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The End of Asymmetric Information

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The most pernicious doctrine in health services research, the greatest impediment to clear thought and successful action, is that health care is *different*. Of course the medical sector has features not found elsewhere in the economy and polity, but then there is a uniqueness to every other industry. Each of the salient characteristics of health care, including professionalism, licensure, nonprofit organization, third-party payment, and heavy government regulation, can be found in other sectors, albeit not bundled in quite the same distinct and dysfunctional manner. The uniqueness doctrine hence proves too much. More importantly, the principle serves as a two-way barrier to entry between the health and nonhealth sectors. In one direction it discourages mainstream economists from importing the principles of industrial organization, game theory, and transactions costs to health care issues by raising a wall of acronyms and institutional trivia that impedes dialogue. In the other direction it fosters a complacency among the virtuosi of health policy analysis, allowing us to achieve fame and fortune in our small pond without fear of competition from denizens of the scholarly shark tank.

To some within the health care community, the uniqueness doctrine is self-evident and needs no justification. After all, health care is essential to health. That food and shelter are even more vital and seem to be produced without professional licensure, nonprofit organization, compulsory insurance, class action lawsuits, and 133,000 pages of regulatory prescription in the *Federal Register* does not shake the faith of the orthodox.

For the sophisticates, however, the uniqueness doctrine does demand a foundation or least a pedigree. It is here that the theory of asymmetric information enters, gets comfortable, and decides to reside permanently in the intellectual edifice of health economics, medical sociology, health politics, and the other subspecialties of this faction-ridden but homologous research community. Which brings me to "Uncertainty and the Welfare Economics of Medical Care" (Arrow 1963).

This is a good article by a great economist, a creative application of the theory of risk and uncertainty to the thorny problems of the health sector, exactly the sort of boundary-crossing, barrier-penetrating work that opens the possibility of progress in thought and action. Would we have more of the same. But its effects on the field of health services research, for which the author cannot be held responsible, must be judged more ambivalently. The central proposition of his article, that health care information is imperfect and asymmetrically distributed, has been seized upon to justify every inefficiency, idiosyncrasy, and interest-serving institution in the health care industry. The article makes the protean claim that unusual contractual, organizational, and normative features of the health care sector derive from efficiency-enhancing responses to underlying informational limitations. This is a fecund alternative to the intellectual status quo of the time, which interpreted unusual institutional features largely as efforts at monopoly power. Yet it has served to lend the author's unparalleled reputation to subsequent claims that advertising, optometry, and midwifery are threats to consumer well-being, that nonprofit ownership is natural for hospitals though not for physician practices, that price competition undermines product quality, that anti-trust exemptions reduce costs, that consumers cannot compare insurance plans and must yield this function to politicians, that price regulation is effective for pharmaceutical products despite having failed in other applications, that cost-conscious choice is unethical while cost-unconscious choice is a basic human right, that what consumers want is not what they need, and, more generally, that the real is reasonable, the facts are functional, and the health care sector is constrained Pareto-efficient.

Methodology

The heart of Arrow's analysis, the methodological prolegomenon from which all substantive claims derive, is the juxtaposition of the conceptual model of general competitive equilibrium with the organizational, legal, and normative characteristics of medical care. It is noted that a social

system conforming to the competitive model would exhibit no waste (Pareto optimality) and could be made to produce any technologically feasible allocation of services by pure income redistribution (e.g., tax policy) without the need for ethical norms, professional licensure, non-profit organization, and other features so salient to the health sector. It is clear that the real world, and in particular the health sector, do not conform to the postulates of the model, especially in terms of the lack of information. A causal relationship is then postulated linking the two sets of gaps: the gap between the real world and the competitive model in terms of information asymmetry and the gap between health care and other economic sectors in terms of organizations, laws, and norms. In short, it is argued that the unusual features of health care are due to unusual (or unusually virulent) information imperfections.

The methodological approach used by Arrow has much to commend it, including most obviously its commingling of theoretical and empirical bodies of work that often remain in blissful ignorance of each other. Yet the dangers of this approach, once in the hands of less-able and more-interested partisans and pleaders, are evident. Imperfect and asymmetric information is at most a necessary, not a sufficient, condition for the observed facts about health care (Arrow never claims otherwise). Informational deficiencies could produce organizational and normative features quite different from those actually observed in the United States of 1963, and in fact they did. The health care systems of Great Britain, the Soviet Union, and the Republic of South Africa in 1963 each lay atop missing markets for information and risk bearing, but nevertheless differed markedly among themselves. It strains the imagination to attribute cross-sectional variation in health system characteristics to cross-sectional variation in information asymmetries. Longitudinal variations are no more easily interpretable in this context. The evolution of the medical profession, the hospital industry, the insurance and managed care sector, and the other components of the system are not immediately and obviously due to contemporaneous changes in the underlying information structure (though more on this below). Arrow's article thus tends to receive less acclaim among historians than among those for whom history is bunk (Starr 1982).

If imperfect information is not sufficient for explaining the organizational and normative features of health care, neither is it necessary. While a world of perfect information undoubtedly would look quite different from the status quo, it is easy to find explanations for the special features of health care without primary appeal to information asymme-

try. The most obvious alternative category of explanations, of course, derives from the vast literature on bureaucratic and legislative capture, contrived monopoly and barriers to entry, mythology and mystification, fraud and abuse, and sleaze in all its manifestations. Arrow does a great service, in my opinion, in promoting an alternative to this class of explanations, which was (and remains) a major explicative contender in some quarters. Arrow cites, and we read updates of, arguments that licensure is a limit on physician supply, sliding-fee scales are evidence of discriminating monopoly, nonprofit hospitals are shells for physician revenue maximization, and so on. But the unfortunate fact that the inhospitality tradition in law and economics (which ascribes every unusual organizational arrangement to monopolization) often spreads beyond its legitimate bounds does not justify an equally unfortunate ascription of efficiency-enhancing attributes to every unusual arrangement. Capture is real. Agency failure is real. People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public or in some contrivance to raise prices (Smith 1776).

While the greatest abuse of Arrow's suggestion that asymmetric information can explain health care norms and organizations has been perpetuated by noneconomists, economists have contributed their fair share to the conceptual muddle. There is indeed no institutional feature that cannot be formally modeled as a response to asymmetric information, once the author imputes the asymmetries in an appropriate manner (*post hoc ergo propter hoc*). The creativity of the formal models of asymmetric information echo an earlier generation of equally creative (and misleading) models based on asymmetric risk aversion, in which everything from sharecropping to business cycles was ascribed to a trade-off between moral hazard and the (asymmetric) aversion to risk between principals and agents. The once-universal ascription of unusual organizational and institutional structures to asymmetric risk aversion has in recent years been discredited, due both to econometric refutation of its key empirical implications and to a more general feeling that the postulate of unmeasured perceptual factors stultified the pursuit of more plausible and empirically supportable explanations (Goldberg 1990; Allen and Lueck 1999). Transactions cost economics and contemporary agency theory are more likely to ascribe risk neutrality (or, more generally, symmetric risk aversion) to contracting partners and move on to multiple agency, two-sided moral hazard, sunk investments, or other explanations for the matters under consideration. By analogy, models of health care

contracting (organization, norm, and so forth) should hesitate before blithely relying on information asymmetry (especially when unmeasured and simply imputed) as the causal explanation without rigorous comparison of informational with noninformational candidates.

Research Agendas

In reflecting on the fate of his article on the nature of firms after thirty years, Ronald Coase described it as “oft cited and little used” (1972: 63). At least until the advent of transactions cost economics in the 1970s, the mainstream of economic theory did not inquire in any sustained fashion why the allocation of goods and services happens so often within firms rather than across markets. I believe that similarly weary words can be ascribed to “Uncertainty and the Welfare Economics of Medical Care.” Certainly this article is oft cited. Is it really used? One might, without stretch, interpret the article as a research agenda, a call for the refinement of explanations for organizational, legal, and normative phenomena. Imperfect and asymmetric information would be one, but no more than one, of these potential explanations. Cognitive factors, including bounded rationality; perceptual factors, including risk aversion; and motivational factors, including opportunism (the conjunction of self-interest with guile), would figure prominently in the list, as would others. This research agenda would seek a middle ground between the inhospitality tradition that Arrow targeted and what I might refer to as the laziness tradition, which uses Arrow’s article as the end rather than the beginning of the quest for understanding. For example, such an agenda would seek a more satisfying understanding of the physician-patient relationship than the fuzzy notion of “trust,” plumbing game theory (credible threats), transactions cost economics (credible commitments), and legal scholarship (relational contracting) in search of sanctions that permit handshake agreements and apparently one-sided contracts to be self-enforcing.

I would claim that “Uncertainty and the Welfare Economics of Medical Care” indeed has been little used as a model for the analysis of health care organizational and normative structures despite the ritualistic citations. Asymmetric information and its consequences, moral hazard and adverse selection, have proved to be among the most fertile economic ideas in recent decades, opening up new conceptual possibilities and empirical studies in labor, financial, product, and other markets. Within health economics, these ideas have been used to shed light on the incentive distortions created by tax subsidies, insurance, and rate regulation.

But they have not been used extensively to analyze the manner in which the unusual organizational, legal, and normative characteristics of health care serve as efficiency-enhancing societal responses to underlying informational, cognitive, and motivational deficiencies. Forty years ago Arrow proposed the view that “when the market fails to achieve an optimal state, society will, to some extent at least, recognize the gap, and nonmarket social institutions will arise attempting to bridge it” (947). Most economic analyses of licensure, nonprofit organization, sliding-fee schedules, professional control over accreditation and quality standards, and so forth, do not begin from Arrow’s foundation, however, but either pursue the inhospitality tradition (e.g., the nonprofit hospital as the physician’s cooperative) or fall back into naive public interest theories (e.g., the nonprofit hospital as an institution of the good, by the good, and for the good).

Economists are socialized to overestimate the capabilities of the price mechanism for allocating goods and services, and for them Arrow’s primary message should be to more fully incorporate other allocation mechanisms into their field of vision. Markets are important. But institutions, organizations, associations, and norms are important as well. Noneconomists, on the other hand, are socialized to underestimate the capabilities of the price mechanism (and to overestimate the capabilities of formal organization, social norms, professional associations, and legal rules) and thus are at risk of interpreting Arrow as a preeminent economist who agrees with their prejudices. For the noneconomist, Arrow’s primary message should be that most sectors of the economy work reasonably well (at least compared to medicine) without many of the organizational curiosa of this sector and hence that the price mechanism should be accorded greater respect and its potential applicability to the health sector be pushed higher on the list of research priorities.

Allusion was made earlier to the difficulty of applying informational explanations to changes in organizational arrangements because we typically have no a priori reason to expect commensurate changes in informational imperfections. This statement requires partial retraction, but in a manner that sharpens my skepticism as to the acceptability of common explanations of health care facts. It is obvious that the four decades that separate us from the publication of Arrow’s article have witnessed a considerable convergence between the organizational features of health care and those of the economic mainstream. For-profit ownership, price competition, vertical and horizontal integration, prepayment, advertising, and other conventional market features are ever more prevalent in health

care. To ascribe this convergence primarily to an underlying convergence of information structures fails the laugh test. Changes in the availability of health care information, including hospital outcome statistics, patient satisfaction surveys, health plan accreditation criteria, and physician practice profiles, can best be interpreted as consequences rather than causes of the changes in markets, organizations, and norms.

Forty years ago Arrow held that “virtually all the special features of this industry, in fact, stem from the prevalence of uncertainty” (946). Today, this broad ascription of organization to asymmetric information is untenable. In seeking to understand the contemporary institutions, organizations, and norms of health care and in particular when seeking to understand the remarkable manner in which they have changed since Arrow’s article was published, we should look first at theories based on antitrust enforcement, purchasing alliances, federal budgetary deficits, failed experiments at rate regulation, and other events that are not primarily informational in nature. But as a secondary explanation for what has occurred and perhaps as a primary explanation for what is about to occur in health care organization, changes in information and the attenuation of asymmetries are attractive. Patients, consumers, and citizens are ever more educated with respect to their own health and health care, and this fundamental fact cannot fail to have revolutionary implications for the organizational, legal, and normative structures of medicine (coming full circle to Arrow’s article). In particular, the Internet, the greatest revolution in communications technology ever compressed into so short a period, threatens to turn much of the system on its head. Patients with serious chronic disease—those responsible for most health care utilization and in Arrow’s framework those most reliant on trust and professionalism—now increasingly have more, not less, information concerning their specific clinical condition than do their treating physicians. Some arrive in the office with a stack of articles downloaded from the clinical journals that the doctor has no time to read, with performance statistics on the services provided by particular providers and facilities, and with support from cybernetworks of fellow sufferers who trade experiences, anecdotes, and Web site references. Obviously, the typical physician will always understand clinical medicine better than the typical patient; that is why we send young people to medical school. But we stand at the beginning of a new era, or perhaps the continuation of an era that began with the doctrine of informed consent, in which the patient and the physician become partners, with the physician being the junior partner, in the quest to understand the disease process, intervene where

possible, and find the wisdom to accept those declines in health status that are the fate of the mortal.

Conclusion

The irony of “Uncertainty and the Welfare Economics of Medical Care” is that it brought to articulation a view of professionalism and the physician-patient relationship on the very eve of a massive and largely successful assault on that view and the social relationships it embodied. The decade of Arrow’s article produced a generation of now-classic critiques of the principle that patients must rely on trust in the benevolence of physicians for understanding, treatment, and personal coping with their diseases. Medical sociology turned its back on Talcott Parsons (1962) and savaged professional dominance through the writings of Elliot Freidson and his followers. The Boston Women’s Health Book Collective denounced the paternalism and status inequalities inherent in the conventional clinical relationship, founding what became known as the women’s health movement. Thomas Szasz’s denunciation of psychiatry as pseudoscience and a threat to personal freedom launched the mental patients’ rights movement, building on exposés of coercive institutions that embodied the ultimate in asymmetric information between physician and patient. Ivan Illich carried the Szasz framework to the whole of medicine, characterizing medical professionalism as the expropriation of health from the people, the deliberate creation of unequal access to information.

“Uncertainty and the Welfare Economics of Medical Care” was and remains an important article, a spur to thinking and an identifiable starting point for the modern moment in health economics. Its influence pales, however, in comparison to the rich and radical debates spurred by *Professional Dominance* (Freidson 1970), *Our Bodies Ourselves* (BWHBC 1969), *The Myth of Mental Illness* (Szasz 1961), *Medical Nemesis* (Illich 1976), and the other calls for a new social and clinical contract, a relationship of equals between patients and physicians, the people and the profession. Arrow’s article experienced the fate of many seminal writings, to describe as the present a world that already was past. In the words of the greatest historian of the western intellect, “When philosophy paints its grey in grey, then has the shape of life grown old. By philosophy’s grey in grey it cannot be rejuvenated but only understood. The owl of Minerva spreads its wings only with the falling of the dusk” (Hegel [1807] 1967: 63).

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