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and the Public/Private Health Care Debate**

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Costly Efficiencies: Health Care Spending, COVID-19, and the Public/Private Health Care Debate

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The debate around public versus private health care often turns on cost – that is, on how to reduce costs, and particularly government expenditure, when it comes to health care. Proponents of private health care often claim that the private sector is more efficient and therefore more cost-effective (Challinor 2016, 18;). In arguing that public health care costs are unsustainable, they imply that the private sector will deliver better results at lower cost, usually citing private sector innovation as the relevant difference between the two forms of provision (Challinor 2016, 13). For instance, in a 2016 white paper from the Ontario Chamber of Commerce, the author argues that two of the main challenges facing Ontario’s health system are “unsustainable growth in government health costs that is being managed by artificially limiting spending growth, rather than increasing efficiency” and “a fertile health and life sciences sector that... has too few opportunities to bring their innovations to market” (Challinor 2016, 5).

The validity of such claims is difficult to measure, as every country’s health care system has its own unique characteristics and there are many ways in which public and private actors collaborate to deliver health services. However, the COVID-19 pandemic offers a unique opportunity for cross-country analysis: the same public health crisis, happening at the same time, across nearly every country in the world. As such, it is possible that any patterns which emerge from such analysis could point to underlying differences between private and public health care more broadly. In addition, national health care systems now operate in a world characterized by the frequent emergence of globe-spanning infectious disease. As Margaret Chan, former director general of the WHO wrote in 2007, “Population growth, incursion into previously uninhabited areas,

rapid urbanization, intensive farming practices, environmental degradation, and the misuse of antimicrobials have disrupted the equilibrium of the microbial world,” resulting in a situation in which “new diseases are emerging at the historically unprecedented rate of one per year” (WHO 2007, vi). Thus, the study of how differently organized health care systems have reacted to the COVID-19 pandemic is both timely and appropriate to the public/private health care debate. With these considerations in mind, this paper contributes to this debate by examining the theoretical and empirical relationship between health costs and health outcomes in the context of the COVID-19 pandemic. It proposes an alternative political economic framework – capital-as-power (hereafter CasP) – for understanding how the provision of health care affects the relationship between health care costs and health outcomes, arguing that private health care realizes profits through the strategic limitation of health services. It presents empirical evidence suggesting that in countries which rely more heavily on private health care, higher overall health care expenditure predicts more severe COVID-19 outbreaks, contradicting the argument that private health care services are more cost-efficient or will lead to better health outcomes at a lower cost.

The paper is divided into four sections. First, I explain how the CasP theoretical approach differs from conventional health economics in its analysis of the logic of business, in arguing that profit accrues through the strategic limitation of industrial capacity. In the health care sector, this occurs in three general ways: by redirecting resources from essential and widely used services to only the most profitable services; by reducing capacity; and in times of crisis, by raising prices and refusing to treat patients who cannot afford to pay. In the second section, I give qualitative evidence from Italy and India showing how each of these limitations occurred leading up to and during the pandemic, exacerbating its effects. Third, I explain the methodology behind the quantitative analysis and address limitations to the data. Fourth, I present the results of the study, which suggest that as private provision of health care expands, overall health care expenditure becomes positively correlated with more severe COVID-19 outbreaks. From the perspective of private sector proponents, this result makes little sense, as greater private sector input is understood to lower costs and improve health. From a CasP perspective, however, the result makes perfect sense: higher costs and worse outcomes

are twin expressions of the strategic limitation of health care provision by private business.

Two approaches to the logic of business: neo-classical and capital-as-power

In the conventional view of health economics, markets are understood as more efficient in allocating resources than the government, because competition between private actors is assumed to increase efficiency and lower costs (Rosenthal and Newbrander 1996, 207-208). The government, on the other hand, lacking competitors, has little incentive to lower costs or become more efficient (Gerdtham, Søgaaard, Andersson, and Jönsson 1992, 6). As James Capretta and Kevin Dayaratna (2013) of the Heritage Foundation write, “a market-driven health system would work as one would expect it to—driving out waste and inefficiency and rewarding high quality and lower costs with greater market share.” From this point of view, in a health system with greater reliance on private sector health care, increased competition (both between private providers and between private providers and the government) will increase efficiency, resulting in the same or better health outcomes at a lower cost.

In addition, proponents of private health care argue that if health care users were forced to pay more for health care, they would also *use* health care services more efficiently (Nix and Senger 2012). For instance, Kathryn Nix and Alyene Senger (2012) argue that US health care costs are high because users “are insulated from the cost of health care.” Similarly, citing a RAND study by the economist Joseph Newhouse, Dayaratna (2013) argues that health care users “overconsume” health care when it is offered for free. When costs are shared between insurers and users, on the other hand, users are more careful about accessing services, reducing unnecessary costs (Dayaratna 2013). In sum, private health care is more efficient for two reasons. First, the introduction of open-ended financial incentives leads private firms to develop more efficient systems, pocketing the difference in profit. However, the gains made from increasing efficiency supposedly out-weigh the share of income which is not reinvested in expanded production. Second, placing a higher cost burden on individuals causes them to think

more carefully about what health services they really need, reducing unnecessary (and thus wasteful) consumption of health care.

The CasP approach, developed by Jonathan Nitzan and Shimshon Bichler, takes a different perspective. Building on the insights of the early twentieth century sociologist Thorstein Veblen, Nitzan and Bichler (2009, 233-235) argue that business profits are realized not through ‘added-value’, but through the strategic limitation, or ‘sabotage’, of industrial capacity and human wellbeing. This limitation is usually only partial, as too great a degree of sabotage causes excess stagnation and lower earnings (237). In effect, the normal run of business is to charge only “what the traffic will bear” (Veblen 1908, 107). Because the expectation of a ‘normal’ rate of return on investment is all but accepted as natural in capitalist societies, this partial limitation on the full utilization of industrial capacity becomes largely invisible – a mundane ‘cost of doing business’ (Nitzan and Bichler 2009, 242).

Nitzan and Bichler (2009, 233) argue that this limitation by business interests takes two broad forms. The first, and harder to empirically measure, is the shaping and redirecting of industry toward more profitable ends. In the health care sector, this may take the form of the development of expensive pharmaceuticals of questionable utility, or of allocating hospital resources away from essential services like emergency rooms and toward only the most profitable and specialized services (235). The second, and more easily observable form of limitation is the systematic under-utilization of capacity (235). One such limitation relevant to our discussion would be the fewer numbers of hospital beds found in private hospitals relative to their public counterparts (Buzelli and Boyce 2021, 502).

Qualitative evidence of health care industry limitations by business

This section uses the examples of Italy and India to illustrate how, leading up to and during the pandemic, health care businesses strategically limited the provision of health care in the two general ways described above, exacerbating the outcome of the pandemic in those areas.

In a recent paper, Maria Luisa Buzelli and Tammy Boyce (2021, 501) argue that “the privatization of the NHS contributed to making Italy more vulnerable and

unprepared to tackle the COVID-19 pandemic.” They note that over the last decade, Italy has simultaneously pursued a strategy of cost-cutting and encouraging the expansion of private health care across the country, leading to a large reduction in public health services and to increased reliance on the private sector (502). These policies directly amplified the severity of the pandemic in Italy. While these policies can also be viewed as an effort by the Italian government to make private health care more profitable, private health services providers themselves also contributed to the crisis in a number of ways which, from a CasP perspective, can be conceptualized as forms of strategic limitation or ‘sabotage’ (Nitzan and Bichler 2009, 223).

First, private health care providers shape the health care industry by directing resources toward more profitable services and away from less profitable ones. Buzelli and Boyce (2021, 502) write that “private hospitals in Italy provide a limited range of services compared to public hospitals,” which “ensure the private sector high returns.” These services include “diagnostic procedures (e.g., laboratory tests), pharmaceuticals, specialist outpatient care, nonurgent interventions, residential care, and rehabilitation assistance,” for which the hospitals are able to charge high prices because of their specialized nature (502). Plagg (2021, 3988) notes that while Lombardy “has been increasingly investing in specialist medical care,” it has only .74 primary care physicians (GPs) per 1000 residents, half the number of France or Germany. Despite having the highest average gross salary of any region, highly privatised Lombardy saw excess mortality rates 5 times higher than neighboring Veneto in the early months of the pandemic (Varella 2021; Plagg 2021, 3988). Public hospitals, on the other hand, “provide a broader range of health services,” including “almost all emergency care in Italy” (Buzelli and Boyce 2021, 502). The private sector focus on high margin services to the exclusion of other health services essential to public well-being places a heavier burden on public services, for instance when emergency rooms are used for non-urgent health concerns because they provide care free of charge (Plagg 2021, 3988). This has the effect of undermining the overall capacity of the health system.

Second, Buzelli and Boyce (2021, 502) note that private hospitals in Italy contain fewer hospital beds on average. In Lombardy, private hospitals have less than a third of the hospital beds as public hospitals, despite their greater number (502). In the whole

country, “public hospitals provided 107,435 more beds than the private health sector, despite there being only 36 more public hospitals compared to private facilities” (503). In this case, the lower bed count can be understood as intentional under-utilization, the second form of limitation. The issue is not a physical lack of beds *per se* – the Italian public hospital system eliminated almost 20,000 beds between 2010-2017 – but that a reduction of service below full utilization is a basic precondition for profit (Nitzan and Bichler 2009, 236).

India is much more heavily reliant on private sector health care than Italy (Thiagarajan 2020, 1). There are more than twice the number of private hospitals as public, and over 80% of the population is uninsured (1). While public health care treatment is free, lack of funding and varying quality of care “serves to drive desperate patients towards private care” (1). Despite the clear need for health services during a pandemic, overcharging has been rampant and corporate hospitals have strongly resisted efforts to cap prices for COVID-19 treatment or offer free or subsidized services (1). Commenting on the widespread failure of private health care in India, Williams (2020, 3) writes that the country “has been particularly plagued by private hospitals refusing treatment as the public hospital systems in many states have been overrun” and that “patients have died, sometimes outside hospital doors, after failing to gain admission to multiple hospitals.” Despite emergency actions by municipal, state and the national government, including the “sequestration of hospitals, enforced openings, prosecution and other measures,” Williams reports that firms were still “routinely breaching price caps and gouging, turning away COVID patients and hoarding beds” through September 2020, when the article was written (3).

The widespread acceptance of the legitimacy of private sector involvement in health care by international organizations like the World Bank and WHO has led to the argument that such behaviour is an unavoidable outcome of the crisis, rather than an inherent feature of capital accumulation (Hellowell 2020). For instance, in the WHO’s report on “Supporting Private Sector Engagement During COVID-19: WHO’s Approach,” senior health system advisor David Clarke argues that “emergency legislation, compounded by weak health systems and regulation, can limit the private sector’s role,” ignoring the role that emergency legislation played, not in limiting, but in greatly

expanding the private sector role, including by legally forcing the private sector to provide emergency services – not only in India, but in many countries including Malaysia, the Philippines, Indonesia, Thailand, and Egypt (WHO 2020, 3; Williams 2020, 3). From a CasP perspective, however, the behaviour of private health care providers in India is hardly surprising. As Nitzan and Bichler (2009, 378) point out, stagflation, or generalized price inflation in combination with the reduction of industrial capacity, goes hand in hand with social crises. In the case of India's private hospitals, the pandemic provided an opportunity for an extraordinary level of sabotage of the provision of essential health care. To be fair, one could argue that many of these businesses had no choice but to raise prices and limit treatments to offset loss of revenues. Yet such an argument affirms the fundamental nature of the relationship between profit and provision: regardless of their 'necessity,' profits *could only be realized* through strategic limitations on provision of care. The greater the crisis, the greater the 'need' for private health care providers to sabotage health care provision to remain profitable.

Methodology and limitations of quantitative study

One major issue facing any quantitative comparison of health care systems during the pandemic is that health care systems are only one factor in determining the pandemic's effects. Social welfare provisions, government emergency responses, and cultural attitudes and practices, to name just a few factors, all had a role to play in the severity of the impact of COVID-19. For instance, high death tolls in countries like the US have been perceived to be the result, not of a failure of the health care system, but of government policy (Altman 2020). The inability to control for such factors is an inevitable limitation on this kind of single-factor analysis. Nonetheless, because the health care system remains of central importance in mitigating the effects of the pandemic, differences in health systems are likely to have had a substantive impact.

A second difficulty is that public and private provision of health care are highly integrated in most, if not all countries, making analysis of public and private health care as wholly separate entities difficult. In one systematic comparison of the performance of private and public health sectors, the authors note that both the funding and organization of national health care systems includes both private and public actors in diverse ways

making even the definition of what is public and what is private far from straightforward (Basu et al. 2012, 2). A further and related difficulty is that there is little data on the distribution of services and resources between public and private sectors on the country-by-country basis needed for this particular study. As a result, and reflecting the limited scope of the study, inferences about the public/private makeup of individual countries will have to be approximate. Mackintosh et al. (2016, 2) provides three metrics for determining the makeup of a mixed system: “the extent and pattern of private finance within health-care expenditure as a whole (demand side); the scale and level of the private sector enterprises in health care, indicated by their weight in the use of ambulatory and primary, and clinic-based and secondary, care (supply side); and the accessibility of the public sector, proxied by the extent to which the public provision relies on fees (commercialisation).” Due its limited scope, and the accessibility of data on private health finance, this paper uses the first metric for quantitative analysis.

In addition, past studies comparing private and public provision of health care often focus narrowly on *either* quality-of-care metrics *or* efficiency, without directly addressing the connections between the two and how these relate to overall health. In particular, focusing on the quality of care within one type of service says little about how such conditions affect broader health outcomes. For instance, private health care services might in some instances provide higher quality care, but because access is limited to those who can afford it, there is no way to measure the overall adverse health effects of this exclusion. In a meta-analysis of 80 studies, Berendes et al. (2011, 4) found that private sector care in low- and middle-income countries scored substantially higher than the public sector on drug availability. However, they did not consider how greater drug availability might also reflect greater inequities in drug access. If drug availability is maintained at high prices, then the greater availability of those drugs in private facilities does not necessarily translate to better health outcomes for the wider population.

On the other side, studies measuring the efficiency of health care providers often fail to sufficiently relate efficiency to better health. For example, one framework that is commonly used in the hospital sector, data envelopment analysis (DEA), measures efficiency simply as the ratio of inputs to outputs of a given provider (Tiemann and Schreyögg 2009, 120). Inputs refer to costs like labour and supplies, while output refers

to a technical factor like the number of patients served or the length of patient stays. This kind of simple technical efficiency says little about the quality of care or actual health outcomes, and indeed, there appears to be a trade-off between efficiency and quality of care. Tiemann and Schreyögg (2009, 119) cite several studies which found that efficiency measured in this way is positively correlated with inpatient mortality. In their own study, Tiemann and Schreyögg ‘avoid’ this issue by using “average mortality rates per year in each hospital” to “adjust for variations in the quality of care between hospitals” (120). However, by *controlling* for quality of care, they still manage to remove it from their equations, detaching the gains of cost-efficiency from any understanding of whether or not health outcomes were improved or impaired.

In order to compare efficiency – conceived in this paper as the connection between cost *and* health outcomes – between private and public sector health care, this paper takes a two-step approach. First, using the measure of the distribution of public and private domestic health expenditure, countries were divided into two groups: those with higher public funding of health care, and those with higher private funding. While private expenditure does not necessarily denote private ownership of health care services, this division is intended to approximate the division between those countries in which government plays a strong role in directing and funding health care, from those in which the population must rely to a much greater extent on the private sector. While somewhat speculative, there is evidence that this is at least approximately the case. For instance, Basu et al. (2012, 9) note that a study in China found that the privatization of health services led to a significant increase in out-of-pocket expenditure. Moreover, while some government-run health services also rely on out-of-pocket expenditure, as in Armenia, such an approach often exists alongside a large private health sector (Torosyan, Romoniuk, and Krajewski-Suida 2007, 189). Finally, private spending captures an important aspect of private health care – private insurance. As financial intermediaries, private health insurance providers are key gatekeepers, not only of access to health care, but of financing for the operations of health care providers themselves. As Mackintosh et al. (2016, 2) state, “The extent of each type of private finance is a proxy indicator of the characteristics of the private supply sector, since private insurance generally funds larger licensed private providers, whereas much out-of-pocket spending funds smaller scale,

often unlicensed, provision.” On the other hand, they also note that “out-of-pocket spending also includes fees for public services and medicine purchases” (2-3). In sum, though there are many links between private spending and reliance on the private health care sector, the approximation of one for the other must be considered tentative and exploratory. In the second step, the statistical correlation between overall health expenditure prior to the pandemic and cumulative COVID-19 deaths within each group of countries was measured. This measurement is intended to measure the cost-efficiency of private and public-led health care systems in terms of outcome – namely, in terms of the severity of the COVID-19 pandemic.

The data

The data is gathered from two sources. The COVID-19 data is from John Hopkins University, which has aggregated a number of sources together to track COVID-19 globally, accessed from the 91-DIVOC Project. The health expenditure data is from the World Bank Open Data Project. To control for population size and wealth, both data sets are normalized by population and results: the death rate is per 100,000 people; total health expenditure is measured as a percentage of Gross Domestic Product (GDP); and private and public domestic health care expenditure are measured as a percentage of total health expenditure. Health expenditure data is from 2018, the most recent year available.

I chose death rate normalized by population over case-fatality – the other primary measure of COVID-19 impacts – for three reasons. First, while the case-fatality rate reflects one measure of the deadliness of the pandemic, the death count gives a broader sense of the severity of the outbreak, because a country could have a high mortality rate with relatively few total cases. Second, the case-fatality rate data is not cumulative, and can fluctuate quite dramatically over time. These fluctuations have many causes, including data collection irregularities. Countries that had early outbreaks had extremely high case-fatality rates which later dropped. Therefore, it is difficult, if not impossible, to know which case-fatality rate accurately reflects the ‘true’ deadliness of the pandemic in a given country. Finally, there is the issue of “potential biases in reporting fatalities and the number of infections” (Ozkan et al. 2021, 2). In their cross-country COVID-19 study, Ozkan et al. (2021, 2) prefer case-fatality to number of deaths because the measure “is

[more] likely to moderate this bias given both the numerator and the denominator are likely to be lower than their true unobserved values.” However, this only holds true if both death and case counts are lower by a similar amount, and across all countries in the study, neither of which is known. On the other hand, even if it does hold, the fact that the study is analyzing the correlation *between* different country data obviates the need for accurate *absolute* levels, whether the measure is case-fatality or overall death. It merely requires that the bias does not vary too much between countries. Thus, on the principle of Occam’s razor, I use the simpler measure of cumulative deaths.

The date from which I chose to measure the cumulative death rate was December 31, 2020 – mid-way through the first major *global* peak of the pandemic. I chose this date because it was late enough that the pandemic had spread to a suitably large number of countries for comparison, but still early enough that the data would reflect accurately the performance of the already existing health systems (i.e., a snapshot unlikely to be substantially affected by governments’ emergency funding responses to the crisis).

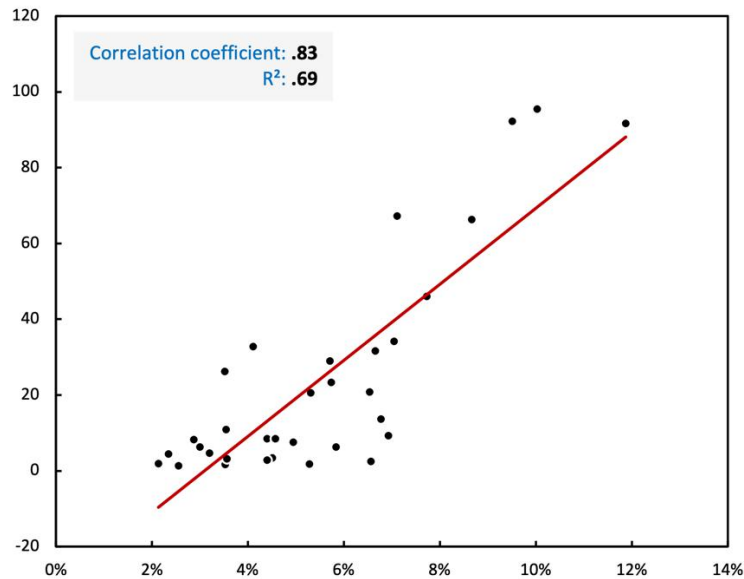
There are a few other considerations worth noting. Countries were removed from the dataset for one of two reasons: because they were missing either death data or health expenditure data, or because they relied on more than 10% health funding from external (i.e., non-domestic) sources. Finally, I removed 4 outliers: the U.S., Sierra Leone, and Monaco for outlying total health expenditure; and Peru, for an outlying death count. The resulting sample size of the study was 115 countries.

Results

In figures 1 and 2, the x-axis denotes total health care expenditure as a percentage of GDP, while the y-axis denotes cumulative COVID-19 deaths per 100,000 people. Figure 1 shows the countries in which private spending is more than 50% of total health expenditure, while figure 2 shows the countries in which private spending is less than 50%. In figure 1, there is a very high positive correlation between health spending and COVID-19 deaths, while in figure 2 there is little or no correlation. Table 1 shows three additional disaggregate measures which break down the role of out-of-pocket and other private expenditure. In each, the same pattern emerges, suggesting that once private spending, whether out-of-pocket or otherwise, becomes the main source of health

expenditure, higher overall expenditure become a predictor of worse COVID-19 outbreaks (note that the health expenditure data is from 2018).

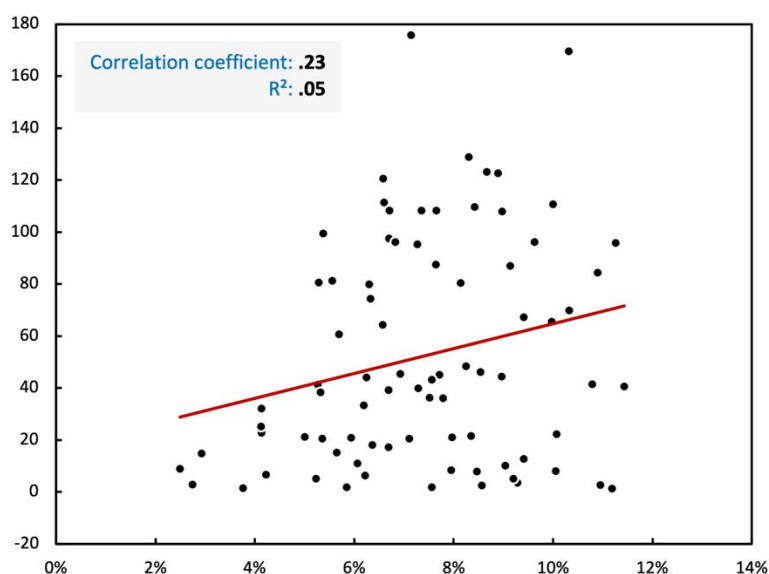
Figure 1: countries in which domestic private health care expenditure is higher than public health care expenditure



NOTE: The x-axis denotes total healthcare expenditure as a percentage of the country's GDP. The y-axis denotes COVID-19 deaths normalized by population as deaths per 100,000. The trendline was created using MS Excel's linear trendline tool. Health expenditure data is from 2018, while deaths are as of December 31, 2020.

Source: COVID-19 data is from Johns Hopkins University CSSE COVID-19 tracking project. Health expenditure data is from World Bank Open Data.

Figure 2: countries in which domestic public health care expenditure is greater than private health care expenditure



NOTE: The x-axis denotes total healthcare expenditure as a percentage of the country's GDP. The y-axis denotes COVID-19 deaths normalized by population as deaths per 100,000. The trendline was created using MS Excel's linear trendline tool. Health expenditure data is from 2018, while deaths are as of December 31, 2020.

Source: COVID-19 data is from Johns Hopkins University CSSE COVID-19 tracking project. Health expenditure data is from World Bank Open Data.

Table 1. Statistical correlations between COVID-19 deaths, normalized by population and health expenditure as a percentage of GDP	Correlation coefficient	R²
Countries for which out-of-pocket expenditure exceeded 50% of total health expenditure	0.78	0.61
Countries for which out-of-pocket expenditure did not exceed 50% of total health expenditure	0.33	0.11
Countries for which other private (i.e., non-out-of-pocket) expenditure exceeded 15% of total health expenditure	0.72	0.52
Countries for which other private (i.e., non-out-of-pocket) expenditure did not exceed 15% of total health expenditure	0.36	0.13
Countries for which the ratio of other private (i.e., non-out-of-pocket) expenditure to government expenditure was greater than 20% (see figure 3)	0.77	0.60
Countries for which the ratio of other private (i.e., non-out-of-pocket) expenditure to government expenditure was less than 20% (see figure 4)	0.27	0.08

Figures 3 and 4 show the third disaggregated grouping from table 1 – countries grouped by the ratio of non-out-of-pocket private expenditure to public expenditure. This way of grouping countries may get closest to approximating relative private health care provision because private insurance is the most significant portion of “other” private expenditure. In the US for instance, 82.5% of non-out-of-pocket private expenditure come from private insurers (CMS Financial Report 2021, 2). As noted by Mackintosh et al. (2016, 2), this should indicate the general proportion of private health care supply (note that the overall level is not important, only the accuracy of the general division of countries into those with health care systems more or less dominated by the private sector).

Figure 3: countries in which the ratio of private, non-out-of-pocket private expenditure to public expenditure is higher than 20%

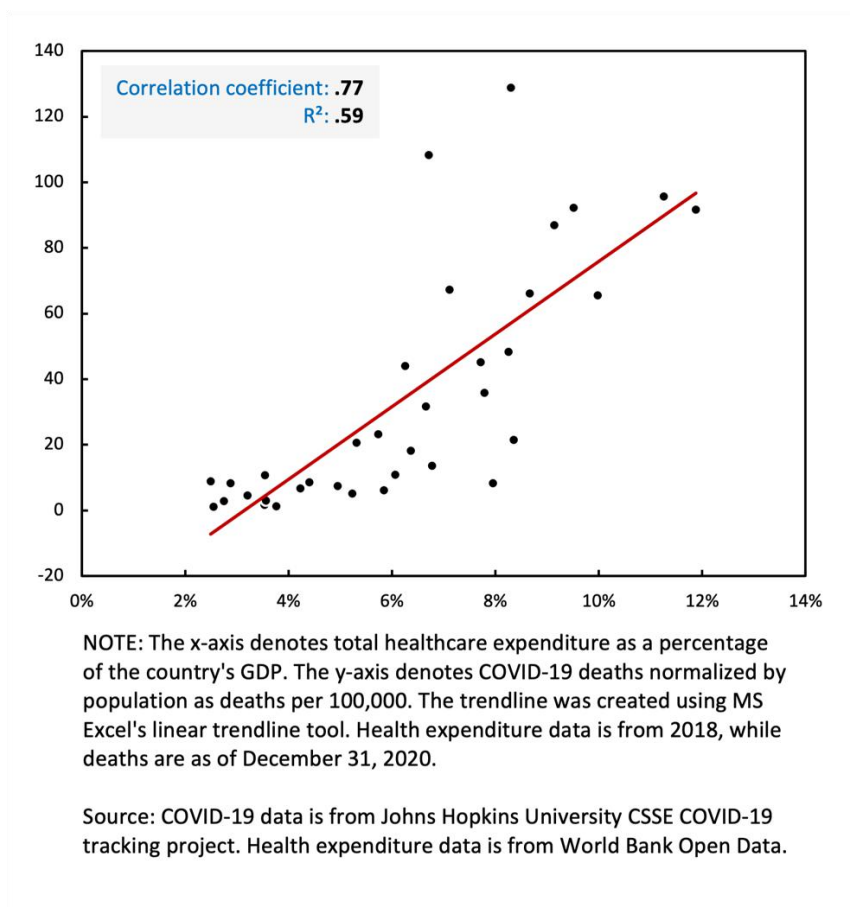
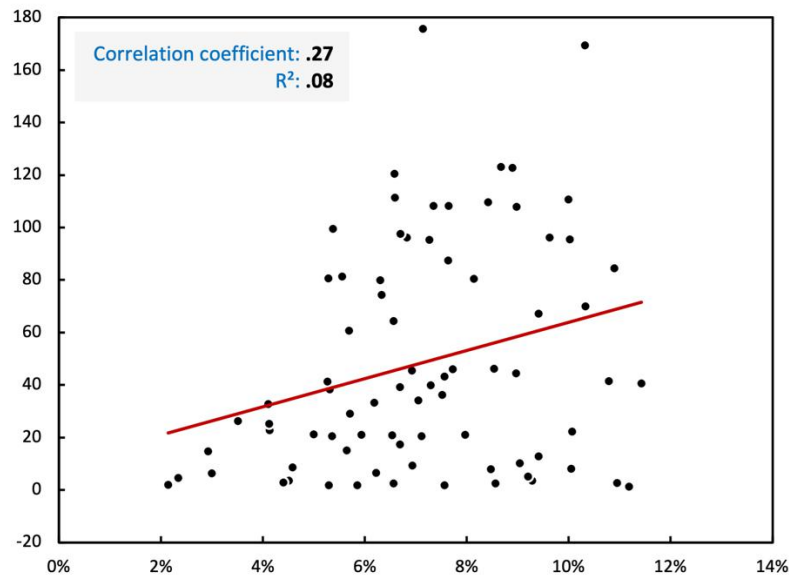


Figure 4: countries in which the ratio of private, non-out-of-pocket private expenditure to public expenditure is lower than 20%



NOTE: The x-axis denotes total healthcare expenditure as a percentage of the country's GDP. The y-axis denotes COVID-19 deaths normalized by population as deaths per 100,000. The trendline was created using MS Excel's linear trendline tool. Health expenditure data is from 2018, while deaths are as of December 31, 2020.

Source: COVID-19 data is from Johns Hopkins University CSSE COVID-19 tracking project. Health expenditure data is from World Bank Open Data.

Figures 3 and 4 show similar correlations to figures 1 and 2, reinforcing the original results. In addition, the set of countries in which the ratio of private non-out-of-pocket spending to public spending is above 20% includes a larger number of high-income countries. This suggests that the correlation holds outside of low- and middle-income countries.

Even when COVID-19 death data is measured from a later date (September 19, 2021) for comparison, the correlation between deaths and overall health expenditure remains strongly positive. For instance, among countries in which private health expenditure exceeds 50% of total health spending, the correlation is .67. Among countries in which the ratio of non-out-of-pocket expenditure to public expenditure is higher than 20%, the correlation is .74. For the opposite groups of countries, the correlations are .26 and .22, respectively.

The results also show weak or no correlation between overall health spending and COVID-19 deaths amongst countries with proportionately high public sector health care expenditure. This could be because, all things remaining the same, strong government control over health care limited the impact of health care spending levels on the pandemic's severity. It could also mean that government-dominated health care sector provision exhibits more varied levels of efficiency. Here, further study is needed to draw any solid conclusions. One starting point might be using a more detailed taxonomy of mixed health care systems in which to group countries, such as that articulated in Mackintosh et al. (2016, 3).

In sum, the tight correlation between spending and COVID-19 deaths in private-payer dominated countries suggests that private health care is neither 'more efficient' *nor* provides better health outcomes, at least in the context of a public health emergency. The results of this study are far from conclusive, particularly because the relationship between private health expenditure and the size of a country's private health care sector is still speculative. If we grant this assumption, however, this result conforms to an understanding of private health care provision based on a CasP perspective. As private control over health care increases, there is a corresponding increase in the portion of overall health expenditure representing profit. If profit is a *negative* quantity, representing not provision of health care but its strategic limitation, then in the countries in which private control has reached a certain level of dominance, health expenditure will increasingly correlate with limitations on health care (in the more or less subtle ways described in section two). From this view, the positive correlation between COVID-19 deaths and health care expenditure reflects two empirical expressions of the same process: the increasing control of business interests over a country's health care system.

Even if we don't grant a connection between the size of the private health sector and the proportion of private expenditure, the data also runs against the second argument made by private health care proponents, that forcing health care users to shoulder a greater portion of the costs of health care will result in more efficient use of resources. As table 1 shows, the high positive correlation between higher expenditure and higher COVID-19 deaths remains even when out-of-pocket expenditure are disaggregated.

Conclusion

The relationship between expenditure and outcomes in private and public health care is no doubt complex. Because of this complexity, accurate and nuanced information about the interaction of public and private sector health care should be a top priority for researchers, governments, and international organizations. Unfortunately, there is still very little data on private health care sector involvement in health care, particularly in low- and middle-income countries. In addition, the interaction between health care systems and larger institutions of power needs to be examined outside of the common framework of high-, low-, and middle-income countries. As of this writing, total COVID-19 deaths per 100,000 in the EU remain almost twice that of the global average (Fagen-Ulmschneider 2021). Moreover, wealthy countries with a high ratio of private spending to public spending, including France, the Netherlands, Switzerland, and the US, all have high overall health care expenditure *and* high death rates. This suggests that the study of the interaction between public and private health care, health care spending and health outcomes should not be confined to Global North/South conceptual divisions. While this paper produced only tentative results, the evidence gathered points to a conflict of interest in private health care between profit and public health. As the pandemic has tragically revealed, the cost of this conflict, whether counted in dollars or lives, is unsustainable.

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