but it is not at all clear that agency and self-government are an appropriate response. And while a small, owner-managed community pharmacy may claim, perhaps genuinely, to have objectives other than "the bottom line," and an interest in promoting the health of its customers, large firms or chains such as Boots or Shoppers Drug Mart seem clearly in the strictly for-profit (FP) category. Their responsibility to their shareholders is to earn the maximum possible profit (subject to considerations of risk) from operations; all other activities are means to that end.

In general, for-profit firms supply commodities -- drugs or medical equipment and devices -- rather than services, and sell to hospitals, medical practices, or pharmacies rather than directly to patients. (Non-prescription drugs being the most obvious counter-example.) Private laboratories, however, sell diagnostic services, and appear in several provinces to be in the process of migrating from the NOFP to the FP sector, if not already there. Hospital laboratories in Canada are in the NFP sector. American private laboratories are now squarely in the corporate FP sector (Bailey 1977, 1979), and even NFP American hospitals treat their labs as profit centres. The maintenance of an administrative and regulatory structure based on the assumption of NOFP objectives characteristic of a professional practice seems inappropriate and unjustifiable, either for FP firms or for FP divisions of NFP firms, but the area appears still to be very much in flux.

OPENING UP THE "BLACK BOX": PERFORMANCE CRITERIA FOR HEALTH CARE FIRMS

The significance of this range of objectives, and of corresponding forms of firm organization, is that it opens up the relationship between resource inputs and goods-and-services outputs in health care. The firm can no longer be treated as a "black box" converting inputs into outputs in a deterministic manner. The theoretical for-profit firm in a competitive market is both led by the self-interest of its owners and forced, for competitive survival, to seek least-cost modes of production. Thus technically efficient behaviour follows from the assumed market structure. But health care firms in the NFP and NOFP sectors are under no such market constraints. Accordingly serious empirical and policy questions are raised concerning the efficiency with which hospitals or professional practices use the resources which they mobilize, or the extent to which they do or do not choose minimum cost combinations of resources. In both sectors there is considerable evidence of systematic biases away from least-cost production and of inefficient resource use.

In addition to being technically efficient, the hypothetical private firm in competitive markets is allocatively efficient. Such firms collectively produce the "right" amounts of different commodities, relative to buyers' preferences (as measured by their willingness to pay) and to the opportunity costs of the required resources. They will expand their outputs as long as there is a buyer willing to pay a price equal to or greater than the cost of producing the additional output. The output level reached in equilibrium is that at which market price equals marginal cost; no buyer willing to pay the going price, or more, is unsupplied, and no more can be produced at or below current costs. At this point one more unit of output would be valued by buyers at less than

its resource cost (the value of other production opportunities represented by those resources) while reduction in output by one unit would require some user to give up something which she valued more than (or no less than) the freed-up resources.[10]

In the health care field, however, buyers' willingness-to-pay is considered to be too ill-informed (chapter 4) and sensitive to relative income levels (chapter 3) to serve as a guide to social priorities, even if it were not "distorted" by insurance (chapter 2). Firms in the NFP and NOFP sectors are permitted, indeed encouraged, to substitute their own preferences and priorities for the dictates of the marketplace. In effect, producers' sovereignty is substituted for consumers' sovereignty. The presumption is that given the specific characteristics of health care, producers' sovereignty in the form of discretionary power over use patterns will lead to a pattern of resource allocation which is closer to what informed consumers would have wanted, for themselves and others, than would emerge in private competitive markets in which firms respond to buyers' willingness to pay.

And of course, firms do not merely respond. Advertising, and marketing in general, are normal activities of for-profit firms. Given the peculiar characteristics of health care, such marketing to inherently uninformed and vulnerable buyers can lead even further from what informed consumers would have chosen. The quack and the snake oil salesman are simply owners of for-profit firms following the rules of the competitive marketplace. But that does not invalidate the usual social judgement as to the consequences of their activities, which reflects the fact that these rules are inappropriate in some parts, at least, of the health care field. Hence the significance attached by providers, and the public generally, to restraining profit-seeking as well as encouraging the pursuit of professional and patient-focussed objectives.

But producers' sovereignty, though it may better approximate a social optimum, is not in general optimal. The freeing of health care firms to follow objectives other than profit does not ensure that they will become perfect agents, in terms of either information or motivation. Hence the issue arises of the clinical, as well as the technical and the allocative, efficiency of health care firms. Whether they are pursuing professional objectives or perceived patient interests, is the behaviour of such firms clinically effective? Or do they use resources in ways which have very little, or no, positive impact on health.[11]

Going beyond treatment patterns, to the making of location, expansion, specialization, programming, or research and innovation decisions, if health care firms do not respond wholly, or at all, to profit considerations, to what *do* they respond? And are their responses consistent with what informed consumers might reasonably be expected to want, on their own or others' behalf? If not, how can the external environment of such firms be modified to bring their decisions and behaviour closer to meeting the community interest? Subsidies for practice in remote areas and certificate-of-need restraints on expansion of American hospitals are examples from this wide class of "environmental" policies. For the hypothetical private for-profit firm, the very rigid constraints imposed by the market predetermine the answers to all such questions. The simplest and most effective way to modify the behaviour of such a firm, if that is desired, is to change one or more of the prices which it faces in either input or output markets. But health care firms have diverse and multiple objectives and operate in a social environment whose expectations of the health care industry are much more complex and subtle than simply that it should meet the effective (dollar-backed) demand, whatever its source, at lowest cost. The policy issues are accordingly much more diverse. And interesting.

FUZZY BOUNDARIES: WHERE DO FIRMS END?

The next three chapters will discuss in more detail the behaviour of each of the different classes of health care firms distinguished by their apparent objectives. Before proceeding, however, it should be noted that, particularly in the NFP sector but to a lesser extent in the NOFP as well, there are significant questions as to where the boundaries of the firms themselves should be located (Evans 1981). The archetypal firm as a conceptual construct, transforming inputs into outputs, can also be thought of as the locus of certain kinds of decisions, over output, price, capacity, technology, etc., even if in certain market conditions its decisions may be determined by external forces. In the NFP sector, many of the decisions which themselves constitute firm activity are made external to the organization. The treatment decisions of hospitals, short run (dealing with individual patients) or middle run (standard procedures), are made primarily by the medical staff, individually or collectively. A salaried physician is clearly part of the hospital "firm," but a private practitioner is part of an independent firm. One could think of the hospital "selling" or at least supplying, intermediate goods and services to physicians; this is expressed in the saying that hospitals do not have patients, they have doctors. The physician regards the patient as "my" patient, expressing an exclusive economic as well as professional relationship. Yet the physician does not deal at arm's length with the hospital as an independent firm; the medical staff is an integral part of management. And patients or insurers deal directly with hospitals in reimbursement; they do not go through the physician.

Under the Canadian hospital insurance system, provincial governments negotiate hospital operating budgets annually, and also separately provide (or refuse) support for capacity expansion. They thus influence or take over the long-run managerial functions of the firm. Indeed, the province may have the power to take over and operate the hospital directly, "at pleasure" of the Lieutenant-Governor-in-Council, under a public trustee. And provincial governments have specific legislative responsibility and authority for ensuring the development of a "balanced and integrated" system of hospitals in the interests of the provincial population. Thus hospitals must share both long- and short-run "rights of management" with external organizations who are not at arm's length, in a pattern of "incomplete vertical integration." The decision-making spheres of such firms are not mutually exclusive, but interpenetrate each other.

The location of decision-making authority within professional practices is by contrast well-defined. But here too the referral network, the relationship with hospitals, and the co-ordination of different specialties (physicians and non-physicians) blurs the analytic boundaries. A solo practice, or a legal partnership of professionals, is each a single firm. But an association of solo practices, all located in a building owned jointly by their principals, with shared diagnostic services and active inter-practice referrals, is in a fuzzy middle ground between one firm and many. This blurring of firm boundaries must be constantly kept in mind. The analysis of scale economies or competitive behaviour in ambulatory medical practice, for example, or the attempt to elucidate the objectives underlying hospital behaviour, can go seriously astray if too narrow or rigid a view is taken of the relevant set of decision-makers.

NOTES

[1] In theoretical analysis this production function is usually given an analytic form, becoming a mathematical expression. But this carries with it implicit assumptions as to continuity and homogeneity of inputs, outputs, and production processes which may be quite out of place in the actual circumstances of a particular production process. Moreover, the analytic production function is usually expressed as an equality between amount(s) of input and

amount(s) of output, which, while mathematically tractable, suppresses important questions of technical efficiency. The technical constraints of production are *in*equalities -- waste is always possible -- and the equality requires the additional behavioural postulate of cost-minimization. This again may not be appropriate in firms outside perfectly competitive markets. On the whole, the production function concept is probably more useful without a strict analytic representation; it may be viewed rather as a set of rules for input combinations which might be expressed in the practice of an actual firm, the knowledge of engineers or other technical experts, a computer simulation model, or even a set of verbal statements. A formal equation, $Q = F(X)$ [Quantity of output is equal to some analytic function of quantity of input, each as scalar or vector], tends when applied to the investigation of actual firms, to conceal more than it enlightens.

[2] A non-profit hospital can "own" an outpatient clinic or emergency ward in which physicians on its payroll do things which look very much like medical practice. The Hudson's Bay Company, however, could not.

[3] The same prohibitions do not appear to apply in other countries, however. The long battle by U.S. physician associations against the "corporate practice of medicine" may at last be swinging against them, with the emergence in some states of what appear to be ambulatory medical practices owned by for-profit, non-medical corporations hiring salaried physicians.

[4] It may also become less predictable, and the firm's behaviour will then depend on its forecasting capabilities and its attitudes toward risk, but that raises additional complications which are immaterial here.

[5] The argument for this presumption was developed in chapter 4; it will be recalled that, if it is rejected, the social justification for all of licensure and self-government, regulation, and protection of non-profit organizations disappears.

[6] Economists frequently treat the assumed profit-maximization objective as if it were a datum, presumably rooted in psychology, imposed by the nature of man and the universe. In fact, it rests in rum on market structure conditions of free entry and competition which require such behaviour as a condition of survival. There is no obvious reason why a private monopolist (protected from capital market takeover) should maximize profit. Human beings as individuals or in groups have numerous objectives besides money, and to assume such behaviour universally is simply naive (and wrong) amateur psychology.

[7] Not-for-profit is preferable to non-profit, as such firms may quite frequently earn a surplus of revenue over expense (as U.S. voluntary hospitals usually do). And of course "ownership" of such surpluses is clearly vested in the organization (or in the case of a government department, the Crown). But no participant is entitled to appropriate the surplus for other purposes; as might a shareholder or the owner of a practice. And the generation of persistent surpluses indicates for a not-for-profit firm either too high prices (revenues) or too low expenditures.

[8] In the U.S., however, it appears that voluntary "not-for-profit" hospitals which have borrowed heavily in private markets to finance capital expansion may find themselves forced to behave like for-profit hospitals, at least in the short run, to earn a surplus to finance debt servicing (Wilson *et al.* 1982). More generally, an NOFP firm may strive at least to break even on operations, if that is a condition of survival and the continued pursuit of the organization's (non-profit) objectives.

[9] In principle one should deduct from the gross revenues or receipts of the practice/firm the opportunity costs of all inputs used in order to arrive at true economic profit. In the case of arm's-length transactions, amounts actually paid correspond to opportunity cost, at least from the firm's perspective. But non-arm's-length transactions may overstate true costs. The cost of office rental or of practice management services may be overstated for tax reasons if these are purchased from firms controlled by the practitioner; the above-market profits of such firms are thus indirectly a form of practice income, and will show up as consumption by, or increase in the assets of, the practice owner. Such overstatements should, in principle, be added back to net income before subtracting the opportunity cost of the practitioner's own services to compute true profit.

[10] The firm in monopolized markets, or with some degree of market power, will of course restrain output before this point is reached, leading to allocative inefficiency. Buyers would value additional output from the monopolized

industry/firm at more than its resource cost, but profit-maximization by the firm is inconsistent with supplying this additional output. Hence the standard economists' condemnation of monopoly power as leading to inefficient resource use. In general, however, the profit-maximizing monopolist will be *technically* efficient, producing the chosen output at least cost. Relieved of competitive pressures, the monopolist need not be a profit maximizer either, but that issue has received less theoretical attention.

In health care, by contrast, market power of suppliers seems to co-exist with concerns about *oversupply*, not just in the willingness-to-pay sense (Figure 2-2) but relative to need.

[11] The distinction between clinical and allocative inefficiency is a bit tricky, though each is well defined in its own realm of discourse. Provision of a clinically efficacious procedure, which improved health status, but whose value to (fully informed) patients and involved others was less than its true resource cost, would be allocatively inefficient. Similarly, an ineffective clinical intervention for which patients were prepared to pay the marginal resource cost, in the full knowledge that it was ineffective, would be allocatively efficient. But if, in the absence of any examples of fully informed consumers, we assume that they would want only efficacious care, then the two concepts converge.