# Competition Between For-Profit and Nonprofit Health Care Providers: Can It Help Achieve Social Goals?

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*This article outlines a theory of competition between for-profit and nonprofit health care providers. The theory demonstrates conditions under which nonprofits can help achieve social goals and explores how the nondistribution constraint imposed on nonprofits regulates the competitive process. It is shown that competition from nonprofits can create a positive spillover effect on the performance of the for-profit sector. The theoretical arguments, which focus on patients who are poorly informed about quality, are then extended to the hospital sector where there are a variety of social goods including charity care, education, and community health programs. These ideas serve as the basis for a literature review on hospital ownership, competition, and the provision of social goods and a critique of empirical research on the relative performance of for-profit and nonprofit providers. The article concludes with implications for policy toward nonprofit organizations in service industries and a discussion of how empirical research can inform such policy.*

The roles of for-profit and nonprofit organizations in health care have generated considerable controversy (e.g., Institute of Medicine 1986; Relman and Reinhardt 1986; Herzlinger and Krasker 1987; Gray 1993; Frank and Salkever 1994; Schlesinger, Gray, and Bradley 1996). Nonprofit organizations (NPOs) providing the complex personal services characteristic of the health

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care sector often compete with for-profit providers of similar services. Yet, the effects of competition between firms of different ownership types are poorly understood. Most of the economic theory comparing for-profit and nonprofit firms treats each type of firm as if it existed in isolation. Thus, these theories have little to say about issues such as the effect of competition from for-profit enterprises on the ability of NPOs to achieve social objectives. Empirical work has followed a similar approach by focusing on the ownership of individual firms without controlling for the ownership of other firms in the market. If competition from one type of firm influences the performance of the other, this omission can bias inferences about the relationship between ownership and outcomes such as quality and cost of care. A better understanding of the effects of competition between for-profit and NPOs is necessary to ensure that public policy toward NPOs plays a productive role.

## NEW CONTRIBUTION

There have been few attempts to use economic theory to generate hypotheses about the consequences of competition between for-profit and nonprofit health care providers and to use such hypotheses to guide the formulation and interpretation of empirical research. This article describes such a theory, conveying its intuition while avoiding the mathematical formalization.[1] The theory demonstrates conditions under which nonprofits can help achieve social goals and explores how the nondistribution constraint (NDC) imposed on nonprofits regulates the competitive process. It is shown that competition from nonprofits can create a positive spillover effect on the performance of the for-profit sector and that ignoring this possibility can lead to misinterpretation of empirical findings and errant policy prescriptions. The existing literature has generally not been based on such a conceptual framework, creating a potential bias in research comparing the performance of for-profit and NPOs.

The hypotheses generated by the theory, which focus on patients who are poorly informed about quality, are then extended to consider the possible effects of competition between for-profit and nonprofit providers on the provision of social goods such as charity care, education, research, and community health programs. These ideas serve as the basis for a literature review on the relationships between hospital ownership, competition, and the provision of social goods and a critique of empirical research on the relative performance of for-profit and nonprofit providers. The review is not intended to be a comprehensive summary of knowledge about hospital performance. Rather, it focuses on what the existing literature tells us about how competition between for-profit and nonprofit hospitals may affect the provision of socially

desired services and how future research guided by theoretical insights may be more illuminating on this point. Policy implications of the theory are also developed.

## A THEORY OF INTERSECTORAL COMPETITION

An often proposed rationale for the existence of nonprofit enterprise in health care is that an exclusively for-profit market can fail to deliver optimal quality of care when some consumers are unable to judge quality. This idea originates in Arrow (1963), who claims that NPOs are considered more trustworthy because the concept of profit denies the trust relationships required to encourage the provision of high quality to poorly informed consumers. Hansmann (1980) builds on this insight, suggesting that there are several types of nonprofit enterprises. The primary function of NPOs such as the Sierra Club or the Salvation Army is providing public goods. Such organizations, characterized as "charitable," tend to be relatively dependent on voluntary contributions and rarely face for-profit competition. Other NPOs such as hospitals and nursing homes produce private goods for which some dimensions of quality are difficult to observe.

Hansmann classifies firms of the latter type as "commercial" NPOs and informally outlines circumstances under which such institutions would emerge. Economic theory implies that for-profit firms produce the socially efficient product array when consumers can easily evaluate products before purchase, contract over terms of delivery, monitor contractual compliance, and obtain redress for violations. These conditions are satisfied for many goods and services, but there are others for which consumers' difficulty in contracting over all relevant product attributes leaves an element of discretion to producers. Clients who cannot easily judge quality may prefer dealing with NPOs, using ownership as a quality signal. By prohibiting payment of profits to those who control the organization, the NDC imposed on NPOs may diminish incentives to misrepresent quality. Thus, Arrow, Hansmann, and others have argued that NPOs may be an appropriate response to contracting failures arising from quality uncertainty. Likewise, a recent article by Gray (1997) discusses the role of nonprofits in assuring trustworthy care in the present managed care-dominated environment.

This section provides an informal outline of a theoretical model that explores how NPOs playing the quality assurance role envisioned by Arrow and Hansmann affect the performance of health care markets. Weisbrod (1991) urges a better theoretical understanding of intersectoral competition, and Steinberg (1993) calls for theories of nonprofit behavior that incorporate the determination of the number and type of competitors and the self-selection of

consumers and entrepreneurs into sectors, and ensure that the posited NPO objective function can "survive" in the competitive environment. To address these calls, the theory incorporates the relationship between consumers' choice of sector and the information they possess, the potential for opportunistic behavior by firms with poorly informed clienteles, the role of the NDC in facilitating NPOs' ability to improve consumer well-being (and how even an imperfectly enforced constraint may accomplish this goal), and the effect of competition from nonprofits on the observed performance of the for-profit sector.

Like any theoretical model, this work relies on a set of assumptions. The theory provides a rather stylized description of competition between for-profit and nonprofit firms and omits some important industry-specific details (such as most regulatory conditions). Before discussing the results, the key assumptions are laid out:

## CONSUMERS

1. There are two types of consumers. Some are well-informed about the quality of care available at various facilities. Others cannot readily observe quality. Such information heterogeneity can arise from variations in cognitive, physical, economic, and family resources across individuals.

2. Heterogeneous preferences about quality are ignored in order to focus on the potential market failure (providing poorly informed consumers with quality that is not consistent with the price charged). For simplicity, this preferred quality level will be referred to as "high" quality and denoted by $H$. The results continue to hold with heterogeneous quality preferences, but there would be several submarkets for different quality/cost combinations.[2]

3. The consumers' goal is to maximize the utility function $U(q, p)$, which increases with the quality level they receive ($q$) and declines with the price they pay ($p$). To accomplish this, well-informed consumers simply choose a facility that offers their preferred combination of quality and price. Poorly informed consumers must form an expectation about the likelihood of receiving the promised level of care conditional on readily observable characteristics, such as prices charged and facility ownership, and then choose a facility knowing that they might not receive the promised level of care. Uninformed consumers' expected utility when paying price $p$ is denoted by $\lambda U(H, p) + (1 - \lambda)U(L,p)$ where $\lambda$ denotes the probability (which can differ by facility ownership) that the facility chosen by the uninformed consumer delivers the promised quality level, $H$ ($L$ denotes the lowest quality level that poorly informed consumers cannot distinguish from $H$).

## FIRMS

1. There are three types of firms. For-profit firms' only objective is maximizing profits. Because the precise nature of NPOs' objectives is unknown, the assumptions on the nonprofit sector are fairly strong. Nonprofits are divided into two types. "Honest" NPOs voluntarily comply with the NDC and deliver the promised quality provided they can break even.[3] However, as Gray (1993) points out, a nonprofit organizational form is not sufficient to guarantee trustworthy behavior. Thus, the second type is a for-profit in disguise (FPID). Although nominally organized as nonprofits, FPIDs are motivated solely by profit.

2. By treating NPOs as facing a binding break-even constraint, many theoretical models of nonprofit behavior (e.g., Easley and O'Hara 1988) implicitly assume that either the NDC is perfectly enforced or that nonprofits never seek personal enrichment. Instead of treating the NDC as perfect, the approach taken here recognizes that legal restraints and the possibility of detection make it more difficult, but not impossible, to remove profits from an NPO as cash or in-kind perquisites.[4] The strictness of enforcement determines how easily operating surpluses can be converted for private gain. Under strict enforcement of the NDC, corporate officers and employees are allowed to earn a wage that does not exceed what they could earn in similar positions in the for-profit sector. However, any profits generated by the firm cannot legally be appropriated for the private benefit of those who control the organization (e.g., a return on investment is not allowed). Given the actual level of enforcement of the NDC, $p_{FPID}$ is defined as the lowest price of care in the nonprofit sector at which FPIDs can appropriate at least the competitive return on their investment required to make the FPID strategy economically appealing.

3. Firms' average cost curves are U-shaped and raising quality is costly. The minimum average cost of delivering high (low) quality care is denoted by $c_H$ ($c_L$) where $c_H > c_L$.

The full information case (all consumers know the prices and qualities of all firms) with only for-profit firms, originally analyzed in Rosen (1974), serves as a benchmark. In this case, the market provides all consumers with their preferred price/quality combination subject to firms being able to break even in economic terms.[5] Competition drives price to the break-even level, determined by the minimum average cost of production.

Result 1: If consumers can distinguish between different quality levels, a competitive, exclusively for-profit market delivers whatever quality level consumers are willing to pay for.

Conversely, when some consumers are poorly informed, a market with only for-profits can fail to deliver consumers' preferred price/quality combination (see Cooper and Ross [1984] for a formal analysis). Some firms may profit through opportunistic behavior, charging high prices while providing less costly, low-quality care. Some high-quality firms may continue to exist because they can be identified by informed consumers, but uninformed consumers must guess about quality given the prices they observe. It is reasonable for the uninformed to believe that any firm charging too low a price could not be of high quality since a true high-quality firm could not remain viable at a price below $c_H$. Thus, opportunistic firms must mimic the pricing of high-quality firms to fool uninformed consumers, distorting consumers' ability to use prices to infer quality.[6] The fraction of high-quality firms viable in the market (and, hence, the likelihood that an uninformed consumer actually receives high quality when choosing randomly among facilities charging the high-quality price) rises with the fraction of well-informed consumers. This occurs because the profitability of delivering lower-than-promised quality declines when poorly informed consumers are less prevalent.

Result 2: If some consumers are unable to distinguish between high- and low-quality facilities, an exclusively for-profit market can support some firms that charge a price consistent with higher quality than they actually deliver.

Result 3: If the proportion of well-informed consumers rises, the proportion of for-profit firms delivering the promised quality will also rise.

Unfortunately, an exclusively for-profit market does not deliver the preferred price/quality combination to every consumer unless nearly all consumers are informed. This implies that when some consumers are poorly informed about quality, nonprofits have the potential to improve the market outcome provided they can withstand competition from FPIDs. The remainder of this section analyzes outcomes when both for-profit and nonprofit firms operate.

$p_{FPID}$, the lowest price at which FPIDs can appropriate a competitive return, varies with the ease of circumventing the NDC. If the nonprofit price exceeds $p_{FPID}$, mimicking an honest nonprofit by organizing as a nonprofit, charging the same price, and taking on the other readily observable characteristics of honest nonprofits will be a profitable strategy. The weaker the NDC, the lower this economic break-even price will be. First, consider the extreme cases. With a meaningless NDC (effectively unrestricted appropriability of profit), FPIDs need only cover the cost ($c_L$) of providing the lowest quality that uniformed consumers cannot distinguish from high quality to break even. Conversely, perfect enforcement implies that there is no price at which FPIDs can appropriate a competitive return on investment (if appropriating profit is impossi-

ble, FPIDs will never be attracted into the market). Intermediate levels of enforcement lead to a finite price above $c_L$ at which FPIDs can break even. Essentially, the presence of poorly informed consumers in the nonprofit sector creates the possibility that FPIDs can profit by mimicking the prices and other readily observable characteristics of honest nonprofits, but the strength of the NDC determines whether or not sufficient profits can actually be appropriated to make exploiting this strategy worthwhile.

Another useful price to define is the highest price, $p_n$, that uninformed consumers would be willing to pay for care in the nonprofit sector (assuming, for the moment, that this care is certain to be of high quality). This price depends, in part, on the likelihood of receiving high-quality care in the for-profit sector. If all for-profits deliver high quality, uninformed consumers will obviously not pay more to an NPO than the price of care in the for-profit sector (which competition drives to $c_H$, the minimum average cost of high quality). However, the lower the likelihood of receiving high-quality care is in the for-profit sector, the larger the premium above $c_H$ uninformed consumers would be willing to pay to assure themselves of high quality.

Price and quality in the nonprofit sector depend on the relationship between FPIDs' break-even price, uninformed consumers' maximum willingness to pay for high quality, and the minimum average cost of high-quality care. Three regimes are possible depending on how difficult it is to circumvent the NDC (results from these regimes are summarized in Table 1):

1. Strong NDC ($c_H < p_n < p_{FPID}$): if the NDC is sufficiently strong that the lowest price at which FPIDs could break even exceeds both the minimum average cost of high-quality care ($c_H$) and the highest price uninformed consumers will pay for guaranteed high quality ($p_n$), there are several implications for how a mixed-ownership market performs. First, if honest nonprofits charge a price between $c_H$ and $p_n$, FPIDs cannot break even when mimicking honest nonprofits. This validates uninformed consumers' trust of the nonprofit sector. Second, only uninformed consumers would pay a premium above the for-profit price for the quality assurance provided by nonprofit status (informed consumers can find a lower priced facility offering their preferred quality in the for-profit sector).[7]

The key implication of the theory arises from the second point. Since the nonprofit sector disproportionately attracts poorly informed consumers, the fraction of informed consumers in the for-profit sector rises with the nonprofit market share. In other words, consumers remaining in the for-profit sector are better informed than a random draw from the patient population.[8] Applying result 3, as the nonprofit sector grows, fewer low-quality for-profits can make sufficient sales to break even. This raises the likelihood of receiving the promised quality in the for-profit sector.[9] On the nonprofit side of the market,

TABLE 1 Summary of Key Results by Regime

| *Strength of NDC*[a] *(Regime)* | *Can "Honest" NPOs*[b] *Survive?* | *Can FPIDs*[c] *Survive?* | *Can Higher Nonprofit Market Share Improve Average Quality in the Market?* | *Can Higher Nonprofit Market Share Improve For-Profit Quality (Spillover Effect)?* |
|---|---|---|---|---|
| 1. Strong | Yes | No | Yes | Yes |
| 2. Moderate | Yes | No | Yes | Yes |
| 3a. Weak, with substantial subsidies targeted to honest NPOs | Yes | No | Yes | No |
| 3b. Weak, with some subsidies targeted to honest NPOs | Yes | Yes | ? | No |
| 3c. Weak, with few subsidies targeted to honest NPOs | No | Yes | No | No |

a. NDC = nondistribution constraint.
b. NPOs = nonprofit organizations.
c. FPIDs = for-profits in disguise.

the NDC, although imperfectly enforced, deters entry by FPIDs and allows high-quality nonprofits to remain viable because there exists a range of prices at which they can cover the costs of delivering high-quality care but at which the FPID strategy is unprofitable. This creates the beneficial spillover effect on the performance of the for-profit sector as high-quality NPOs drive out low-quality for-profits that charge high-quality prices. By improving average for-profit quality, NPOs can even increase the expected utility of poorly informed consumers who remain in the proprietary sector, leaving consumers better off in either sector than they would be in the absence of a nonprofit sector. As the nonprofit sector becomes dominant, for-profits become more like NPOs in their likelihood of delivering the promised care.

With a large enough nonprofit sector, intersectoral quality differences can even disappear. If enough uninformed consumers are served by the nonprofit sector, the fraction of informed consumers in the for-profit sector rises sufficiently that only high-quality for-profits remain viable. This makes further expansion of the nonprofit sector unnecessary as a mixed-ownership market can deliver the desired quality to all consumers.

Result 4: Because poorly informed consumers receive a quality assurance benefit (which is irrelevant to well-informed consumers) from dealing with a nonprofit, poorly informed consumers will disproportionately seek out nonprofit facilities.

Result 5: An implication of results 3 and 4 is that a higher nonprofit market share leads to a higher proportion of well-informed consumers in the for-profit sector, raising the likelihood that for-profits deliver quality consistent with the prices they charge.

2. Moderate NDC ($c_H < p_{FPID} < p_n$): if the NDC is more easily circumvented, the price FPIDs require to break even may be above the minimum average cost of high quality but below uninformed consumers' maximum willingness to pay for high quality. That is, at the price at which uninformed consumers are indifferent between knowing they will receive high quality and taking their chances in the for-profit sector, FPIDs could appropriate a competitive return by mimicking honest nonprofits. This provides a new and novel explanation for observations of rationing by the nonprofit sector. Since the profitability of the disguising as a nonprofit rises with the nonprofit price, NPOs can only avoid attracting FPIDs by keeping their prices below the level at which FPIDs could break even despite the fact that honest NPOs may face excess demand at such prices (all uninformed consumers prefer the nonprofit sector at such a price).

The positive spillover effect of nonprofit market share on for-profit quality (result 5) continues to hold in this scenario. The additional implication of this scenario is how the threat of entry of dishonest firms can constrain the pricing of NPOs and lead to persistent excess demand in the nonprofit sector. The strict NDC of scenario 1 allows high-quality NPOs to raise prices without enticing low-quality FPIDs to enter. Even if NPOs use the extra revenue only to increase the number of patients they are able to serve, the new patients benefit but the original clients are worse off because of the higher price. Alternatively, managers might invest in even higher quality levels than patients would ideally choose or produce inefficiently (the NDC prohibits taking surplus out of the firm but does not restrict revenue use within the firm). This implies that even if enforcing the NDC were costless, perfect enforcement might provide excessive protection, allowing NPOs greater latitude to deviate from socially desired objectives. With imperfect enforcement, nonprofit pricing is constrained by the threat of entry by FPIDs, providing a new explanation for rationing by NPOs.

Result 6: Two factors enhance the attractiveness of the FPID strategy: an easily circumvented NDC and high prevailing prices. Honest nonprofits cannot directly control the strictness of the NDC, but they can discourage FPIDs by charging prices lower than what the market could bear in the absence of the threat of entry by FPIDs.

3. Weak NDC ($p_{FPID} < c_H < p_n$): if the NDC is so weak that FPIDs' break-even price is below the minimum average cost of high-quality care, the difficulty of converting operating surpluses for private gain is not even sufficient to offset the low-quality cost advantage enjoyed by FPIDs. In the previous cases, honest nonprofits did not require external subsidies to remain viable. However, with a weak NDC, honest nonprofits must have better access than FPIDs to subsidies such as donations or volunteer labor to prevent nonprofit status from being debased as a signal of trustworthiness. Subsidies equally available to all nonprofits, such as tax exemptions, will not give altruistic nonprofits a substantial comparative advantage because these subsidies are almost as good as cash to FPIDs when the NDC is weak.

Result 7: Subsidies equally available to all nonprofits are unlikely to be useful unless the NDC is meaningful.

There are three subcases:

a. If honest nonprofits have better access to subsidies than FPIDs, entry by FPIDs may be deterred by using these subsidies to support a price below $p_{FPID}$. If the value of these subsidies is enough to allow honest nonprofits to cover their costs at a price low enough to discourage FPIDs, only honest nonprofits will remain in the market. However, since care is cheaper in the nonprofit sector, informed consumers also prefer the nonprofit sector. Thus, any quality signal provided by nonprofit status will be used inefficiently.

b. If honest nonprofits do not receive enough subsidies to break even at a price unattractive to FPIDs, they may still be able to remain viable by using whatever subsidies they have to support a price below the minimum average cost of producing high-quality care. At such a price, informed consumers will be attracted to honest nonprofits and these sales help them remain viable in the same way that sales to informed consumers allow some high-quality for-profits to break even. However, FPIDs are also viable, just like low-quality firms could be viable in the for-profit sector. This is the only case in which honest nonprofits and FPIDs coexist.

c. If subsidies are below a certain level, honest nonprofits are driven out of the market.

In subcases a and b, a greater prevalence of honest nonprofits raises quality in the market as a whole. However, results 4 (the disproportionate selection of poorly informed consumers into the nonprofit sector) and 5 (the spillover effect on for-profit quality) no longer hold with such an easily circumvented NDC. Since informed consumers prefer the lower priced nonprofit sector, expanding this sector does not enhance the fraction of informed consumers in

the proprietary sector and, thus, does not generate a spillover effect on for-profit sector quality. In subcase c, quality in the market as a whole would be identical to that found in an exclusively for-profit market as characterized by result 2.

## APPLYING THE THEORY: HOSPITAL COMPETITION AND SOCIAL GOODS

In the theory outlined above, the nonprofit sector improved social welfare by alleviating the underprovision of quality (relative to the quality that would be demanded by a well-informed clientele) by a private, for-profit market. The nonprofit sector directly addressed the underprovision of quality by delivering high-quality care. However, the more interesting effect of the nonprofit sector was the improved performance of the for-profit sector ascribable to the increased vigor of quality competition. This spillover arose from the self-selection of consumers into sectors. While well-informed consumers chose the lowest priced facility offering their desired level of care (regardless of ownership), poorly informed consumers valued the quality assurance provided by nonprofit status. Thus, poorly informed consumers disproportionately patronized nonprofit facilities. By reducing the prevalence of uninformed consumers in the for-profit sector, opportunistic behavior (charging high prices for low quality) became a less profitable strategy.

This reasoning calls for a reassessment of the practice of basing policy prescriptions on whether or not for-profit and nonprofit firms appear different. In the case of uncertainty about quality of care, quality can converge across sectors as competition from nonprofits increases, but at a higher level than would prevail in an exclusively for-profit market. Thus, quality differences between sectors may appear small, calling into question preferential treatment for NPOs or even the existence of nonprofit enterprise precisely when NPOs are most beneficial. If such positive spillovers occur, any observed differences represent only a lower bound on the benefits of nonprofit ownership. Conversely, if NPOs occupy the high-quality market niche because of managerial preferences but do not change the *market-level* outcomes that would prevail if only for-profits operated (as might be the case if all consumers are well-informed), observed quality differences are socially irrelevant.

This theory may be most directly applicable to the private-pay segment of the nursing home industry. Certainly, some nursing home residents are vulnerable to opportunistic behavior because of impaired physical and cognitive capabilities and unavoidably hasty care decisions (e.g., following a hospital discharge). Nonmonetary switching costs are high as residents often fear change and experience disorientation, anxiety, and functional decline if they

move. Vogel (1985) concludes that those at risk of institutionalization "hardly [have] the characteristics of the well-informed, rational, and mobile consumer that economic theory would have making choices" (p. 586). Ownership can provide a low-cost signal of quality if nonprofit homes, often affiliated with religious or charitable organizations, are less willing to compromise care for the sake of profit.

Since the nursing home industry has a longer history of significant for-profit presence than the hospital industry, a substantial body of literature has attempted to identify quality differences by ownership. Nonetheless, the evidence has been termed "inconclusive" (Davis 1991). Existing studies generally fail to control for ownership of a firm's competitors to explicitly account for intersectoral competition. Rather, empirical studies of the ownership-quality relationship implicitly assume that finding (not finding) quality differences between sectors constitutes prima facie evidence for (against) the social desirability of nonprofit enterprise. As demonstrated by the logic of the theory, either implication can be false. Fortunately, this realization need not be destructive to empirical testing. Since the influence of the nonprofit sector depends on its market share, which varies by time and location, more defensible tests can be specified.

Discussions of mixed-ownership industries often focus on adverse consequences of competition: for-profits might erode NPOs' ability to simultaneously achieve social goals and break even. This outcome is certainly possible, particularly if the NDC has little force (as in regime 3 above).[10] However, this article also demonstrates beneficial aspects of intersectoral competition that have previously gone unrecognized (regimes 1 and 2).

The logic of the theory can be applied to industries other than long-term care and situations other than quality competition under asymmetric information. Beneficial intersectoral spillovers can occur along any socially relevant service dimension in which the prevalence of NPOs increases the level of competition. The remainder of this discussion focuses on hospitals, an industry that, despite (or perhaps because of) the traditional dominance of the nonprofit organizational form, has seen considerable controversy about the role of NPOs and criteria for their favorable treatment. In particular, conversions from nonprofit to for-profit status are currently receiving substantial attention in both the popular press and academic literature (DeFriese 1996).

Legislative and judicial challenges to nonprofit hospitals' tax exemptions have become widespread and there have been a number of proposals to make preferential tax treatment conditional on satisfying arbitrary, quantifiable standards (e.g., the Roybal [1990] bill would have mandated that nonprofit hospitals provide charity care worth at least 50 percent of their potential tax liability to qualify for exemption; see Gray [1992] and Hyman [1990] for

discussions of proposals). Clement, Smith, and Wheeler (1994) and Morrisey, Wedig, and Hassan (1996) document that most, but not all, nonprofit hospitals provide quantifiable community benefits in excess of the value of their tax exemptions.

As in long-term care, it is widely believed that questions about the desirability of nonprofit hospitals and policies benefiting them can be settled by measuring the extent to which for-profit and nonprofit hospitals differ in the provision of socially beneficial services. A particularly heated debate on nonprofit hospitals was sparked by Herzlinger and Krasker (1987), who claim that for-profit and nonprofits provide similar levels of community benefit. Not surprisingly, the primary response consisted of evidence documenting intersectoral differences (Lewin, Eckels, and Miller 1988; Arrington and Haddock 1990). Likewise, two articles appearing in a special issue of *Inquiry* on social responsibility in health care reach opposite conclusions about the role of for-profit hospitals. Sherlock (1986) claims that for-profit hospitals are as socially responsible as NPOs because they provide almost as much uncompensated care and is puzzled as to why NPOs don't do more. Conversely, Seay et al. (1986) assert that nonprofit hospitals are the "standard-setters," determining what behavior a community expects from *any* hospital. These opposing views cannot be reconciled without a clearer conceptual understanding of how intersectoral competition can affect socially relevant outcomes combined with empirical research that accounts for both a facility's ownership *and* the ownership of its competitors.

While several authors have echoed Seay et al.'s opinion that NPOs could serve as standard-setters (e.g., Friedman, Hattis, and Bogue 1990; Jones, Duval, and Lesparre 1987), this proposition has not been explicitly tested. More attention has been paid to how competition from for-profits may force nonprofit hospitals to become more "business-like" in their competitive behavior and their devotion to financial goals relative to the provision of socially beneficial services (e.g., Lewin and Lewin 1987; Wilensky 1987; Frank, Salkever, and Mitchell 1990). However, only Hughes and Luft (1990; discussed below) have attempted to test how competitors' ownership affects hospital behavior.

Although the quality uncertainty motive for nonprofit enterprise certainly may be relevant in the hospital industry (Robinson 1988), the mediating role of the physician in the patient-hospital interaction makes reducing inefficiencies associated with poor consumer information less convincing as the primary social benefit of nonprofit hospitals than is the case for nursing homes. Accordingly, most of the debate and research about the social role of nonprofit hospitals has centered on the existence and extent of measurable differences between for-profit and nonprofit hospitals in charity care, education, research,

unprofitable community services, and pricing. The discussion here will also focus on these aspects of hospital performance to emphasize how the theoretical insights about competition in mixed-ownership industries might apply in contexts other than quality uncertainty and remain salient even if, say, the collection and dissemination of valid quality information or shifting the locus of hospital choice from individual consumers to managed care organizations makes quality assurance a less important role for nonprofit hospitals.[11]

Knowing how hospitals compete is necessary to understand the role of nonprofits and to determine when observed differences between for-profit and nonprofit hospitals accurately reflect the relative benefits of nonprofit control. If the provision of "public goods" such as charity care, education, research, and community service is not directly profitable (i.e., revenues generated explicitly by these activities do not cover their costs) and confers no indirect benefits to the organization, for-profit hospitals do not have an incentive to provide the optimal level of such services. In this case, it would be reasonable to use the difference between for-profit and nonprofit hospitals as a measure of the benefits of nonprofit ownership along these quantifiable dimensions.

However, such activities might confer indirect benefits to the institution, even one organized as a for-profit enterprise. For example, community clinics or health promotion activities may create referral bases. For-profit facilities would provide these services until providing one more "unit" generates a marketing value that just offsets the losses from the additional unit. NPOs would be expected to engage in a greater amount of such activities than for-profit hospitals if they value the community benefit as well as the marketing value.

Whether or not this difference constitutes a reasonable basis for judging the relative benefits of nonprofit enterprise hinges on how for-profit hospitals respond to an increase in the level of unprofitable community services provided by competitors. If for-profit hospitals facing substantial competition from NPOs respond by providing more community services, perhaps in an attempt to signal to the community or to physicians that they are as concerned as their nonprofit competitors with patients' best interests, intersectoral spillovers analogous to those in the quality uncertainty model occur.[12] That is, the for-profit hospital has to provide more community services not to be put at a competitive disadvantage, causing differences in service levels by ownership to understate the true benefits of nonprofit enterprise.

Conversely, if the provision of community services by rival hospitals (or the distribution of characteristics that lead rival hospitals to choose to provide more or less community services) does not affect the level of community services chosen by a hospital, then the difference in service levels by owner-

ship provides an appropriate measure of the effects of organizational form. It is even possible that for-profit hospitals provide fewer community services when they face more competition from NPOs. For example, the existence of money-losing community health clinics operated by rival hospitals might make reaching potential patients by opening such a clinic less effective, causing for-profit hospitals to shift their marketing efforts to, say, newspaper advertising. Thus, NPOs (who may value the clinics for more than their utility as marketing tools) might crowd out the provision of such services by for-profit hospitals, causing the difference in service levels between ownership types to *overstate* the benefits of nonprofit enterprise.

These possible scenarios suggest how the insights of the theory can be generalized to situations other than quality competition with asymmetric information.

> Corollary to result 5: If competition from nonprofit providers increases the propensity of for-profits to provide a socially beneficial service (e.g., the standard-setting hypothesis), differences between for-profit and nonprofit provision of the service represent a lower bound on the effect of nonprofit ownership on the amount of the service provided at the market level. Conversely, if provision by nonprofits crowds out provision by for-profits, observed differences actually overstate the benefits of nonprofit ownership. Only if provision by for-profits is independent of provision by their nonprofit competitors will the differential represent a valid measure of the benefits of nonprofit ownership.

Since appropriate policy toward nonprofit hospitals depends on which of these scenarios prevails, this provides an important area for empirical research. Existing literature provides indirect but useful evidence. Shortell et al. (1986) report the effects of ownership on the provision of 18 services, primarily in health promotion or community health, that were found to be unprofitable in most hospitals. On average, NPOs provided more unprofitable services than for-profits, but for-profits located in more competitive markets tended to provide more services. Their measure of competitiveness was crude and their study did not account for the ownership or other characteristics of the competitors. Thus, no conclusions about intersectoral spillovers can be drawn, but their findings are consistent with the possibility that such spillovers exist for the services studied.

Hughes and Luft (1990) provide a direct test of effects of competition from for-profit hospitals on services offered by nonprofits. Using computed tomography (CT) scanning as an example of a generally profitable service and newborn nurseries as an example of a frequently unprofitable service, they find that nonprofit hospitals with a for-profit competitor were more likely to

have a CT scanner and less likely (although not significantly) to have a newborn nursery. They conclude that competitive pressure from for-profits caused NPOs to shift their focus from community benefit toward financial goals. However, the effects of competition from NPOs on the behavior of for-profits were not examined.

Similar principles can be applied to other measures of hospital performance. Education and research may not be directly profitable, but research opportunities and house staff coverage can enhance hospitals' ability to recruit and retain medical staff. If rival hospitals offer these physician amenities, for-profit hospitals might react by increasing their teaching and research activities. However, the increasing extent to which physicians are drawn from national rather than local markets may render local variations in ownership status less relevant than broader trends.

Also, it has been shown that nonprofit hospitals exhibit pricing restraint (for a summary of early studies, see Institute of Medicine 1986). If NPOs charge lower prices, for-profit hospitals facing strong competition from NPOs may be forced to follow suit. A recent study by Lynk (1995) finds that mergers between for-profit hospitals led to significantly higher prices, while mergers between nonprofits slightly decreased prices, indicating that nonprofit hospitals did not exploit market power created by a reduction in competition and may even have passed along savings generated by consolidating underused services. Clement, Smith, and Wheeler (1994) report that California nonprofit hospitals had lower charges than for-profit hospitals. However, they also document a sharp decline in this differential during the 1980s, a period of rapid growth in the bargaining power of California's managed care organizations. Given the dramatic growth of managed care nationwide and the accompanying excess hospital bed capacity, it is unlikely that the ownership status of rival hospitals will be a primary factor in constraining the prices charged by for-profit hospitals. Even if spillovers existed along this dimension in the past, selective contracting by managed care organizations appears to be supplanting nonprofit enterprise as a source of pricing restraint.

Finally, the most controversial social dimension of hospital performance is uncompensated (charity) care. Most proposals to limit nonprofits' preferential treatment are based primarily on the provision of charity care. Charity care may seem to be the classic case of a service dimension over which for-profits have no reason to compete with nonprofits, making the intersectoral differences the relevant measure of the social benefit of nonprofit enterprise. However, when accused of providing "too little" uncompensated care, representatives of for-profit hospitals respond aggressively (Burda 1995). This observation is consistent with charity care affecting a hospital's public image,

which certainly can influence its profitability. If this image depends on how much care a hospital provides relative to rival hospitals, intersectoral spillovers are possible.

Some empirical evidence exists about the effects of competition on charity care, but this evidence is mixed. While some studies find that increased hospital competition results in declines in uncompensated care or attempts to limit such care (e.g., Thorpe and Phelps 1991; Hadley and Feder 1985; Frank, Salkever, and Mitchell 1990), others do not find strong effects (e.g., Sloan, Morrisey, and Valvona 1988; Frank and Salkever 1991). These studies do not yield direct evidence on the interaction between competition and ownership in determining the volume of charity care, but knowing if competition has any effect on charity care can provide insight as to the desirability of basing policy on straightforward intersectoral comparisons.

Several studies focus more directly on the role of hospital ownership. Norton and Staiger (1994) report that for-profit and nonprofit hospitals provide similar levels of charity care conditional on their location, which could result from targeting of charity care to the levels provided by rival hospitals, but for-profits are more likely to locate in areas with less need for charity care. Conversely, Shortell et al. (1986) find charity care is less likely to be provided by for-profit hospitals in more competitive markets than in less competitive markets, consistent with the interpretation that competition squeezes out charity care. However, Norton and Staiger's findings about for-profit hospitals' location decisions suggest an alternate interpretation: markets with less need for charity care simultaneously attract more for-profits and more competition. If this interpretation is correct, the targeting, or standard-setting, hypothesis is not contradicted by Shortell et al.'s findings, raising the possibility of beneficial spillovers.

A recent study of California nonprofit hospitals acquired by for-profit corporations finds that uncompensated care did not decline postacquisition (Young, Desai, and Lukas 1997). It is possible that these newly for-profit hospitals were reluctant to reduce charity care below historical levels to avoid a loss of reputation among physicians or the public, supporting the targeting hypothesis. A study extending the follow-up period to determine if this finding is permanent or transitory would be useful as would an examination of how change in a hospital's ownership status affects the behavior of its direct competitors. Young et al. also report that the acquired hospitals provided less charity care prior to their acquisition and ensuing ownership change than a comparison set of hospitals that did not experience an ownership change, bolstering the Norton and Staiger view that for-profit hospitals select markets with less demand for charity care.

Frank and Salkever (1991) explore the effect of competition between nonprofit hospitals on charity care. They attempt to distinguish between "pure altruism" (NPOs care only about the level of unmet need in their communities) and "impure altruism" (NPOs care about both the level of unmet need and which organization receives the goodwill created by providing charity care). In the pure altruism model, an increase in one hospital's supply of charity care decreases unmet need, reducing the level of charity provided by other hospitals. In the impure altruism, or rivalry, model, an increase in one hospital's charity care can induce further increases in charity care by other hospitals seeking to maintain their goodwill or social prestige. Their empirical results support the impure altruism model, providing some evidence of competition in charity care. However, since they only study competition between nonprofit hospitals, it is not known if rivalry for goodwill extends to for-profits.

Gruber (1994) examines the effects of competitive pressure on charity care. He found that increased price shopping by managed care organizations in California during the 1980s reduced hospital net income in more competitive markets, inducing hospitals of all ownership types to reduce their provision of charity care. Again, this study does not directly address intersectoral competition, but Gruber claims that reduced charity care was associated with price pressure applied by third party payers rather than with the degree of competitiveness in hospital markets. This implies a weaker relationship between charity care and competition than that found by some of the other studies discussed here. If Gruber's conclusion about the effects of competition generally extends to competition between for-profits and nonprofits, for-profit/nonprofit differences in the provision of charity care may constitute a reasonable basis for measuring the benefits of nonprofit ownership.

Since very little research has focused directly on competition between hospitals of different ownership types, there is insufficient evidence to firmly conclude how ownership affects important social dimensions of performance at the market level. However, much of the literature reviewed is consistent with the general hypothesis that the character of competition between nonprofit and for-profit hospitals differs from competition between for-profit firms and is at least potentially consistent with the existence of the sorts of competitive spillovers identified in the theory.

Theory on the implications of competition between for-profit and nonprofit health care providers can guide future research in this area. In particular, the potential for spillover effects should be accounted for in both the specification of empirical models and the interpretation of their findings for policy purposes. Documenting the existence of beneficial spillovers would also provide indirect evidence on how meaningful the NDC is in practice, as regime 3

demonstrates that such spillovers will not occur when the NDC is weak. Such research can also inform the current debate on conversions of nonprofit hospitals and health plans to for-profit status as conversions present researchers with natural experiments whose interpretation could usefully be guided by the theory discussed here. In a recent editorial, DeFriese (1996) calls for health services researchers to pay more attention to this phenomenon.

## POLICY IMPLICATIONS AND CONCLUSIONS

The theory outlined above and its extension to the hospital industry illustrate several principles. To formulate appropriate policies toward nonprofit organizations in mixed-ownership industries, it is necessary to know how firms compete and how the vigor of such competition is influenced by the ownership mix in the market. Allowing for the possibility that competition from NPOs can affect the provision of socially beneficial services by for-profit firms helps define the role of NPOs in previously unappreciated ways. This requires a deeper understanding of the workings of mixed-ownership industries than can be obtained from simple comparisons between nonprofits and their proprietary counterparts (assuming the relevant differences can be quantified in the first place). Recent attempts to condition hospital tax exemptions on measured performance are not based on such an understanding.

The empirical literature on ownership and socially beneficial services has focused on the existence of intersectoral quality differences. However, the theory demonstrates that the existence of such differences is neither necessary nor sufficient to conclude that nonprofit enterprise is socially desirable. In the asymmetric information/quality of care context, when some patients cannot easily learn about the quality of care provided by different facilities, nonprofit ownership can have positive welfare effects even if quality levels converge across sectors as NPOs become more prevalent. Since the probability of receiving the promised quality rises with the prevalence of NPOs, eliminating the nonprofit sector could harm the performance of the market as a whole.

Previous empirical studies of the relationship between ownership and performance measure only the direct effect of profit status by using a dummy variable for type of ownership but omitting a measure of the relative prevalence of for-profit and nonprofit firms.[13] This omission can bias inferences about the effects of ownership. If beneficial spillovers occur, the coefficient on an ownership variable will be biased toward zero as performance of for-profit and nonprofit firms will converge in areas with high nonprofit market shares. Conversely, if provision of a social good by NPOs crowds out provision by for-profits, the coefficient will likely be biased away from zero. Researchers and policymakers often rely on the ad hoc reasoning that NPOs must be

"different" to justify public support. Since nonprofit enterprise is more likely to be welfare enhancing when beneficial spillovers occur, these biases raise the likelihood of errant policy prescriptions.

Weisbrod (1988) states two goals for public policy toward NPOs. First, policy should "insulate nonprofits from pressures to deviate from [their] social role." Second, policy should help achieve "a better balance of institutional responsibilities" between for-profits and nonprofits (p. 163). Keeping these goals in mind, this analysis provides insights on how public and private actions can provide NPOs with the protection they require to engage in socially beneficial activities.

If nonprofits have a comparative advantage in trustworthiness or willingness to provide socially beneficial but unprofitable services, while for-profits have greater incentives for efficiency, intersectoral competition can yield better outcomes than a market consisting exclusively of one type of firm. Competition from nonprofits may exert pressure on for-profits to deliver socially beneficial services. Likewise, competition from the proprietary sector and the possibility that some for-profits disguise themselves as nonprofits can limit inefficiency or the exercise of market power by legitimate nonprofits. Imposition and enforcement of the NDC provides a precondition for NPOs' success in competition with for-profits. However, since protected NPOs can engage in both beneficial and detrimental deviations from profit maximization, stricter enforcement of the NDC may cease to be a useful policy instrument beyond some point.

Benefits available to all firms under nonprofit control, such as tax exemptions and lower municipal service rates, might not help the nonprofit sector achieve the social goals that justify the subsidies in the first place (result 7). When operating profits can easily be converted for personal gain, subsidies contingent only on nonprofit status are almost as good as cash to opportunistic firms. Nontargeted subsidies cannot have their intended effect unless there is adequate enforcement of the NDC to prevent them from attracting FPIDs. Advantages available to any firm organized as a nonprofit cannot substitute for enforcement in encouraging and protecting desirable nonprofit activities.

While subsidies available to all NPOs are, loosely speaking, complementary to enforcement of the NDC, tax deductions or credits for donations or voluntarism may substitute for enforcement. Since credits and deductions accrue to donors rather than to recipients, donations can help the nonprofit sector overcome adverse selection if "honest" NPOs receive most private contributions. This may be especially relevant in health care where many nonprofits are run by religious or fraternal societies and donations are often in the form of volunteer labor, memorial gifts from patients' families, or contributions from board members. These donors are better positioned than

the general public to ensure that their contributions are channeled to facilities that adhere to the NDC.

Considerable interest in improving the enforcement of NDC (Gray 1993; U.S. House of Representatives Committee on Ways and Means 1993; "The Treasury Tries" 1995) led to the recent broadening of Internal Revenue Service's (IRS) power to penalize insiders who receive unreasonable compensation from a tax-exempt organization (Johnsson 1996). Traditionally, the IRS had three options: revoking an organization's nonprofit status, entering into a negotiated "closing agreement" with the NPO, or hassling the organization with audits. Given the severity of the first sanction, the credibility of the IRS threat to employ it may affect the balance of power in negotiations to reach a closing agreement. Likewise, audits are costly to the IRS, which has a limited enforcement budget. Providing sanctions less severe than revocation of tax-exempt status should make enforcement easier, raising the meaningfulness of the NDC.

Of course, direct provision of information provides another policy instrument in the quality-of-care arena. Federal and state governments already collect data to assure that minimum quality standards are met by health care facilities, but these data would have to be translated into a form useful to consumers and disseminated. Attempts, now discontinued, to disseminate information on hospital mortality suffered from both questionable data validity and limited consumer awareness of the existence of such data. Even if consumers use other available data such as regulatory sanctions, these data are still likely to be more useful in sorting out the poorest facilities than in verifying that quality is commensurate with prices charged. Information problems may not be eliminated for all consumers, especially those who are cognitively impaired, socially isolated, or must make care decisions while under stress. Nonprofit status may remain a useful and inexpensive signal that the promised care will be delivered.

## NOTES

1. A mathematical treatment of this theory is available in Hirth (1993, 1996).
2. If consumers are well-informed, the existence of multiple quality levels that are due to heterogeneous preferences does not imply a failure of the market to deliver the optimal product mix. The costs of different qualities of care will be reflected by prices as some of the well-informed consumers are willing to pay for higher quality care and others are not. Obviously, this ignores the possibility that society is willing to subsidize higher quality care for those who cannot afford it. However, the low reimbursement rates set by most Medicaid programs make it appear that the expressed interests of society are better described as providing a "safety net" rather than guaranteeing the highest quality regardless of personal willingness and ability to pay. Thus, quality is judged only against what people would themselves be

willing to pay, and the theory does not rely on an assumption that higher quality is inherently worthwhile regardless of its cost.

3. Asymmetric information on quality (providers know more than purchasers about the level of quality) can lead the market to provide less than socially optimal quality. Such market failures may encourage the provision of philanthropic capital if some nonprofit entrepreneurs care about quality or protecting vulnerable clients. However, most models of private provision of public goods (in this case, quality assurance is the public good) predict "free rider" behavior under which private philanthropy reduces but does not eliminate the market failure. Thus, it is expected that the supply of services by honest nonprofit organizations (NPOs) will generally be insufficient to serve all uninformed consumers.
4. To avoid detection, attempts to remove profits from the firm may involve in-kind perquisites (e.g., mahogany desks) that are worth less to the recipient than their cash value. This would be indicative of a partially successful nondistribution constraint (NDC): the for-profit in disguise (FPID) must be able to generate more surplus than the competitive cash return on investment to allow the appropriation of in-kind benefits equivalent to the competitive cash return available in the for-profit sector.
5. That is, firms earn a "normal" or "competitive" profit just sufficient to keep them in the industry.
6. More generally, opportunistic firms must mimic the readily observable characteristics of high-quality firms to be able to make sales at the high-quality price.
7. In practice, informed consumers may not remain solely in the for-profit sector as issues other than quality assurance (e.g., location or religious affiliation) may also influence choice of provider. All that is necessary for the results reported here to hold is that when comparing for-profits and nonprofits charging the same price, a disproportionate share of poorly informed consumers select a nonprofit.
8. Evidence of such sorting was found in the case of nursing homes by Hirth (1993) and Holtmann and Ullmann (1991) and in the case of utilization review organizations by Schlesinger, Gray, and Bradley (1996).
9. Hirth (1993) also finds that for several indicators of quality, higher nonprofit market share is associated with improved performance in the proprietary sector and in the market as a whole.
10. Hoerger (1991) found evidence consistent with the view that nonprofit hospitals behave as if they face a meaningful NDC.
11. However, new quality assurance issues arise under managed care if nonprofit hospitals are less responsive to incentives to provide too little care under capitated contracts (Schlesinger, Gray, and Bradley 1996). Hospital quality competition has often been viewed as dysfunctional in a fee-for-service (FFS)-dominated system, leading to a "medical arms race" and excessive costs (e.g., Robinson and Luft 1987; Robinson 1988; McManis 1990). Several courts have also taken this view in antitrust cases involving hospital mergers. Regardless of whether or not quality competition is wasteful in an FFS system, nonprofit hospitals may play a beneficial role by stimulating quality competition in a capitated environment.

12. There have been anecdotal reports that for-profit hospitals attempting to recruit physicians from nonprofit competitors have used the claim that for-profits and NPOs provide similar levels of uncompensated care and community services.
13. Since nonprofit market share may be endogenous, exogenous determinants of nonprofit market share can be used as instrumental variables. See Hansmann (1987) for nonprofit market share equations for several industries.

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