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It's a jungle out there: Understanding physician payment and its role in group dynamics

Rachel Gifford [a,*,1], Eric Molleman [b], Taco van der Vaart [c]

[a] Department of Health Services Research, Faculty of Health Medicine and Life Sciences, Maastricht University, Maastricht, Netherlands
[b] Department of Organizational Behavior, Faculty of Economics and Business, University of Groningen, Groningen, Netherlands
[c] Department of Operations, Faculty of Economics and Business, University of Groningen, Groningen, Netherlands

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ABSTRACT

Although collaboration between healthcare professionals is essential for the delivery of effective, efficient, and high-quality care, it remains an ongoing and critical challenge across health systems. As a result, many countries are experimenting with innovative payment and employment models. The literature tends to focus on improving collaboration across organizational and sectoral boundaries, and largely ignores potential barriers to collaborative work between members of the same profession within a single organization. Despite intergroup dynamics and professional boundaries having been shown to restrict patient flow and collaboration between specialties, studies have so far tended to overlook the potential effects of differentiated organizational and payment models on physicians' behaviors and intergroup dynamics. In the present study, we seek to unpack the influence of physicians' payment and employment models on their collaborative behaviors and on intergroup dynamics between specialties, adding to the current scholarship on physician payment and employment by considering how physicians' view and act in response to different structural arrangements. The findings suggest that adopting hybrid models, in which physicians are employed or paid differently within the same organization or practice, creates a bifurcation of the profession whereby physicians across different models are perceived to behave differently and have conflicting professional values. These models are perceived to inhibit collaboration between physicians and complicate hospital governance, restricting the ability to move towards new models of care delivery. These findings can be used as a basis for future work that aims to unpack the reality of physician payment and offer important insights for policies surrounding physician employment.

1. Introduction

> We have made a system where money is very important … but there is one place I think where, from a humanity origin, that you have to be different. You can't help it if you get sick. We have possibilities to cure people, and it's not good if the rich get a liver transplant and the poor die. It's not good if you go to the doctor because you have pain, and the doctor abuses you by giving you medicine that you pay too much for, and that he gets money for [prescribing] … we have to cut the crap. If you want to be a doctor in modern society it will bring you, as I thought as a young boy, a nice job, it brings you status, it brings you the possibility to have a good life, but you have to work - as do all normal people - within limits. We must change the incentive to get back the money that you [personally] bring in. But I see it, in this hospital, as a jungle with everyone doing their own thing, and that doesn't feel good. –Medical Specialist

Although collaboration between healthcare professionals is essential for the delivery of effective, efficient, and high-quality care (Uddin et al., 2012), it remains a significant challenge across many health systems (Kreindler et al., 2012; Raus et al., 2020). Decades of research have emphasized the need for improved collaboration between healthcare providers (Singer et al., 2020a, 2020b). In particular, there has been an emphasis on the detrimental effects of fragmented payment systems on collaborative behaviors across organizational and sectoral boundaries (Nolte and Mckee, 2008). For patients receiving hospital care, collaboration between providers *within* hospital boundaries is as important for both the quality of care and for organizational outcomes (Hewett et al., 2009; Powell and Davies, 2012). Strong siloes and intergroup conflicts,

* Corresponding author.
E-mail address: R.Gifford@Maastrichtuniversity.nl (R. Gifford).
[1] Present Address: Department of Health Services Research, P.O. Box 616, 6200 MD Maastricht, The Netherlands.

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grounded in different payment systems, continue to exist within organizational boundaries (Comeau-Vallée and Langley, 2020; Kreindler et al., 2022), inhibiting integration and quality of care (Bochatay et al., 2019; Gifford et al., 2022a). However, studies frequently overlook the potential for misaligned incentives to disrupt collaboration between providers working within the same organization and within the same profession (e.g., doctors across departments and specialty groups). In many countries, physicians operate under a hybrid system with physicians differentially employed and remunerated within the same organization (e.g., systems where some specialists are in salaried employment and others self-employed physicians working on some form of activity-based payment) (Kok et al., 2015; OECD, 2020; Quentin et al., 2018). As a result, members of the same profession are incentivized differently and may consequently have differing norms and values regarding approaches to work and patient care that may inhibit collaboration. It is therefore important to consider the role that these structural arrangements might play in intergroup dynamics and collaborative behavior.

How physicians are paid not only impacts the care that patients receive and their care outcomes (Reschovsky et al., 2015) but also the integration of care (Nolte and McKee, 2008; Porter, 2009). As a result, many countries are experimenting with innovative payment and employment models (Conrad, 2015). However, the literature on the topic of physician employment and payment is sparse (Quinn et al., 2020) and remains limited in several ways. Where there is empirical evidence, results have been mixed (Burns and Muller, 2008; Gifford et al., 2022b; Post et al., 2018) and the potential influence on physicians' collaborative behavior has not been adequately examined. Hybrid systems, (i.e. physicians working under different employment and/or payment models within the same organization) are particularly understudied. It is therefore important that we advance our understanding of the hybrid systems that physicians work under and how both the way we organize (employment relations) and remunerate physicians (type of payment) may impact collaborative behavior.

We expect hybrid systems to have an impact on physicians' intergroup relations and professional collaboration with each other. While work on integrated care systems often indicates that misaligned incentives are a key barrier to improving care (Nolte and Mckee, 2008), most of this literature focuses on inter-organizational relations, thereby ignoring the situation where clinicians are working under two models within the same organization (a notable exception being Liberati et al., 2016). Furthermore, the literature on physician payment has largely overlooked how payment models affect the behavior of medical specialists, despite the important implications for the achievement of health system goals (Quinn et al., 2020). This literature has also largely overlooked the potential impact of employment models (e.g., physicians being employees or self-employed) alongside payment models. To better tease out this issue and to better understand the influence of hybrid payment and employment models, the present study questions '*how does physician payment and employment influence intergroup dynamics within a hospital setting?*'. To this end, we conducted a multiple-case study with hospital-based specialists (N = 33) at two large general hospitals in the Netherlands. We had physicians compare being employed and paid based on time (i.e., a salaried position) with being self-employed and paid based on activities undertaken (such as in diagnostic-related groups, or the 'DRG' system). For context, board members and managers (N = 15) were interviewed to gain an organizational perspective on the differences between groups.

Overall, the findings reveal that operating a hybrid system (having physicians paid and/or employed under more than one model) may lead to a bifurcation of the profession whereby self-employed physicians are perceived to have different values to employed physicians, to behave differently, and to be influenced directly by their payment system in regards of how they carry out their daily work. These findings add to the current scholarship on physician payment systems and physician employment by considering how physicians view and act in response to different structural arrangements (Conrad, 2015). In particular, this study offers unique insights into how physician payment and employment can influence intergroup dynamics, collaborative behaviors, and create boundaries between professionals who might be sharing responsibility for patient care.

Table 1
Perceptions of the influence of physician payment per category.

Category	Activity-based (DBC)	Time-based (annual salary)
Over/under treating	Overtreating	No undertreating
Collaboration (within/across specialty)	Negative competition	Good
Gaming	Yes, pressures linked to group incentives	No
Workload and hours	High	Good
Job satisfaction	Good	Good
Patient care (quality)	Better	Better
Hospital Physician Integration	Low	High
Self-employed physicians view	Best for patients Highly motivated Incentivizes good, speedy care	Work less hours, waiting lists go up. Hospital has control over patient care
Salaried physicians view	Focus on money, driven by incentives. Patient care suffers.	Better for patients, really about value and being a physician

2. Theory

2.1. Physician payment and employment models

Secondary care accounts for around 30–40 percent of healthcare costs (OECD 2016). Physicians are a crucial factor in controlling costs as they are responsible for performing procedures, tests, prescribing drugs and treatment. They also have influence in the hospital organization itself, beyond the purely clinical realm (such as in how care is organized) (OECD, 2020; Quentin et al., 2018). Consequently, many reforms aim to influence how physicians are organized and incentivized (Quinn et al., 2020), with a recent push towards more centralized organizational control of physicians (e.g., salaried employment) and a shift away from production-based incentives (activity-based payments) such as fee-for-service (Porter, 2009; Tsiachristas et al., 2013). Physician payment can be seen as 'a form of incentive contract between an individual physician and a healthcare organization' whereby the organization tries to encourage certain behaviors and activities by rewarding physicians accordingly (Quinn et al., 2020; 345).

In many European and western countries, hospital-based medical specialists primarily work as employees but in the Netherlands, as well as in Canada and the USA, the majority are self-employed (Quentin et al., 2018). Depending on the country, the majority of specialists might be employed by specialty groups in private practice (e.g., Germany, Switzerland) while in other countries, like the Netherlands, most physicians are self-employed (denoted further as 'SE') although some specialties (e.g., pediatricians, pathologists) are more often contracted as salaried employees (Quentin et al., 2018; Kok et al., 2015). While there are variations, most self-employed specialists work (at least partially) under an activity-based payment scheme, whereas employed specialists are traditionally salaried by the employing hospital (paid based on contracted hours). Although there can be a layering of incentives in practice (e.g., a base salary plus a percentage based on performance) (Jegers et al., 2002), for the purposes of the present study we focus on the primary basis for payment (activity-based or time-based) and employment relationship with the hospital (employed or self-employed).

2.2. Hybrid arrangements

It is recognized that physicians' payments influence the care that patients receive and care outcomes (Reschovsky et al., 2015). This, coupled with increasing financial pressures, has led to a burgeoning body of literature and policy regarding physician payment and incentives (Flodgren et al., 2011; Porter, 2009). In countries where some physicians still work on a self-employed basis, multiple payment and employment systems are often blended leading to complex hybrid models with physicians in different employment relationships operating under different payment types. This means in practice that medical specialists working within the same sector, and even organization, can be employed (e.g., self-employed, employed) and paid (e.g., activity-based, time-based) in different ways. In theory, payment and employment constitute two separate dimensions but in practice these dimensions tend to overlap strongly. In Belgium and the Netherlands, all specialists working in academic hospitals are salaried employees, whereas in most non-academic hospitals a hybrid model operates with some physicians working as salaried employees and others as self-employed under a DRG model. The present study investigates such a hybrid construction in hospitals that have both self-employed doctors paid on the basis of activity and employed doctors paid on the basis of time.

There are only a few studies that examine specialist payment (Quinn et al., 2020), and those that do tend to overlook the complexities of these arrangements, opting to focus on one type or another, or comparing easily distinguishable types (e.g., activity-based versus time-based). Much attention has been given to the role of physician employment forms in issues such as hospital governance and hospital physician integration (Burns and Muller, 2008; Burns and Pauly, 2018; Burns et al., 2020), and the issue of payment reform has garnered much scholarly debate and been a focus in policy reforms. However, there is little in the literature that explores how hybrid models in themselves influence outcomes. Given the reality of hybrid forms of physician payment, it is highly relevant to consider if and how these systems determine outcomes relevant to care delivery, such as intergroup relations and collaboration between specialists.

2.3. Hybrid models and intra-professional collaboration

There have been a considerable number of publications focused on the challenges in collaborating across occupational boundaries, that is multidisciplinary collaboration (Liberati et al., 2016) that crosses organizational boundaries (e.g., primary and secondary care), sectors (e.g., social care and mental health care), or professions (e.g., nurses and physicians). Within the medical profession this can be further complicated by social systems and status hierarchies that make collaboration difficult (Comeau-Vallée and Langley, 2020; Hewett et al., 2009). Localized professional cultures often form within specialty boundaries (Liberati et al., 2016) and these can lead to intergroup conflict (Powell and Davies, 2012). Intra-professional boundaries can seriously hinder collaborative working between physicians (Gifford et al., 2022a) and impede significant improvements in care delivery (Powell and Davies, 2012). Such boundaries have been shown to lead to competition between physicians and physician groups (Currie et al., 2008) that can undermine care delivery processes.

Traditionally, professional boundaries have been associated with task jurisdictions, whereby professionals claim certain tasks and knowledge domains to differentiate themselves and their groups (Abbott, 1988). Hybrid organizational models might present a further opportunity for conflict and boundaries between individuals and groups on the basis of payment and employment. While much of the literature focuses on changing from one payment model to the other (e.g. Porter and Kaplan, 2014), there is a gap in the literature on how physicians working under different payment systems interact with one another. Although incentive [mis]alignment has been widely discussed in the integrated care literature (Tsiachristas et al., 2013), this usually pertains to issues across disciplines, sectors, or organizations, rather than to its role in shaping dynamics at the individual or group professional level. Understanding how hybrid systems influence relational dynamics and collaborative work is highly relevant for organizations as many physicians who are required to collaborate and work together to deliver patient care may operate under different employment systems.

Differential payments create the possibility that certain individuals or groups may earn more, and through this gain more influence or status within the professional group and/or organization. Additionally, group payment models may lead to competition between specialty groups based on resource acquisition. Employment relations have also been shown to be a contentious subject for physicians (Gifford et al., 2022a), and the differences between owning one's own practice and being an employee of the hospital will result in variability between these groups in terms of planning, incentives, resources, and influence. In particular, self-employment has historically been connected to a strong professional logic whereby physicians are independent and autonomous actors free from organizational control (Epané et al., 2019), and thus it is likely to be strongly connected to an individual's sense of professional values.

3. Methods

3.1. Background/setting

In the Netherlands, most specialists working in non-university hospitals are classified as 'independent entrepreneurs', with only around 30 percent in salaried employment (Tikkanen et al., 2020). Historically, whether physicians were employed or independent was primarily determined at the specialty-group level. Since 2005, independent specialists have been paid under a modified fee-for-service approach, based on the DRG system (in Dutch DBC). Payment is based on activities performed within one's specialty group, which acts as an independent business (or 'partnership') such as a cardiology partnership or a surgery partnership. While self-employed specialists are reimbursed per care episode (DRG) and therefore have an incentive to increase productivity, hospitals have a capped budget, meaning that their management is driven to restrict costs. Nevertheless, even when employed physicians are paid a fixed salary, there is still an incentive to deliver DRGs to ensure that the hospital is as productive as in previous years to maintain its income.

3.1.1. A hybrid system

Jegers et al. (2002) identified different types of hybrid systems, one of which focused on the different financing systems used for different types of providers. Our case organizations can be classified under this hybrid form as the medical specialists are reimbursed in one of two ways, activity-based (self-employed specialists) or fixed salary (employed specialists). Data from the American Health Association (AHA) suggest that such a hybrid model is also used in USA hospitals (see Bazzoli, 2021). However, on a note of caution, since the literature tends to either conflate payment and employment, or ignore one aspect in favor of the other, it is unclear how common this is in practice.

3.2. Research design

We carried out an exploratory multiple-case study using an embedded design (see Yin, 2011) with medical specialists and employment type as the units of analysis. The data were obtained from two large general hospitals (500+ beds) in the north of the Netherlands (for confidentiality, referred to as Hospitals 1 and 2). These cases were selected based on comparability while giving consideration to contingency variables (van de Ven et al., 2013) such as hospital type, size, and the presence of both salaried and self-employed specialists.

3.3. Data collection

In-depth interviews were conducted in line with an interpretive methodology (Stake, 1995). Both hospitals had medical specialists working on the basis of salaried employment and others as self-employed (the latter working in medical specialist companies known as MSBs). Interviews were conducted by *[redacted for blind review]* with 11 salaried physicians, 22 self-employed physicians, and 15 members of management [including hospital board members] across the two hospitals. Medical specialists were asked in the interviews to compare working in salaried employment and being self-employed to understand how they feel about and view the influence of these two systems. To provide a context, we also interviewed the hospital board and management to gain an organizational perspective on the differences between these groups.

Initial access was obtained through the hospital and clinical managements who provided names and emails of potential participants. Primary access was granted by the leadership of the MSB to which each of the self-employed specialists belonged. We initially adopted purposive sampling to interview doctors across a range of specialisms within the MSB. Snowball sampling was used to access further participants and broaden the sample, for example to management and specialties not included in the MSB. Interviewees ranged in age 41–60 with a tenure (at their respective case hospital) between 1.5 and 23 years. A list of specialisms can be found in Appendix B. We stopped further interviews once we had achieved saturation, using the notion of meaning saturation (Hennink et al., 2017), occurring when themes are being repeated and no new themes are emerging. Individuals were invited through an email for a voluntary interview, and all participants gave informed consent to participate. Ethical approval was obtained for the study from the institutional review board at [redacted for blind review]. Interviews lasted on average 1 h and were audio recorded and then transcribed, and all participants were offered the opportunity to review transcripts for member checking. Individuals were guaranteed anonymity regarding their personal data to encourage them to speak freely.

3.4. Analysis

Analysis followed an inductive, interpretive approach, allowing the data to lead and using qualitative coding to achieve higher levels of abstraction at each stage (Strauss and Corbin, 1998). Coding was done iteratively and progressed in stages, beginning with inductive open-coding, moving to axial coding, and concluding by grouping codes using theoretical coding into higher order constructs. The initial codes were descriptive, focusing on detailing the organizational system (how physicians were paid and employed) and on categorizing the offered perspectives about each system. To enable comparisons, the interviewees were split into three groups, namely employed specialists, self-employed specialists, and management. Once all interviews were analyzed, comparisons were made between and within groups.

In the second round of coding, initial codes were grouped to create several themes that pertained to the different perspectives on the organizational models and the specialists in them (e.g., self-employed doctors as money-focused, employed doctors as patient-focused), issues that were emphasized regarding the influence of the physician payment approach (e.g., barriers to collaboration, intergroup differences, status differences), and ongoing changes (generational shifts, quality focus). Themes were discussed within the research team, and the individual team members independently coded a random selection of interviews using a codebook made up of second order themes. Any disagreements were then discussed in the team to reach a consensus on coding that resulted in the themes presented here. In the final stage, the axial codes were revisited with the research question in mind as to how these organizational models influenced group dynamics and collaboration, while also keeping an open mind to any additional outcomes that emerged from the data. In this final step, the initial comparative analysis helped to reveal how different systems provided a basis for drawing boundaries between groups and a means for establishing positive group distinctiveness. What emerged in this phase was that having different payment models created a distinction between groups, and provided the opportunity for a boundary to be drawn where self-employed physicians and salaried physicians were seen to have different values, behave differently (See Table 1) and to be influenced directly by their payment system in regards to how they carried out their daily work (the coding tree is presented in Appendix A).

4. Findings

4.1. Hybrids: a complex organizational system

To first map a clear picture of the organizational context, interviewees were asked to explain how the current system operated. What emerged was that interviewees viewed the current system as overtly, and sometimes unnecessarily, complex. This was largely due to the fact that self-employed specialists operated in their own business units (MSBs) that required negotiations and complicated hospital governance. Having two hospital-physician employment models further complicated governance due to the number of representative bodies and negotiating partners.

> The hospital is a very complex organization, but also it is complex because it's not a typical organization, you don't only have a board and employees, you also have the doctors who have their own business. It's a triangle. Most of the doctors are not employees of the hospital, it's a different kind of relationship. Other industries are only in one line. –Manager,1[2]

In general, the hospitals' managements found the triangular relationship (i.e., management, employees (including salaried specialists), and self-employed specialists), as described above, problematic for hospital governance and budgeting, and would prefer to have doctors all in the same position, preferably as hospital employees. Employed specialists expressed similar views with regard to the complexity of the organizational system, negotiations, and energy spent on managing these relationships.

> You have this group in the MSB but you also have specialists in employment, so now it's a bit of a hybrid system. So we negotiate with the MSB over the income of doctors that are in the MSB while the other doctors are in employment so they just get their wage. However, there is also another organizational system that speaks for both groups, doctors in MSBs and doctors in employment, and that's called the medical staff. So, quality issues are discussed with the medical staff, financial issues are discussed with the MSB, and I think there is also a kind of negotiation with doctors in employment - Manager, 1

> It would be more convenient, I think, if we all had the same status. Either all employed or all in private practice - EM, 2

In general, the interviews with management indicated dissatisfaction with the hybrid system. Managers felt that such a system complicated decision making, increased the complexity of governance, and made collaboration between the organization and the medical staff more time consuming and difficult. Employed specialists also expressed that one model would simplify collaboration. While self-employed specialists tended to see employment as a negative option, many of them did recognize that the MSB governance model and negotiating with the hospital took a lot of time and unnecessary energy. However, they did

[2] Interviewees are given abbreviations to denote the system they work under, namely EM for employed specialist and SE for self-employed specialist. The code number (1 or 2) identifies the hospital where they worked.

not view the combination of two employment models as problematic.

4.2. Key themes across groups

4.2.1. Professional values

When asked about their views on employment models, some self-employed specialists commented that they felt patient care, and the hospital, would suffer if all specialists were put into salaried employment. This was attributed to what was coined a 'nine-to-five mentality' with less motivation to work long hours or take on extra tasks. Some self-employed specialists expressed the view that the salaried employment model disincentivized going beyond what could be covered in the basic hours. Some self-employed interviewees saw themselves more as 'entrepreneurs' and felt that salaried employment made individuals less innovative or willing to take initiatives, both of which could increase effectiveness. While management tended to be more in favor of moving doctors to employment contracts, some recognized the benefits of incentivizing doctors to take initiatives.

> When you are an entrepreneur, the harder you work the more you can earn, and I think that stimulates taking initiatives, stimulates making a contribution to effective working. In ten years' time, I don't think there will be any doctors who are entrepreneurs [self-employed] in this country. There is a public opinion, or a political drive, to place all doctors in employment. I don't think that's a good thing … there is a difference [in] the hours but also more business-like thinking, more initiative showing, sometimes more motivational side effects - Manager, 2

There was a strong feeling held by some interviewees (mainly self-employed doctors) that salaried employment would diminish the motivation to go beyond the baseline level of hours and effort in their work. One interviewee argued that trying to compare the two employment modes was futile, considering that SE doctors were just 'different'.

> I think the problem with discussing this subject is that there is a bias, a selection bias; which kind of doctor wants to work in salaried employment and which wants to work in self-employment. They are two different breeds. Some people who work in the university hospital find the concept of working as self-employed terrible, saying "the only thing you talk about is money, I never want to work like this" [and] people who want to be self-employed say 'I hate to work in a very organized way where there is a very strong hierarchy' –SE, 1

On the other hand, many employed specialists, when asked to share their thoughts on how physicians were organized in the hospital, expressed dissatisfaction with the self-employment model. While employment status was perceived and operated by self-employed specialists as something separate from and beyond payment aspects, for salaried specialists the two were often linked. Employed specialists expressed negative views on self-employment practices based on the underlying productivity incentive, rather than there being a patient-centered focus.

> What I would really want is for everyone to work in salaried employment because then the issues about money would, I think, disappear. People are always thinking that if you are in salaried employment you come in at eight and go away at five and you do not work any extra, but that is a total lie. I don't think we work less than any other doctor because we are here for the patient. I'm not here to make money. So, that's why I became a doctor - EM, 2

Several of the employed specialists voiced concern about the focus that self-employed specialists placed on financial issues, and felt that, by structuring work around production, less focus would be given to concerns about patient care. Employed interviewees mostly rejected any normative claims that the different employment statuses led to 'better' or 'worse' doctors, particularly countering the notion expressed by some self-employed specialists that salaried specialists worked less hard. Nevertheless, interviewees from both physician groups commented that they felt the underlying incentives motivated a focus on financial issues over quality issues.

> In both groups there are good and bad doctors. There are hard-working doctors and not so hardworking doctors. Both groups are the same but one says 'when you have a salary you work less than when you are self-employed.' But I have worked in [another hospital] and I have seen in both groups you have the hard-working and the less hard-working. So, in that way, there is no difference between the two groups. [But] I see here when what you earn is based on the production that there is a stimulus to do more. That is one thing. And the other thing that's not good is there are many many talks about financial aspects. The MSB, when they have meetings, then 80 percent is about financials, and [maybe] something about quality … when you see the time invested in all these financial issues, if you would do that about patient care it would be much better – EM, 1

The salaried specialists we spoke to largely rejected the claims made by SE specialists, and emphasized that they retained a high level of clinical autonomy in their work, were not controlled by the organization, and had good job satisfaction. Additionally, some interviewees highlighted the fact that by being in salaried employment, and removing financial incentives, they were able to be truer to their professional values and act as a truly independent medical professional. Many of the employed specialists expressed the sense that self-employed doctors were more financially driven due to the underlying production-based system, and disputed the claims that such a system benefited patients.

> I have the feeling that if you are in self-employment there are different incentives for production. We just feel there are patients referred to us you know your own patients you are responsible for and you do the best to treat them the best you can, that's my main motivation. I don't have any financial or any other kind of motivation to do more investigations or treatment or procedures on my patients. And I sometimes feel that self-employed doctors, they do that. They really have an incentive to do something … and you know they believe in it, I can't say they don't believe in it, but they are made to believe in it because of different motives.-EM, 2

As the above quote reflects, most specialists did not go as far as to assert that doctors were primarily motivated by money, but pragmatically assessed that the system might drive somewhat undesirable and financially motivated behavior which would conflict with professional values. However, and in line with the comments of many self-employed specialists, when discussing their thoughts on activity-based pay, some of the employed specialists pointed out that they still had an incentive to be productive.

> It is also important for salaried doctors to produce and to be as efficient as possible. And the counterpart is that the people in private practice have to make enough time to arrange things like quality and collaboration. So, we try to make arrangements and statements in the hospital in the medical staff which we think are important for everyone, it does not differ – SE, 1

4.2.2. Status differences

Many of the employed doctors perceived that self-employed doctors viewed employed doctors as having a lower status in the organization. Employed doctors described a hierarchy which correlated with specialty type (traditionally, more specialized meant higher status) but was also based on employment status and earning potential.

> Do you ever experience a hierarchy in the hospital or see status differences between groups?
>
> Yes, between salaried and self-employed. - EM, 2

> "There is no issue in working together but there is an issue of status. People who are self-employed think they are the real deal, good, tough entrepreneurial doctors, and that you are a bit a silly sucker if you are in employment. – EM,1

However, some interviewees expressed the pragmatic view that hierarchy and status differences were so prevalent in the medical profession that it was not surprising to see a dividing line between specialty groups.

> I know in the [academic hospital] everyone was in hospital employment, so we all know about each other what we earned. Everyone earns the same amount of money. So then you have other ways to be better or we have opinions about each other who works harder or less hard or who has more publications or does more, there is always the ladder and there is someone on the top. I think that is in every organization, it's a kind of group dynamics … the one who earns the most and the one who has the highest specialization: neurosurgeons, thoracic surgeons […] It has to do with the way people look to each other and the way they behave in the operating room. When I am a thoracic surgeon, I am god and then there is nothing for a very long time and then we have the surgeons {laughs}.- EM, 1

> Also between doctors there is a hierarchy. They all know from each other which one is best and who is a bit less so, they all know it … [and between specialties] also. So a pediatrician is lower in the hierarchy than a cardiologist, so it's at all levels. It's not always spoken about but everyone knows. - Manager, 1

There was also a view within the self-employed group that status was determined by your ability to earn and deliver for your group. While some interviewees expressed the notion that self-employed specialists could keep producing more and more, and that this could bring them more status or higher income, interviewees described that in reality this was not the case. Due to an overall cap on production by the hospital, there were limits on production. However, interviewees highlighted how group incentives created dynamics where those who carried out higher earning procedures were more valued or could derive higher status.

> If I'm a bleeder, they will not take me as seriously as when I'm a feeder, but at home they won't notice a [financial] difference. … If you bring more money in, your social status would be higher in the group, that's a soft thing but it's true. And if you are a bleeder, everyone knows you may work hard, but you don't generate any money. So, we always say bleeder or feeder, [for example] the supermarket will always sell peanut butter at a loss because everyone eats it so if you don't sell it people will go to another store, so that's a bleeder. But then other things are feeders. So there should be a balance between bleeders and feeders, and pain treatments for example can be, well, you could generate a loss with them and then the group would decide, well we will probably stop with this because it costs too much money - SE, 1

As the above example highlights, status differences exist, not only between employed and self-employed specialists, but also within these groups and within specialties. This appeared to be more prevalent within self-employed groups due to the function of group incentives whereby the group benefits, or loses, as a whole based on services being provided by individuals. Further, some respondents felt that the hybrid payment system had the potential to create feelings of inequality and lead to jealousy and frustration across groups, both within the MSB and between self-employed and employed specialists, which would undermine working together.

> I became a bit disappointed to see that other things, and especially money, plays a more important role [in the medical profession]. When you start working in the hospital you see 'well that guy has more money than me, and he only works until 4pm … So I get 100 and he makes 400'. I have to go back to operate in the evening and he never goes back. I am very inspired by the experiments by Frans Du Waal. He wrote the article 'monkeys reject unequal pay' and he experimented with monkeys and they see that when other monkeys get more fruit for the same task they go crazy. And that's a big challenge, to get an honest system which gives the money - because that's the way we have made our society - to the people who do the best or the most work. In the Dutch healthcare system, we are far from [this], and that has a long history. Until today, as we speak, there is a big problem with good communication, good working together, [and] collaboration. – SE, 1

4.2.3. *Collaboration and group dynamics*

There was a general sense evident across the interviews that, when it came to patient care, the doctors remained motivated by their professional commitments to patients and would collaborate to achieve the best patient care. Nevertheless, when discussing collaboration, it was articulated that the current hybrid system, and in particular the financially driven system of self-employed doctors, created barriers to working together.

> The DBC structure doesn't help doctors working together. […] Professionals will work together because they are working for the best patient care but the system doesn't help them. It affects their behavior because the more they do the more they get paid […] they get paid to do difficult expensive things and to do them a lot.. So it's not a good signal. – Manager, 2

A recurrent theme was the difficulty in reorganizing care or arranging new collaborations as a result of the current predominant activity-based payment system under which the SE specialists operate. This was because a group doing less would create problems under the current system, and completing fewer DBCs would also mean the hospital budget would shrink in the following year. Some interviewees also expressed that the production system underlying the self-employed rewards meant that money always took priority in discussions. This aligned with other narratives shared by management and employed specialists. As one interviewee put it, money was always the 'elephant in the room' and several interviewees felt the current system undermined multidisciplinary working and making changes that could benefit patient care.

> I would like that every doctor is paid by the hospital because I am against self-employment. Why? Well yes that's an obligatory question. When I have discussions in my multidisciplinary teams, and that can be individual patient discussions but it can also be more managerial discussions, there is always, we have a Dutch saying, an elephant in the room. There is always an elephant in the room and the elephant is always money. SE, 1

Related to these arguments, other specialists felt that the production incentive and the difficulty of having to agree financial issues made things more difficult in terms of collaboration. Interviewees felt it would be much easier to collaborate and work towards meaningful change if everyone was organized in the same way. Some interviewees commented that the hybrid system created issues for internal collaboration, and in particular for working together in new ways or agreeing reorganizations that may be needed to improve care delivery.

> I don't know [if there is a better system], I really don't know. Maybe if we were all working for the hospital, in salaried employment, I think that might be easier because then your boss can say 'you have to do this, period'. And then you don't have the discussion about, 'well I'm not going to pay for it'. – SE , 2

Some interviewees noted that SE specialists always needed to negotiate extra money for additional tasks because their income is based

on production at the group level. This means things can become very bureaucratic and this can stall care innovations or changes, and can undermine collaboration efforts.

> We would like, every day, in the very busy hours, to have an internist and a surgeon here in the emergency department to help supervise their residents, and so that they can organize patients … But that doesn't [happen]. They would need money for that and, well, I think that's difficult. They would have to sit around the table with the hospital board to get money for that, and otherwise they won't do it. So, I can understand that, if you run an MSB you wouldn't do any voluntary work, but on the other hand does it help the patient. - EM, 2

Interviewees mentioned how the current system disincentivizes working together for the patient, and creates barriers to collaboration.

> I want that very badly [an alternative payment model] because then you have fewer issues between the doctors from different groups over whose job is this, whose job is that, what's better for the patient, what's better for me, and what's better for my wallet. I think there would be less discussion. … As an example, when a breast cancer patient has gone through the whole process, and is declared healthy, every professional has a follow-up procedure. So, the surgeon after a year has a follow-up procedure, the oncologist has a follow-up procedure, and the radiotherapist has a follow-up procedure. So, after one year, the patient has come three times to the hospital for follow ups. Why … because a follow up is declarable. You have another DBC. However, the patient doesn't understand why she has to come three times for follow-up visits. – Manager, 1

The above quote speaks to the notion that the hybrid system, and having perverse incentives, particularly production incentives, will eventually impact the patient either directly or indirectly. This was primarily expressed in terms of the impacts on working together and the current barriers that interviewees encountered regarding the willingness to work together for patient care due to the current payment models. However, several specialists also highlighted that the production system did not operate solely at the level of the specialist or specialist group, and rather that it was a system driven by the hospital and in contracting insurance-based care.

5. Discussion

The present study highlights the considerable influence that physician employment and payment models have on intergroup dynamics and as such makes three main contributions. First, the data show that operating a hybrid system offers an opportunity for frequent comparisons across groups, and can create barriers to collaboration. This is an important topic for further exploration as professional collaboration is essential for reducing costs and increasing care quality for patients (Liberati et al., 2016). Second, hybrid models may make it more difficult to adequately tease out and assess the drivers of certain undesirable behaviors. For example, the data show that when the payment and employment types are coupled, comparisons tend to be made at the employment level (e.g., generalizations are made about self-employed versus employed physicians, 'self-employed physicians are … ') but often these are in fact more related to behaviors which would be better attributed to the underlying payment systems (e.g., self-employed specialists are more financially focused because they are paid based on production). This has important implications for how organizations might view different forms of hospital-physician relationships (Burns et al., 2020), and also influence the policies that surround physician employment. Third, the data offer an in-depth understanding of how physicians view the systems they are exposed to and work under. In line with the literature, the physicians interviewed tended to support the view that production incentives can drive perverse behavior (Porter and Kaplan, 2014) and can undermine physicians' core values (Gifford et al., 2022b). Moreover, the present findings further this conversation by highlighting the importance of considering a more balanced approach to incentivizing physicians that may overcome the potential downsides of both activity-based and time-based pay.

5.1. Expanding the focus: collaboration as an outcome

There is a push towards increasing care coordination and teamwork, and while certain payment structures have shown promise in achieving better care coordination across the care continuum (Porter, 2009), change is slow and traditional payment models remain dominant (Quinn et al., 2020). There also remains a separation between theoretical models and practice: whereas in theory payment systems are idealized and separated, in practice traditional models reign and are often hybridized and blended within multilayered systems. The present study has helped to bridge this gap by empirically exploring the perceptions and influence of hybrid models in practice and offers a more nuanced view of the effects of utilizing a hybrid employment model by speaking to physicians working under such incentive structures (Conrad, 2015).

Overall, the data suggest that having two different internal systems (i.e., within organizational boundaries) inhibits collaborative work and meaningful change. The production incentive that the self-employed physicians operated under was most commonly cited as a barrier to collaboration and change. This system made groups responsible for meeting a certain production threshold, making it difficult for them to give attention to non-reimbursed activities or to make changes that might offer advantages but reduce reimbursable activities. This finding aligns with literature that has discussed the perverse incentives associated with activity-based payments (Porter and Kaplan, 2014). However, salaried employees were also perceived as being less willing to give their time to committees and other forms of service or initiatives within the organization that were not compensated. Overall, the most striking finding is thus not the potential impact of incentives on behavior, but the impact of negative perceptions between groups, where the different systems created a means to judge, form stereotypes, and differentiate status. Such aspects have the ability to undermine collaborative behavior by reinforcing group distinctiveness that leads to creating siloes (Tajfel et al., 1979) and encouraging intergroup competition (Kreindler et al., 2022; Turner et al., 1979). In particular, individuals may draw sharper distinctions between groups when groups feel threatened (Tajfel et al., 1979) such as when faced with unwanted reforms, such as pressure for self-employed physicians to become employed.

This suggests that hybrid models may pose serious barriers to collaboration, and may reinforce value-related conflicts across groups. Although incorporating psychological and organizational factors in economic models could help address the question of how to best incentivize healthcare professionals to optimize performance (Town et al., 2004) this is still lacking. This may be due to the methodological difficulties in capturing the effects of incentives on behavior given the hybridity of systems and the presence of multiple inputs. Future studies could seek to empirically test the relationship between incentives and intergroup relationships more extensively, for example by quantitatively modeling and testing these relationships to identify significant interactions.

5.2. A critical look at hybrid systems

The present findings indicate that operating a hybrid model (i.e. having different payment and employment models within a single organization) created a divide between specialists who were self-employed, and paid based on activity, and specialists who were salaried and paid based on time. External perceptions of self-employed specialists revealed a coupling of self-employment with an activity-based model of payment, whereby depictions of self-employed specialists as more self-interested and money-focused were shared by

management and salaried doctors. Employed doctors were perceived by self-employed specialists as having a more 'nine-to-five mentality' due to their salaried payment system, and having less autonomy and being controlled by the organization due to them being employed.

Overall, we perceived individuals to be strongly motivated and driven by the payment system they operated under, and the related incentives within the system. Some physicians saw this in themselves, highlighting both recognition, and a sort of inescapable influence, of system-level pressures on work-floor dynamics. In addition, the coupling of payment systems to employment type had the effect that others, including hospital leaders, attributed the effects of financial incentives to the employment models. Such perceptions are likely to have significant effects when policies are being enacted, for example about how physicians should be integrated within hospitals (employment relationship or independent) (Burns et al., 2020). The strong coupling also obscures understanding of how work arrangements (e.g., employment relations) influence physician behavior (see Gifford et al., 2022b). This is highly relevant as physicians work arrangements have been suggested to be an even more influential characteristic than payment type due to their perceived influence on physicians' expression of professional values such as autonomy (Freidson, 1988). While hybrid models appear to be historically entrenched within healthcare systems, such findings raise questions about the potential downsides of using such models on intergroup dynamics. Additionally, as interviewees acknowledged, certain specialty groups in the Netherlands have historically more frequently operated under employed rather than self-employed models, while some individuals have a preference for self-employment over employment. This raises interesting questions for future research about whether the hybrid model in itself is inducing tensions, or if self-selection by two different types of individuals with different values is the driving force. However, our findings suggest that operating two forms of payment system may be more problematic than operating two employment models. It is therefore important that studies explore this further with empirical data to help tease out the influence of employment relations from those of financial incentives. Quantitative studies that sample across a diverse population (e.g., international and multiple organizations) would be particularly useful in this regard.

5.3. Redirecting the focus from physician payment to hospital payment

As an article in the journal of the American College of Surgeons observed, 'payment reform has become the proverbial unicorn, often talked about but not observed in action' (Devarajan et al., 2012: 356), missing opportunities for care improvement and cost savings. The present study shows a willingness and indeed eagerness at the physician level to remove the perverse incentives within the system, while also demonstrating the messy reality of physician payment in practice. Hybrid models, however historical, may unnecessarily create tensions among physicians. Policymakers and organizations could consider including physicians in efforts to redesign the system, and redesign physician payments in ways that protect a physician's ability to maintain their desired employment relationship to reduce resistance.

However, this study also highlights a potential overemphasis on the level of physicians and a lack of consideration of the higher-level contractual relationships. As some interviewees highlighted, the system itself needs to be disentangled from the perverse incentives which trickle down to the clinician-patient relationship. If insurers and hospitals continue to establish contracts based on activities and associated costs, rather than quality (Klasa et al., 2018), physician payment reform is unlikely to have the desired effects. Studies that consider the multiple levels and layers of incentives could help to further unpack the messiness of payment reform and offer some useful insights into how to redesign contracts and incentives at the system level.

6. Conclusions

The present study has explored the roles that physician employment and payment plays in collaboration and group dynamics within organizational boundaries. Collaboration across healthcare professionals and specialties is an essential aspect of high quality, efficient, and affordable care, but remains an ongoing challenge. The majority of the literature on integrated care has focused on care across sectoral, organizational, and professional boundaries, ignoring the potential barriers to collaborative work between members of the same organization, and there is a lack of studies that examine the influence of payment method on specialists. This study has helped to extend this work by offering a deeper understanding of the influence of payment approach on specialist group dynamics, and shows the importance of not overlooking the role that incentives can play within organizational and professional boundaries. The present findings point to the need for further work that accounts for the messiness of physician payment in practice, going beyond a comparison of ideal types, and disentangles the effects of employment and payment models from each other on physician behavior. Until now, policy and studies have largely conflated these two, or focused on only one aspect, preventing a deeper understanding of the influence of each. We would encourage future studies to further disentangle the effects of both employment and payment models on physician behaviors.

Ethical approval_datainfo

The present data used in this manuscript is available only upon request from the corresponding author due to organizational privacy and the protection of anonymity of interviewees. Given that the data is qualitative and regards a potentially sensitive topic (expressing views about colleagues, organizational systems, and incentive systems) this data is not listed publicly. This is kept private also in line with data sharing agreements with case organizations and participants.

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CRediT authorship contribution statement

Rachel Gifford: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Writing – original draft, Writing – review & editing. **Eric Molleman:** Conceptualization, Formal analysis, Supervision, Writing – review & editing. **Taco van der Vaart:** Conceptualization, Funding acquisition, Project administration, Supervision.

Data availability

The authors do not have permission to share data.

Appendix A. Coding tree

They see us as suckers	Employed physicians as lower status	Status differentiation	Influence on group dynamics and collaboration
Bleeders vs feeders	Competition driven by payment		
Specialization and specialty hierarchies	Hierarchies		
Hierarchy is inherent in the profession			
Payment makes collaboration difficult	Fragmented payment systems create group divisions	Barriers to Collaboration	
MSB needs more money to collaborate			
Production incentive means DBCs take priority			
Things would be easier if everyone had same status and payment	Difficulty in making changes		
Focus on production limits working together with GPs			
Production focus limits focus on prevention and MDC			
Employed physicians are controlled by organization	Differences in autonomy	Perceived difference in physician motivation and behavior	Professional values
SE physicians have more discretion to do what they need for the patient			
SE physicians have more freedom to organize themselves			
SE physicians as more money-focused	SE physicians as money focused		
SE physicians as self-interested			
Employed physicians work less because they are paid a fixed salary	Highlighting differences	Perceptions of difference attached to incentives	
Employed physicians do less committee work because paid by time			
SE physicians are more innovative			
SE physicians can deliver better care because not controlled by hospital			
Employed physicians deliver better care because its only about patients not money/DBC			
SE physicians are more productive			
Employed physicians are not less free	Refuting differences		
SE physicians work within limits			

Appendix B. Interviewee Specialisms

Specialism	Amount of interviewees
Radiology	3
Anesthesiology	5
Pathology	1
Internal Medicine	5
Cardiology	2
Pediatrics	3
Gynecology	1
Pulmonology	2
Surgery	6
Neurology	1
Urology	1
Emergency Care	2
Radiotherapy	1

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