No Hospital Beds ‘neath Evergreen Trees: The Hemorrhaging of Healthcare in the U.S.?

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The ramifications of what *is* is more than 'philosophical'. The world in which humans live, eat, and breathe is harrowed by the choices of people they've never met, and will never know to heed. But it is harder for this to be true than as regards the provision of medical care and intervention. Without looking on Twitter, or being surprised by some statistic on CNN, those who would look will see. The fear a colleague or random stranger has of losing insurance. Or the sacrifices made for the privilege of, if not living, at least to continue eating and breathing. Perhaps the conclusion that resources are not being utilized as effectively or equitably as they might is a natural one to have before conducting any analysis. But what better eye than the light of economics to parse this path? Two perfect instantiations of civilization’s endless 'opportunities lost' and 'progress only at a cost' will be surveyed in this paper: hospitalization and pharmaceutical costs.

A Mélange of Whites on Blue - Hospital Hues

Hospitals across the United States have been consolidating extensively since the 1980s (Badru 2022), merging into joint enterprises that have transformed the way Americans interact with one of the most essential aspects of modern healthcare (Voght and Town 2006). The most common facet of this phenomenon involves the conjoining of multiple local hospitals into a single effective hospital system (NCCI 2018). This state of affairs has accreted to such an extent that by one estimate nearly 11.2 million American patients are served by *only* such a system (Johnson and Frakt 2020, 1). The reasons for this are myriad, but both industry and academic investigators share little doubt that this trend has tracked with the rising costs of medical care throughout the country (Clark Knapp et al., 2027, 5-6; Schwartz et al. 2020). Considering the extensive impact of consolidation on millions of Americans (Swartz et al. 2020), it is necessary to have an acute understanding of its causes and ramifications if public debate and policy on this issue is to proceed with informed ability.

Perhaps the first point of concern with consolidations should be why they are so prevalent in the first place. According to a 2022 article in *Becker's Hospital Review*, healthcare architect Montunrayo Badru notes hospitals originally began to merge in both horizontal and vertical fashions (within and beyond tailored systems, respectively), in order to meet both mounting costs and to more extensively share resources (Badru 2022). This 'efficiency' rationale finds affirmation in the assumptions of many sources (Ho and Hamilton 2000 , p.1; Traci Prevost et al., 2020, 6; Preyra and Pink 2000, p. 4-6). Indeed, scaling efficiency is assumed as a 'law' in some basic models of health cost-effectiveness (Moreland et.al., 89-92). A fact that the private equity firms that are certainly responsible for some of the consolidations no doubt attend to (Schwartz et.al 2020).

However, in a consolidation retrospective offered by the *Robert Wood Johnson Foundation*, William B. Voght and Robert Town urge caution against this interpretation (Voght and Town 2006, 4-6). They emphasize that it is difficult to disentangle the various economic incentives that have led to mergers, although correlations with such factors are certainly forthcoming (2006, 6-7). Still, the fact that interviewed hospital executives cite capital or other financial leveraging opportunities as reasons for consolidation initiatives (Clark Knapp et al., 2017, 2), the attempt at cost savings seems a safe initial proxy for understanding why mergers were and are undertaken at such astonishing levels. [1]

Given that hospitals merge, what happens to them and the people they are meant to serve after transitions take place? The effectiveness of hospital consolidation on costs and quality is nothing like established (Frakt 2015). This is perhaps surprising considering that by one survey estimate, an average of

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1 - The utilization of industry sources for interpreting the objective conditions of said industries might be rightly prone to the objection of providing 'unsanitary' methodological foundations. However, two factors can be argued to mitigate these suppositions: 1) The lack of cross-extensive data of every combinatorial impact of industry-wide trends necessitates 'peeking through the blinds', as it were, and 2) a sparing and intelligent use of these data or reports in conjunction with a context brought to bear by outside analysis should provide a basis to approximate a safe handling of these issues.

200 hospitals consolidated per year from 2007 to 2017 (Michas 2019). A first foray into untangling this would be to see whether hospitals themselves reap extensive cost savings by merging in some capacity.

In their meta-analysis, Vought and Town conclude that research *just* supports the conclusion that hospitals do save money after merging (Vought and Town 2006, 12). Even here they caution that the effect only predominates when hospitals merge their practicing licenses, and hence their actual resources (2006, 12). Indeed, both Town and the *Deloitte Health Foundation* found that hospitals specifically fail to merge actual resources effectivity after mergers (Guyer and Town 2012, 4-5; Anil Kaul er al., 8).

Furthermore, an industry study undertaken by the consulting firm *Strategy&* found that larger hospitals do not reap the ostensible economic rewards of scaling (Anil Kaul et al., 2016, 10). This is seconded by another industry overview conducted by Deloitte in 2017 (Clark Knapp et al., 2017, 5). Both foundations offer contextualizations involving short-sighted corporate governance and lack of inter-organizational transparency (Anil Kaul et al., 2016, 8-9, 12-14; Clark Knapp et al., 2017, 10-12) as reasons for this failure.

These results mesh well with a study published in the *Journal of Health Economics* by Colin Preyra and George Pink. In their paper, they follow the impact of a large wave of consolidations that occurred in the Province of Ontario from 1996 to 1997 (Preya and Pink 2006, 2). Although they admit that gains were 'unexploited', they also argue that economic efficiency should have increased when resources across hospitals were combined (2006, 11-12). They validly point out that different complexities arise in different hospitals' organizational structures, so larger hospitals may not get more bang for their buck than smaller ones (2006, 16).

Part of the latitude in these results can be attributed to the different ways merger effects are measured in various studies (Vought and Town 2006, 6). As an article published in *Health Affairs* makes clear, proper comparisons among different competitive environments may be hard to make (Spang et.al 2001, 9). However, the impression that, for hospitals at least, cost-savings seem to take on the hue of a

white whale is understandable. This is a little daunting, especially as the impacts of the COVID-19 pandemic may tempt hospitals to merge in order to attempt to offset lower revenues (Schwartz et al. 2020).

Where there is less room to maneuver, however, is in regard to the effect of hospital mergers on *patient* costs and quality. The U.S. spends about eighteen percent of its GDP on healthcare (Kamal and Cox 2018) and six percent on hospital services (Cooper et.al 2019, 3). Considering *per capita* this outranks the average spending of all other developed nations (Kamal and Cox 2018), one might suppose the U.S's unique hospital structure contributes to this result. Although most patients may be unaware of even the possibility because insurance refracts and 'covers most of the cost' (Guyer and Town 2011, 19-20). Indeed, Austin B. Frakt of Boston University mentions in *JAMA* (*Journal of the American Medical Association*) that numerous studies have shown that hospital consolidations increase costs (Frakt 2015), most likely due to increased market power. A finding which is consistent with one pursued by Leemore Dafny in the *Journal of Law and Economics*. Dafny finds that hospitals close to newly merged ones raise their prices immediately afterward (Dafny 2009, 15). Though he is quick to point out the effect was found to be transitory (2009, 16-17).

But a later meta-study reviewing the further development of the practice by Martin Gayor and Robert Town throws up even more 'concrete' dirt. They pertinently found there is substantial evidence to show that extensive market power can bring ruinous results, and hospitals that merge in more concentrated markets can cause prices to raise as much as twenty percent (Guyer and Town 2012, 2). They also go on to note that there is evidence of a reduction in quality care following a merger (2012, 3). This accords well with another study in the *Journal of Health Economics* on the facet of physician absorption into hospital systems. The authors of that paper found that on average physician prices rose around fourteen percent after being acquired by a hospital (Capps et.al 2018, 6). They go on to mention that vertical consolidation (such as an insurance company buying a hospital) specifically may raise costs by five percent (2018, 14).

Additionally, in *Health Services Research*, Tamara B. Hayford cautiously suggests that regression analysis indicates mergers may increase rates of inpatient mortality (Hayford 2011, 13-14). Although it must be mentioned that an earlier *Journal of Health Economics* article tracking the effects of some California mergers found no statistically significant impact of mergers on patient mortality (Ho and Hamilton 2000, 10). Though it was admitted the findings may have been biased by small sample sizes (2000, 15).

More damning is a 2020 study by Garret Johnson and Austin Frakt in *HealthCare* that tracks the spread and concentration of hospital consolidations in the U.S. from 2007 to 2017 (Johnson and Frakt 2020, 6). They observed that hospital affiliations with a wider system rose from fifty-three to sixty-four percent over that period (2020, 3). The immediate effect of this has been a reduction in bed space (2020, 2-3). These trends were especially high in rural areas (2020, 4), which they suggest may amplify health inequalities (2020, 5).

Perhaps one of the most extensive studies in the literature on this subject, published in *the Quarterly Journal of Economics*, sieves through these factors most extensively (Cooper et.al 2019). The authors of this article break down hospital price differences by geographic region, insurance market, and type of service rendered (Cooper et.al 2019, 3-4). Over an extensive five-year study, they show hospital mergers have the greatest impact on the prices of nearby care centers (Cooper et.al 2019, 27). With monopolistic markets charging more for every procedure compared to relativity open ones (2019, p.23, 29). They also make the compelling case that the type of contract the hospital can strike with insurance companies profoundly influences prices (2019, p.16). Hospitals with the greatest bargaining power often get the most lucrative deals (2019, p.17). Insurance provision is also tied to this: Compared to Medicare patients, spending price variation is greatest for the privately insured (Cooper et.al 2019, 12). The relevant literature would suggest that this bargaining power is not independent of the extent of consolidation (esp Guyer and Town 2011, 34).

If a brighter side is assumed, one may hope that price differences before and after consolidations are not as exacerbated in non-profit hospitals. But a 1999 study, analyzing the aftermath of that decade's extensive consolidation (Vought and Town 2006, 2-3), in *The Journal of Health Economics* found that the difference between price rises of various types of structured hospitals often converged over time (Keller et.al 1999, 8).

While the data goes far, the diagnoses and prescriptions go further. Drew Altman of the *Kaiser Family Foundation* makes the case that increasing competition among hospitals would reduce prices (Altman 2015). A motion which is lent credence by Christopher Pope, Senior Visiting Fellow of the *Heritage Foundation*. In his 2014 article on the Affordable Care Act, he posits that because local hospitals can lock in patients via their insurance plans, they are in a position to operate with cost indiscretion (Pope 2014). More specifically, government support is largely responsible for creating a monopolistic bend in hospitals: By incentivizing non-profit hospitals to inflate costs because of low medicare reimbursement rates, encouraging running up costs to justify expansion before regulators, and consolidating among themselves to aggregate market power (Pope 2014). His preferred remedy is to remove regulations and open barriers to free entry for new centers of health care (Pope 2014).

The consensus that hospital competition can alleviate the burden of consumers is also supported by Gaynor and Town, in their extensive overview for the *National Bureau for Economic Research* (Gaynor and Town, 2011). They find bargaining structure will largely be responsible for the prices reached (2011, 23-24, 46), with open ones less costly than those that are more closed (2011, 79). It is given a further recommendation by Johnson and Frakt, who hypothesize that the relative openness to entry of different types of medical care determines their pricing practices (Johnson and Frakt 2020, 4, 7).

But though the problem is real, enacting solutions most pertinently remains hampered by political processes. For instance, the FTC can't intervene in most mergers (Altman 2021). Furthermore, though ownership reforms like 'Physician Owned Hospitals' are performing promisingly (Newitt 2022),

they have yet to be adopted on an industry-wide scale (Condon 2022). Which means this issue will probably be one with a long tenure in both the public consciousness and purse.

Price Pooler's Panacea

Another related issue that certainly picks up more steam (and fire) among society at large is the high price of pharmaceuticals. The U.S. pharmaceutical industry is no stranger to public concern. Debate over higher drug prices, lobbying, and government ineptitude surrounds and embeds the media. For instance, Ezekiel J. Emanuel of *The Atlantic* writes with tense concern about the impact giant pharmaceutical companies have on average people's livelihoods (Emanuel 2019). A 2020 article in *HealthAffairs* scorns the U.S for not implementing what is seen as obvious drug pricing reforms (Frank et. Al 2020).

Though this issue is often political, it is a rare bi-partisan one too. In 2020 then President Donald Trump signed a bill to explicitly try to limit excessive drug prices (Keith 2020). He is certainly not the only president to have been so concerned, as democrat Bill Clinton once railed against excessive pricing back in the 1990s (Berke 1993). A *Kaiser Family Foundation* piece notes that apprehension over drug pricing practices worries American adults, with over 80% finding current prices excessive (Hmael et.al 2022). Indeed, this concern has *at least* a wide empirical basis. In 2013, per capita spending per drug was around four times higher than in nineteen other first-world countries (Kesselheim et.al 2016, 2). At least 14% of all healthcare spending is spent on drug costs, and over the last ten years has grown 20% (IQVIA 2021, 5). This is while pharmaceutical returns have reached record highs (Adams 2022).

Now, the literature has ranged as to the extent of these costs and the factors responsible for them (Haislmaier and Schaefer 2019; Anderson 2020; Thomas 2018). But a comprehensive overview of the methodologies used to report costs in *Value Health* brings some consensus to the issue. Reviewing five major prescription cost studies, the researchers found that standardizing assessment approaches allow an

accurate baseline of 17%-21% of healthcare costs to be comfortably attributed to prescription medication (Kleinrock et.al 2019, 5).

To understand how costs have gotten so high in America, however, it is necessary to understand the current structure of the pharmaceutical industry. To do *that*, requires a little drop of history. Starting around the 1980's drug companies, like hospitals, started to undergo enormous financial transformations: According to Joan Busfield in *Social Science & Medicine,* the spread of aggressive financialization at the end of the last century is responsible for setting the current trend of high drug prices (2020). Particularly, many pharmaceutical companies went through a period of ownership change from relativity privative to public ownership by financial institutions and other such stakeholders (2020, 2-3). Often to such an extent that the three largest investment firms are significant stakeholders in nearly every major pharmaceutical company. Busfield comments that this has led to a re-orientation toward ever-increasing dividend values by CEO's, often via any means necessary. Some of those means include utilizing complex financial tools such as share-buybacks and taking out massive credit loans to finance them. Sometimes by taking out more than a year's worth of revenues to do so.

Indeed, she emphasizes the industry push toward maximization of immediate shareholder value often saw a decrease in research and development to help pay for rising leverage positions and market share (2020, 3). Busfield also posits that this made many giants of the industry, such as Johnson and Johnson and Pfizer, lose their competitive edge in pharmaceutical development in this race to 'quarterly concerns' (2020, 3-4). To compensate for this, she notes many companies have developed the habit of swallowing up promising new biotech firms that develop more innovative biologic, or organism based (such as DNA based as opposed to traditional chemically derived), medicines on the frontier of current science (2020, 5). A move which, by absorbing these dynamic companies into more bureaucratic ones, she cautions may harm industry levels of innovation overall (2020, 6).

A succinct nutshell on the impact of historical trends on today's environment is, though necessary, only a context provider. A reasonable question may now be asked: Exactly how is it that manufacturers can impose such high costs on society as a whole? Should not relative competition

introduce incentives for lower prices? S. Vincent Rajkumar in the *Blood Cancer Journal* makes clear that the medical patent system, in order to stimulate innovation, gives pharmaceutical companies an effective monopoly over their drugs in the U.S. (Rajkumar 2020, 1). He notes that often, generic drugs are not given a chance to replace many innovative drugs after their patents expire because many companies simply re-patent medications, often after altering them in clinically non-significant ways (2020, 1). A practice sometimes known as evergreening (Nawrat 2019).

This intractable 'feat' of modern medicine is purveyed extensively in a 2016 *JAMA* review of the pharmaceutical market environment. The authors of that paper note that many pharmaceutical companies simply re-patent the drug after changing as drug's molecular make-up in clinically un-impactive ways. Including simply re-coloring the outside of pills (2016, 4). In one case re-pricing an effectively unchanged version for a drug up 600%. In fact, 'patent extension strategies such as this (or 'pay to delay' offers in the hundreds of millions to other companies to not release cheaper alternatives) do indeed prohibit the introduction of generic equivalents to drugs, which can often reduce prices by around 55% (2016, 4). In addition to this, legal and administrative hurdles such as laws help prohibit pharmacists from providing generic versions of drugs, and FDA backlogs of novel drug approvals, further fortify the position of name-brand pharmaceuticals (2016, 5).

A convincing case can therefore be made for the monopolistic, or at least near monopolistic, nature of the market for many drugs produced and patented in the U.S. Hence, regarding the output of this industry, it would appear that consumers are not able to reap nor remit themselves of the rewards of a dynamic and hence competitive price system. However, a case is often made for the necessity of high drugs costs to incentivize manufacturers to recoup the extensive and time-consuming development and testing costs required to create life-altering medicines – a point that was made by Francis H. Spegiel Jr, who was senior vice president of pharmaceutical giant Merck & Co. In a commentary written for the *National Center for Biotechnology Information* outlining the profit structure of his industry, Spegiel notes that the average drug takes twelve years and 230 million to develop (1991, 1). A bill that he notes companies have to pick up, and need to be encouraged to by patents and a legal system that accounts for

this and inflation (1991, 3, 4-5). He also claims that the market shares of pharmaceutical companies, at least when accounted for properly, are marginal; and hence need an environment of incentivization to take on ever-staggering future-orientated research costs (1991, 2-3).

But the authors of the above-cited *JAMA* study note that "...of the most transformative drugs of the last 25 years...more than half of the 26...product classes identified had their origins in publicly funded research..." (Kesselheim et.al 2016, 5). Indicating that at least a bare majority of medical R&D is picked up by the public tab. Findings which are seconded by Rajkumar (2020, 2). Surprisingly, this was argued for by Speigel as desirable from drug companies point of view, as it would offset their R&D costs (Speigel 1991, 5, 7). Subsequent history has 'reversed' his argument's link with chains of irony. They go on to point out that market exclusivity is even granted to drugs developed decades ago, further restricting the output of both new generic and name-brand drugs (2016, 5). Finally, they present the fact there is hardly any evidence to support the conjecture that R&D costs have any relationship with drug prices – only what is willing to be paid, is what is often charged (2016, 6). These findings, combined with the effective monopolies granted by the drug industry's overall scheme, remands the arguments for pricing 'necessity' back for extensive review on pain of reasonable banishment.

But perhaps one of the most salient aspects of the 'pharmaceutical problem' are the institutions that structure how the pipelines of an already glutted industry get diverted and digested through society as a whole. Between drug manufacturers and patients lies a conglomeration of entities that siphon what and how people get the medication they need. Arguably the most interesting of these are Pharmaceutical Benefit Managers or PBMs. PBMs act as middlemen between drug makers, insurance companies, and pharmacies (Pew 2019, 7, 17). As a report from the *Pew Charitable Trusts* explains, PBMs are supposed to offer savings on drug prices to insurance companies, and thence patients, by negotiating prices directly with drug manufacturers (2019, 17). However, the authors of the earlier mentioned *JAMA* article note that most often PBMs do not help lower costs for consumers, and appear to retain rebates from manufacturers as profits (2016, 5). This 'appears' is pertinent, because PBMs often do not share the details of negotiation prices (2016, 5) – meaning the original value of the majority of drugs is unknown.

In the *American Heart Journal*, Emery P. Weinstein and Kevin Schulman track the increase of money paid to intermediaries such as PBMs from 2014 to 2019 (Weinstein and Schulman 2019, 2). They also found that increasing drug prices is associated with an increase in payments to those same intermediaries (2019, 2). Savings are not passed on to consumers, and they conclude that the PBM industry as a whole has come to expect the rising drug prices which they help cause (2019, 3).

Bringing contrast to this dark picture, an article in *HeathAffairs* outlines how other nations deal with drug costs (Frank et.al 2020). According to the authors of this piece, most other first-world countries enact high standards of testing before allowing new drugs to be prescribed: For instance, both France and Canada have transparency panels that only approve new drugs that are found to have significantly better clinical impacts than already existing ones (2020). This contrasts with the standards of our own FDA - of the forty-six drugs the agency approved in 2017, twenty gave no clinical value to patients (2020).

As Craig Garthwaite reminds in a report written for the *National Bureau of Economic Research*, agreements reached between PBM's and drug firms impact the price of every single drug (Garthwaite 2018, 8). A fate other developed nations are spared since their governments are the only one's responsible for ascertaining the value of pharmaceuticals (Frank et.al 2020).

To counteract this, Rajkumar recommends the U.S. adopt a value-based pricing scheme, that would set ceilings for drug prices *based* on their incremental medical benefit (Rajkumar 2020, 3). Although anyone acquainted with 'price ceilings' may hear the word with reservation, any potential costs they may bring must be weighed against the *current* cost regime for an accurate picture of downsides to be ascertained. He is therefore quick to point out that this would discourage manufacturers from using the U.S. to effectively subsidize prices for other nations since currently, they can do so here with relative impunity (2020, 3). However, it is worth reporting that Garthwaite goes on to mention in his study that adopting *only* 'indication' based pricing - charging different users different rates for the benefits they receive from drugs - may only increase firms' welfare, and not patients (Garthwaite 2018, 10-11). For precision medicines, at least (2018, 8).

Overall reform of patent standards to close current loopholes that allow non-clinically significant changes to count as 'novel' have also been proposed (Kesselheim et.al 2016, 8). A position iterated by Rajkumar (Rajkumar 2020, 2). The efficacy of which receives further stimulus from results obtained by the *IQVIA Institute* that patent dissolution decreases prices (IQVIA 2021, 13). Though whatever remedies are most efficacious, it is clear that the current regime entices at least slight cries of '*injuste*'.

Throughout, the narrative in regards to medical intervention seems to weave itself with a self-endorsing logic. It is the fact that the U.S. citizenry has a massive stake, both financially and literally, in their pharmaceutical and hospital infrastructure. But due to effective regimes of monopolistic bent, they are unable to garner the benefit of their investments. A market is optimal when it optimally serves those involved with it. When this is not the case, reform is a rationally founded response.

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