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Corporate Logic in Clinical Care: The Case of Diabetes Management

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Abstract

As large corporations come to dominate U.S. health care, clinical medicine is increasingly market-driven and governed by business principles. We examine ways in which health insurers and health care systems are transforming the goals and means of clinical practice. Based on ethnographic research of diabetes management in a large health care system, we argue that together these organizations redefine clinical care in terms that prioritize financial goals and managerial logics, above the needs of individual patients. We demonstrate how emphasis on quality metrics reduces clinical work to quantifiable outcomes, redefining diabetes management to be the pursuit of narrowly defined goal numbers, despite often serious health consequences of treatment. As corporate employees, clinicians are compelled to pursue goal numbers by the heavy emphasis payers and health systems place on quality metrics, and accessing the required medications becomes the central focus of clinical practice. [diabetes mellitus, health insurance industry, health systems, clinical medicine, corporate influences]

Very large corporations are gradually dominating health care in the United States, as they expand their influence through acquisitions, mergers, and partnerships between payers, pharmaceutical producers, medical equipment manufacturers, and health systems[1] (Fulton 2017; Glied and Altman 2017). As a result, medicine is increasingly market driven and governed by business principles. Carefully considering the influence of corporations on medicine, therefore, must be part of any effort to understand current clinical practice.

Anthropologists have raised numerous concerns regarding the growing corporate influence in medicine. Robust critiques are underway on topics ranging from the pharmaceutical industry's influence over medical knowledge (Applbaum 2010; Dumit 2018; Petryna et al. 2006; Sunder Rajan 2017; Van Der Geest 2011), to health insurers' control over access to care (Baker and Hunt 2016; Getrich et al. 2018; Lamphere 2005; Mulligan and Castañeda

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Notes

1. A "health system" is an organization consisting of at least one hospital and one group of physicians, connected to each other through common ownership or joint management.

2018), and the impact of managerial technologies on clinical care (Dao and Mulligan 2016; Horton 2006; Hunt et al. 2017; Lamphere 2005; Willging 2005).

While diverse corporate entities may be inculcating medicine with market principles and values, their interests are not singular but rather are often competing or conflicting; transforming clinical care in multiple ways. Responding to calls for a multi-level analysis to more fully understand "the hold business may have over science and health care" (Van Der Geest 2011, 11; see also Lakoff 2005), we consider ways two types of corporate entities jointly influence clinical care: health insurers and health care systems. Drawing on a study of diabetes management we conducted in two specialty clinics in the United States, we focus on how the diverse, sometimes contradictory, corporate priorities of health care payers and large health systems act together to influence the content and conduct of clinical practice. We argue that multifaceted corporate rules and requirements have a determinative influence on how medicine is practiced; an influence that is simultaneously normalized and made nearly impossible to resist, resulting in practices that may be meaningful in terms of corporate concerns, while of dubious value to individual patients.

Numbers: The Lingua Franca of Corporate Interplay

A key aspect of the corporate transformation of clinical medicine involves organizational, managerial, and market logics coming to govern medical judgement. As principles of corporate management move to the forefront of clinical care, the goals and techniques of clinical work are being redefined into standardized terms with quantifiable outcomes designed to improve managerial oversight and assure cost effectiveness. Early analyses of these developments considered their impact on medical professionalism and autonomy (see, e.g., Freidson 2001; McKinlay and Stoeckle 1988). As these trends continue, some go further and question whether these new regimens distort professional behavior toward prioritizing organizational interests above those of patients (Bevan and Hood 2006; Goodrick and Reay 2011; Mechanic and McAlpine 2010).

Anthropologists are especially concerned about the growing emphasis on enumeration to facilitate the auditing of health care delivery. They note that this reduces complex phenomena to simplistic data points, thereby expunging nuances and imposing new definitions of value that reflect audit priorities above clinical realities (Adams 2016; Biruk 2012; Merry 2016; Strathern 2000). Erikson (2012) has argued that such emphasis on monitoring numeric outcomes may go beyond distorting or misrepresenting clinical reality, to restructuring the behavior it is meant to monitor.

The heavy emphasis now placed on numerical outcomes in standardized approaches to clinical care is one prominent manifestation of the growth of corporate influence. Diagnostic and treatment guidelines have proliferated in the United States since the 1980s. Grounded in evidence-based medicine (EBM), various professional organizations publish medical guidelines, setting standards for practice that are often also used in evaluating the quality of care (Weisz et al. 2007). While critics have documented heavy pharmaceutical industry influence over both scientific content and interpretation of EBM, resulting in industry-

favoring guideline recommendations (Angell 2004; Light and Lexchin 2012; Matheson 2008; Sismondo 2007), these guidelines continue to grow in influence.

Clinical practice guidelines often identify specific numeric diagnostic criteria and treatment goals for a disease. Because these numbers are commonly incorporated into various institutional oversight and quality monitoring systems, clinicians are obliged to pursue them for many conditions. Critics note that this moves authority away from clinicians and converts individual patients into digital entities with standardized conditions and outcomes (Hunt et al. 2012; Mulligan 2010; Timmermans and Oh 2010).

Diabetes by the Numbers

Diabetes provides a clear example of how corporate logics promote the pursuit of tightly defined numeric targets as a central goal of medicine. While diabetes diagnosis had long been based on measuring a patient's blood glucose in relation to carbohydrate intake, in recent years, hemoglobin A1c—a measure of sugar attached to red blood cells thought to reflect a three-month average glucose level—has become the preferred diabetes test in the United States (Barr et al. 2002). Some have argued that this transition resulted from lobbying efforts by Aventis Pharmaceuticals, the owners of Lantus (insulin galargine), the first long-acting insulin, which appeared most effective in clinical trials when A1c was taken as the outcome measure (Dumit 2012; Shalo 2004). At the same time, because the A1c is a simple blood test not requiring fasting, a much larger population can be screened than with previous tests, thereby further expanding the diabetes market.

Current clinical guidelines recommend aggressive pharmaceutical treatment for patients with A1c of >7%, to achieve a tightly defined goal of <6.5% (ADA 2018; Garber et al. 2018). Although A1c testing is now widely accepted, its clinical relevance has been questioned. Long-term studies have found that controlling A1c does not significantly lower risk for important outcomes like vision loss and cardiovascular disease (Yudkin et al. 2011). At the same time, the value of tight glucose control has also been questioned. Studies have shown it beneficial with type 1 diabetes, but not clearly so in patients with type 2[2] (ACCORD Study Group 2011; Heller and The ADVANCE Collaborative Group 2009, Holman et al. 2008). Tight control also has been shown to worsen serious, sometimes fatal, conditions such as heart failure and hypoglycemia (Boussageon et al. 2011; Cooper-DeHoff et al. 2010; Montori and Fernandez-Balsells 2009).

Nonetheless, A1c goal numbers are widely accepted as the appropriate measure of diabetes status; American Diabetes Association (ADA) guidelines recommend using multiple medications in combination to reach goal A1c numbers as quickly as possible (Garber et al. 2017). Goal A1c numbers have been incorporated by the Centers for Medicare and Medicaid (CMS) into performance and quality of care monitoring standards (NCQA 2018), and nearly all payers and health systems have followed suit. This, we will argue, has helped convert A1c target levels from a measure of treatment response to becoming the goal of treatment.

[2]Type 1 diabetes patients do not produce insulin. Type 2 diabetes patients produce insulin, but for various reasons, inadequately metabolize glucose. Only about 5% of people diagnosed with diabetes have type 1, while about 95% have type 2.

We turn now to our study of diabetes management to consider how the combined, sometimes competing, priorities of insurers and health systems are transforming diabetes management into a quest for goal numbers.

The Study

Beginning in 2014, we conducted an 18-month study of diabetes management in the Diabetes Services Clinic (DSC) and the Weight Services Clinic (WSC) of a large health system we will call Superior Health Systems[3] located in a mid-sized midwestern U.S. city. The DSC is devoted to diabetes management, while the WSC focuses on weight management. Both clinics offer a full array of services, from physician consultations to diet counseling and support groups. Because many patients in the DSC are overweight, and many in the WSC have diabetes, referrals were common between the two clinics. We conducted observations at both clinics and conducted interviews with clinicians and diabetes patients from both.

We participated in a variety of day-to-day clinic activities, such as team meetings and educational classes, and observed 122 clinical consultations, which we documented in daily field notes. We interviewed 24 clinicians and staff and 52 patients at both clinics (see Tables 1 and 2). All interviews followed a semi-structured interview guide, which solicited open-ended responses. Questions focused on diabetes management and health care coverage (among other topics not relevant to this analysis). Interviews lasted about one hour and were audio recorded and transcribed. We also reviewed medical records for the patients we interviewed. Following IRB-approved protocols, all study participants gave informed consent for each phase of the study: observations, interviews, and medical record review.

In our analysis, we developed a coding scheme, drawn from both the questions in the interview guide and broader themes emerging from interviews and participant observation and created additional codes as the project progressed. We entered all interview transcripts and observational notes into an NVivo database. We cross-checked all coding until coder agreement rates consistently exceeded 95%. Spot-checks comparing individual researcher's codes were conducted throughout the project, and any discrepancies were resolved as they emerged. We turn now to a theme that was a prominent code across our data sets: goal numbers.

Goal Numbers: The Overriding Focus of Clinical Care

In the diabetes consultations we observed, goal numbers were of utmost importance. Patients tracked their blood glucose levels at home several times a day in a log that they brought to the clinic. A1c levels were typically tested on-site and entered into the electronic health record (EHR) as soon as they became available. During consultations, clinicians would carefully review glucose levels in the patient's logs, noting those outside the goal range. For both high and low readings, patients were quizzed about the timing of meals and medications, and the clinician would then make adjustments to medication regimens—

[3]. All proper names used in this article are pseudonyms, to assure anonymity.

adding drugs, altering the timing and dosages—intending to bring the A1c readings to goal levels. Combining medications to reach goal numbers was the primary focus of treatment, with patients on average taking 11 medications, typically including several for diabetes, a variety for co-morbidities such as high blood pressure and high cholesterol, and others for managing medication side effects. The following summary of a consultation we observed illustrates a typical diabetes consultation at the DSC:

> The patient is Lester, a 43-year-old white male bus driver who has had diabetes for fifteen years. Tammy, a nurse practitioner, reviews the hand-written blood glucose log he brought with him, commenting: "It looks like you're in pretty good shape." As she writes into Lester's EHR on her laptop, she reviews his diabetes medications, reading names and dosages, with Lester nodding after each one: Victoza [liraglutide], Invokana [canagliflozin], Amaryl [glimepiride], Glucophage [metformin], and Onglyza [saxagliptin]. Seeing his A1c level for today, she stops typing and her tone abruptly changes to one of alarm: "Wow! It's 9.3! Are you ill? Did you change what you eat?" He says, "No." She then changes the dosages of some of his medications and gives him some complicated instructions about how to adjust his medications based on his meals. Reading from the EHR, she tells him his liver and kidney tests are both off, due to his medications. She says she'll put him on Lisinopril [ace inhibitor] "to protect the kidneys," and lower his dosage of Lipitor [statin] because that is affecting his liver. She finishes up by summarizing the changes she's made in his prescriptions.

While Lester was unusual in that his treatment excluded insulin because of his line of work,[4] the consultations we observed were all similarly monopolized by reviewing numbers and strategically altering, adding, and suspending prescriptions with the goal of reaching target A1c numbers. As in this case, the A1c was consistently taken to be a litmus test for the success or failure of treatment. When the A1c was found to be unexpectedly high, the consultation would shift to strategizing to correct this. When it was close to goal levels, the clinician would be delighted, often congratulating or even hugging the patient. Because several of the medications commonly prescribed to reach goal numbers can also cause organ damage as a side effect, monitoring liver and kidney function has become a routine part of care in these clinics. Next, we will consider ways that corporate priorities may be directly impacting the goals and means of care.

How Health Insurance Impacts Medical Decision-Making

Health care insurance, both public and private, are pivotal players in how medicine is being practiced in the United States. Because medical insurers control which services and treatments will be paid for and under what circumstances, they can be highly influential over both the selection of clinical treatments and patient access to them (Hoffman 2006; Piette et al. 2004). Following a financial logic of managerial efficiency, health insurance operates behind the scenes of everyday clinical care, providing the "scaffolding on which health systems are constructed" (Dao and Mulligan 2016, 6). The influence of payers extends

4. Federal law currently prohibits interstate commercial vehicle drivers from using insulin, unless a special exemption is granted.

beyond patients and clinicians, organizing relationships between institutions such as health care organizations and pharmaceutical companies.

Payers routinely establish and revise payment contracts, with reimbursement tied to specific clinical outcomes, and set policies to cover only certain treatments and under certain conditions. Thus, insurance industry priorities may determine the content of clinical care. In our study, we observed two primary avenues through which this occurs: through quality oversight programs and medication formularies.

Quality Oversight and the Dominance of Goal Numbers

The health care quality improvement movement in the United States, led by the CMS, is intended to improve overall population health while controlling costs (Marjoua and Bozic 2012). Payers understand health "risk" in actuarial terms: as the likelihood that they will pay for patients' medical care (Mulligan 2010; Stone 1993). Insurers strive to manage costs by managing risk, although they do so in diverse ways, with some targeting healthier people, others high utilizers, or others (notably the CMS) promoting health across an entire population. This logic has played a key role in encouraging the pursuit of target numbers as the central focus of care. Because elevated test levels of metabolic indicators such as glucose have been associated with risk for costly health complications, lowering these numbers is expected to limit future costs. The A1c has thus become incorporated into quality monitoring metrics, despite uncertain value for individual patients (Qaseem et al. 2018). Both public and commercial payers have integrated A1c target numbers into their quality assessment plans.

Quality monitoring requires work be measurable and trackable, and numeric standards of care provide a ready basis for such measurements, representing patients as a set of data points and metrics (de Ruiter et al. 2016). The CMS and nearly all health care payers in the United States assess health care quality using the Healthcare Effectiveness Data and Information Set (HEDIS), published annually by the non-profit National Committee for Quality Assurance (NCQA 2018). Clinicians and the health systems that employ them, as well as payers, are ranked based on these quality measures, which can affect their reputations and level of compensation.

Social scientists have observed that when business interests affect criteria for evaluating the adequacy of care, they do so based on financial priorities that may contradict those of clinical medicine and therapeutic logic (Conrad 2005; Goodrick and Reay 2011), which some have noted can distort the ways clinicians set priorities and define clinical goals (Magrath and Nichter 2012; Nigam 2012; Oldani 2010; Pogach et al. 2010). Such an impact was clearly discernable in our study. None of the clinicians or patients we interviewed questioned the use of A1c numbers in diabetes management, nor seemed aware that [[these numbers]] may be emphasized for reasons other than promoting individual well-being. Yet, many struggled on a daily basis with the consequences of pursuing target numbers. The comments of Dr. Pohl, an internist, demonstrate the frustration clinicians may experience in being judged by criteria not fully in their control:

> I try to hold myself to high standards. That's much more difficult than just saying, "Get an A1c to seven," because it takes a lot. You have to have that patient being adherent to the meds. To make it work, you have to have a highly motivated patient, along with a physician that's following the guidelines.

Like Dr. Pohl, all clinicians in our study embraced the value of reaching goal numbers but felt frustrated that there was little they could do beyond prescribing medications to reach that goal, often expressing annoyance at the impact of payer pressures on their practice. Some clinicians described overt efforts by insurers to direct clinical care, reporting that they receive emails from insurers reminding them that a patient is due for an A1c test or suggesting that a medication be started based on a patient's demographic profile and health history.

Patients often expressed skepticism about the appropriateness of rigid goal A1c numbers for themselves, especially the many who experienced hypoglycemia[5] as they approached the target A1c level. For many, reaching goal A1c did not mean maintaining a steady glucose level in the target range over the three months the test is thought to capture, but instead reflected daily fluctuations between high and low glucose levels. Half the patients in our study (50%, 26/52) reported regularly contending with medication-induced low blood sugar, several to the point of having to be hospitalized. Clinicians spent a lot of consultation time with such patients, adjusting medication dosages and meal timing toward reaching goal A1c numbers while minimizing dangerously low glucose levels.

Many patients indicated they felt the goal numbers were too low for them, with comments like: "They say that number is good for me, but I feel out of it!" and "I've been over [an A1c of] 10 for years, so 7 or 8 for me is a big improvement—but now they say I've got to have it even lower!"

Practice guidelines include some flexibility in targets for individual patients, instructing clinicians to individualize goals for certain patients, such as those over 80 years old or with comorbidities (Garber et al. 2017; Qaseem et al. 2018). However, quality assessment procedures leave little room for these nuances, and instead present uniform goals. Clinicians often expressed frustration with the arbitrariness of these standards. As Tammy, the nurse practitioner, explained:

> You can't always assign a concrete A1c number that measures improvement. For example, they may say your patients need an A1c of 8 or 7. But maybe they're at 8.5, but they came in at 15. So that's actually a great improvement. I've argued all along that it should be the percent changed, not necessarily the absolute number.

While clinicians and patients alike were sometimes frustrated with the rigidity and uniformity of goal numbers, reaching A1c targets through aggressive use of medications, as recommended in the ADA standards of care, was the main order of business in the diabetes management we observed. In the next section, we will consider the key role that payers play in determining which specific medications are actually used.

[5]·Hypoglycemia is low blood glucose, which can cause debilitating symptoms such as dizziness, disorientation, and unconsciousness. It can be fatal. Hypoglycemia is a common side effect of glucose-lowering medications.

Formularies: Corporate Negotiations as Treatment Selection

Health payers limit drug coverage to direct prescriptions, steering patients and clinicians instead toward cost-efficient alternatives. Most public and private health insurance plans include medication formularies or Preferred Drug Lists (PDLs), which mandate cheaper alternatives be tried before newer and more expensive drugs. Drugs are classified in formularies into progressively higher co-pay tiers, with preferred drugs being either generics or those discounted to the insurers (Ovsag et al. 2008).

Initially, formularies and PDLs encouraged cost-effective treatment choices; increasingly, however, they are subject to the influence of pharmaceutical companies. For example, a recent investigation by the Center for Public Integrity reported that the majority of committee members for the PDLs in their study were either directly employed by the drug industry or received other industry compensation (Whyte et al. 2018). Many also attend industry-hosted conferences where companies lobby for their products to be included in PDLs.

Pharmacy benefits managers (PBMs) are coming to play a central role in establishing formularies. PBMs are companies contracted by payers to administer prescription drug plans by negotiating discounted prices and rebates with drug-makers. There are only three major PBMs in the United States—CVS, Express Scripts, and OptumRx—covering nearly all insured Americans (Wapner 2017). While intended to lower drug costs, PBMs seem to be having the opposite effect. Some attribute rapid increases in U.S. pharmaceutical spending to PBMs acting as “double agents,” negotiating rebates for themselves in exchange for inclusion on formularies and exclusion of competitors’ products (Rentmeester and Garis 2008).

Research has shown that payer formularies and PDLs have a great influence on clinician prescribing behavior (Epstein and Ketcham 2014; Gönül et al. 2001). This was indeed the case in the clinics we studied. We commonly observed clinicians prescribing a medication as recommended in the guidelines, then discovering it was not covered by the patients’ insurer. Clinicians routinely worked around these limitations by providing patients with samples, giving out drug discount coupons, or helping patients sign up for free drug programs offered by the manufacturers. Most of the patients we interviewed (71%, 37/52) said they had used at least one of these strategies to access medications. While effective in the short term, most patients could not afford these medications on their own.

All the clinicians we interviewed who had prescribing authority (10/10)[6] said that insurers determine the treatments they end up selecting, preventing them from prescribing drugs they feel are most appropriate. We often observed clinicians change a prescription that had already proven effective, not because they felt a change was needed, but because the insurer would not cover it. Often these were newer, more expensive drugs, but on several occasions the change was required for an older drug simply because it was no longer included in the insurer’s formulary.

6. Ten of the 24 clinicians we interviewed had prescribing authority. These included physicians, physician assistants, and nurse practitioners.

Many clinicians expressed frustration with insurance companies, describing them as intruding on their clinical discretion. For example, Lisa, a nurse practitioner, commented: "It's very frustrating. I don't like insurance companies setting the rules for medicine. … I've told my patients, 'Your insurance is managing your diabetes, I'm not.'" Dr. Simmons, an endocrinologist, stated even more firmly: "It's not a question of: 'What does the patient need?' But 'What does the insurance company allow?'"

Formulary changes, even with minimal co-pays, can seriously affect patients' ability to comply with treatment recommendations (Shaw 2018). The patients we interviewed, whether covered by public or private insurance, were equally frustrated by formulary restrictions. More than half (58%, 30/52) reported having been prescribed drugs that their insurance would not cover, then having to change medications to avoid high co-pays. They often complained that the substituted medications didn't work as well. Clara, a 73-year-old retired accountant, explained how she experienced such changes:

> I don't like it. (Laughs) The thing of it is, these companies are changing the top [co-pay] level all the time. It's so confusing. You go get your prescriptions and you don't know exactly how much it's going to be, and by this stage of your life, you're on a budget, and when the prescription you're used to paying $20 for is now $50, that's a jolt.

If a clinician thinks a particular medication not on the insurer's formulary is most appropriate for a patient, they may request prior authorization (PA) in a letter documenting the medical need and therapeutic rationale for that particular medication. The prescribing clinicians were especially frustrated with PA requirements, with 50% (5/10) specifically mentioning this as an unreasonable demand on their time and a challenge to their medical authority. Dr. Simmons was especially blunt in expressing her opinion of these requirements:

> Insurance allowing (chuckles), I can actually practice the art of medicine and figure out, for a particular patient, what's the appropriate treatment. … I shouldn't have to do a Prior Authorization to explain why I decided to write a prescription. I have the medical degree. I signed my name. That's my prior authorization.

While the clinicians frequently expressed such frustration with insurers, it is important to understand that the content of care is being directed not just by payers, but more immediately through the priorities and policies of their employer—Superior Health Systems. We now consider why pursuit of target numbers is important to a health system like Superior Health, and how this reinforces these numbers as a goal of care.

Playing the Numbers: Health System Priorities and Pressures

A major restructuring of health care finances and personnel is underway, with large-scale health systems expanding rapidly through mergers and acquisitions, absorbing large numbers of medical practices, clinics, and hospitals into their corporate structures. Most physicians in the United States are now employees of large health care organizations rather than independent practitioners (Kane 2017; Kocher and Sahni 2011; Squires and Blumenthal 2016). With such corporate expansion, critics observe, the logic of markets and management

become dominant, while professional logic may recede, leading to prioritizing organizational interests above patient needs (Goodrick and Reay 2016; Martin et al. 2015).

Superior Health has been a successful participant in corporate expansion, acquiring numerous community hospitals, physician practices, outpatient facilities, and even a health insurance plan. This growth has come with an increasing commitment to managerial technologies such as performance monitoring.

The clinics in our study clearly reflected Superior Health's expansion agenda. Nearly all the providers in the DSC and WSC had recently come to Superior Health from private or group practices; and staff were added to both clinics during the study, charged with facilitating data reporting, regulation compliance, and insurance reimbursements.

We have argued elsewhere that an important way that corporate priorities are inserted into clinical care is through the documentation requirements of the EHR, which restructures clinical encounters around documentation required by federal regulations, performance oversight, and [Hunt et al. 2017] We showed how Superior Health's use of the EHR emphasized quantifiable outcomes, resulting in the digitization of patients. Here we more specifically consider how the enumeration required by quality monitoring efforts may impact care.

As it evolves into an increasingly large and complex corporation, Superior Health's emphasis on quality and productivity surveillance has likewise increased. As Holly, a nurse manager for the DSC who had been involved in health care quality measurement for more than a decade, explained:

> Quality measurement has really grown in importance and sophistication. And there's all the different measurements now because there are all these programs that we're a part of. Now it's all about data reporting and comparing to others and driving change based on the numbers. I mean, it's huge! It was not like that ten years ago. … They literally hire people now just to meet the need of data collection and to report out to the various groups.

As with any corporation, Superior Health must prioritize its financial health to survive, and in the current environment, quality measurement is key to financial health. As Holly's comments imply, there is a complicated landscape of rating schemes, reimbursement levels, and quality incentive programs. Quality metrics are used by the CMS to rank many types of entities—including health plans, service-providing organizations, and payer plans—to allow their clients to make comparisons between different care and coverage options. Quality metrics are also used by health care organizations and by individual providers in marketing efforts, and by payers or employers to determine levels of compensation. For an organization like Superior Health, quality metrics affect the health system's appeal to potential customers, and directly impact the level of revenue they receive. Superior Health must "hit its numbers" to maximize its market position. As Dr. Cooper, an endocrinologist, observed: "It trickles down—so now Superior Health puts it on me. It's government and the insurance companies putting it on them, and so it trickles down. As I'm an employed physician, so I have to do this."

As corporate employees, the clinicians in this study were subject to the managerial logic of Superior Health. The pressure to enhance the rankings of the DSC and WSC was an integral part of the day-to-day operations of the clinics. The clinic office managers held regular staff meetings to review "key performance indicators." The clinics were compared to other clinics within Superior Health based on these numbers, as well as to other clinics nationally. Additionally, each provider received an individual performance score based on quality standards, which included the average A1c of their diabetes patients, but all indicated they weren't sure exactly how much of their compensation was affected by these metrics.

At the time of the research, Superior Health had just announced plans for a new system of financial incentives that would reduce provider compensation if quality goals were not met. This was in response to a CMS-led initiative to transition to a "value-based" payment system, essentially paying both health care corporations and individual providers based on quality measures rather than volume of care (Centers for Medicare and Medicaid Services 2018; Change Healthcare 2017). The program included phased-in mandates that a portion of provider compensation be tied to quality measures (Bunkers et al. 2016; Chen et al. 2017).

In interviews, clinicians made frequent references to these new plans. Some thought such incentives are a good idea because they encourage better care, others felt they would be rewarded for things they were doing anyway, while others were concerned that incentivizing care could present a conflict of interest. Amber, a nurse recently hired as an insurance specialist, was concerned that clinicians may have to balance patient needs against management requirements. She remarked:

> As a provider, you want to address all of your patient's needs. But it is challenging to do it. … From the management side, you're being told to see more patients, get more to goal A1c, make more money. (Laughs.) So, it's a tough thing to balance. … They are missing one really big thing, and that's that we can't make patients do it.

Clinicians did not express great concern about the potential monetary impact of meeting managerial goals, but rather described them as reasonable expectations which they would be trying to reach regardless. As Dr. Cooper explained: "I'm doing the best I can trying to meet the quality measures that I know I should do for diabetes. If that happens to pay, wonderful. If it doesn't, oh well."

We asked patients what they thought about clinicians receiving bonuses or penalties based on meeting numeric goals. Many (42%, 22/52) felt this could be a good thing, motivating providers to help their patients. Those who thought incentives were bad (25%, 13/52) were vocal about their concerns, not wanting their doctor to be making recommendations based on financial considerations. In the words of Sarah, a 55-year-old medical billing technician:

> You don't want to find out your doctor is thinking, "It's the end of the month and I've got to get two more patients to this level if I want to get my bonus." I know that those incentives sound good, but if the people who are getting them don't have ethics, then you have an issue.

While patients' concerns about incentivizing clinicians focused on the care they as individuals might receive, for corporations like Superior Health, concern with target numbers is at the aggregate level. To receive various quality certifications or maximize reimbursements, they need to show that on average, they are meeting standards of care. For diabetes, this includes a variety of elements in addition to the A1c numbers, such as whether certain tests and monitoring occur and are properly recorded on a recommended schedule. For clinicians to comply with these standards is straightforward: They document the required physical exams and make needed referrals. However, many clinicians emphasized that quality scores are based on averages across a population, which could impact their approach to individual patients. Dr. Cooper explained how her clinical judgment could be undermined by such a system:

> If someone has repeated hypoglycemia or if someone is very brittle—meaning they drop [in blood sugar] very quickly—we need to let them run just a little higher. You may need to raise the threshold for them a little bit, or the risk of mortality goes up. … But it turns out, if you DON'T get these people to target, then you're going to get dinged for it. So, you won't get as much reimbursement.

Other clinicians rose to the challenge of reaching A1c goals for their patients more directly, by striving for lower numbers in some patients to offset higher numbers in others. For example, Emily, a physician assistant, told us the averages are calculated annually and reset each December. She said: "A general kind of rule of thumb is an A1c less than 7 is recommended—but the lower you can go, the better, as long as you're not causing [hypoglycemia]. … [Superior Health] sets practice targets where we want to have our average A1cs down."

Despite the intended benefits, the comments and strategies of clinicians in this study raise concern that corporate commitment to quality oversight monitoring may further promote a laser focus on achieving numeric targets as the predominant goal of clinical care, overshadowing other indicators of patient well-being. When incorporated into corporate compensation plans, this approach becomes muddled with the terms of employment, running the risk of further undermining clinician autonomy to determine the best course of care for individual patients.

Conclusion

Taking diabetes as an example, we have examined some ways large corporations are dominating and transforming clinical medicine, redefining both the goals and the means of treatment. Focusing on health insurers and large health systems, we have identified some specific ways they act together to shape clinical medicine, replacing therapeutic logic with financial logic. The insurance industry exercises a dual influence through its contracts with pharmaceutical suppliers as well as its quality monitoring programs. At the same time, clinicians-turned-employees are subject to the priorities of the large health corporation for which they work through performance reviews and compensation plans based on quality metrics. Thus, through principles of cost efficiency and productivity surveillance, these powerful organizations are replacing the patient as the object of care with quantifiable

outcomes and allowing treatment to be determined by complicated financial arrangements between suppliers and payers.

Although this study is limited in that it was conducted in just one location with a small number of patients and clinicians and focused on only one disease, it has allowed us to explore a specific example of how illness management is increasingly dominated by organizational interests. Our analysis suggests that clinicians do not actively question the validity of these goals and instead act as unwitting corporate functionaries, earnestly prescribing medications to force test numbers to goal levels, and exhorting patients to comply, while managing the negative effects of the medications.

While this article focuses on diabetes, similar forces are at play in the clinical management of many conditions. Through mechanisms like those we have described, organizations like payers and large health systems are having a determinative impact on how clinical care is understood and practiced. Through their combined influence, corporations are redefining clinical medicine based on managerial, organizational, and market logics, replacing professional expertise and concern for the well-being of individual patients with corporate strategies for assuring profitability.

We should be asking hard questions about who the real benefactors are when corporations are setting and enforcing the clinical agenda, especially when they promote a one-size-fits-all approach to clinical care that, while lucrative for the business of medicine, is of questionable value—and even harmful—to individual patients. These are very big problems, rooted in the way we have allowed medicine to be organized and governed in this country, and solutions likely lie beyond the choices and actions of individual clinicians and patients. Moving medical authority back into the hands of medical professionals, allowing them to make informed decisions about the care of each patient, likely will require systemic reform: disengaging medicine from the forces of capitalism and reimagining a system that prioritizes public health above corporate health.

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Table 1:

Selected Characteristics of 24 Clinicians Interviewed

	Total	
	n	**%**
Participants	24	
Clinic		
Diabetes Services Center	13	54%
Weight Services Center	11	46%
Sex		
Female	17	71%
Male	7	29%
Age Range: 22–74, Median 42		
20–29	2	8%
30–39	6	25%
40–49	6	25%
50–59	4	17%
>60	4	17%
Not asked	2	8%
Race/Ethnicity		
White	21	88%
Asian	3	13%
Job Title		
Physician *	6	25%
Physician Assistant *	3	13%
Nurse Practitioner *	1	4%
Nurse	2	8%
Medical Assistant	3	13%
Nonclinical Specialist **	4	17%
Office staff ***	5	21%
Years in practice		
1–3	9	38%
4–10	3	13%
>10	9	38%
Not asked	3	13%

* Have authority to prescribe medications

** Behaviorist, Exercise Specialist, Dietician

*** Office/Clinic Manager, Insurance Specialist, Quality Process Manager

Table 2:

Selected Characteristics of 52 Patients Interviewed

	Total	
	n	**%**
Participants	52	
Clinic		
Diabetes Services Center	27	52%
Weight Services Center	25	48%
Sex		
Female	32	62%
Male	20	38%
Age Range: 29–79	**Median 59**	
20–29	1	2%
30–39	1	2%
40–49	8	15%
50–59	17	33%
60–69	16	31%
70–79	9	17%
Race/Ethnicity		
White	33	63%
Black/African American	10	19%
Hispanic/Latino	6	12%
Other/More than One	3	6%
Education		
High school or less	13	25%
Some college / Assoc. deg.	27	52%
Bachelor's Degree	9	17%
Some Grad sch. / Master's deg.	3	6%
Primary Health Insurance		
Medicare	25	48%
Medicaid	6	12%
Private	20	38%
None	1	2%
Household Income		
<$20,000	7	13%
$21,000–$50,000	18	35%
$51,000–$70,000	9	17%
$71,000–$90,000	5	10%
>$90,000	9	17%
No Answer / Don't Know	4	8%