Purchasing in practice: how the healthcare system shapes purchaser's chronic care chain management

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Abstract

This research investigates how healthcare system characteristics shape healthcare purchasers chronic care chain management. Based on a multiple case study conducted in England, Sweden and the Netherlands we found different healthcare system characteristics, originating from a policy and care chain level. These characteristics shape the perceptions and actions of purchasers and thereby have both positive and negative consequences when pursuing improvement of chronic care delivery. We build on healthcare and service supply chain management literature by showing that healthcare system characteristics not only determine influence or abilities of purchasers, but also their focus of attention and attitudes towards care providers.

Keywords: Healthcare purchasing, Chronic care, Buyer-supplier relationships

Introduction

Third party purchasing organizations like health insurers or governmental bodies (hereafter: purchasers) are expected to foster improvement of care provision through their responsibility as contractor and payer of providers. Remarkably, several studies indicate that purchasing organizations in both government- and social insurance-driven healthcare systems currently fail to effectively drive providers to improve care delivery (Klasa, Greer et al. 2018, Klein 2015, Maarse, Jeurissen et al. 2016). Based on between-county comparisons, it is known that healthcare system's characteristics enable or limit purchasers to fulfil their role as driver of care improvement (Klasa, Greer et al. 2018, Sheaff, Chambers et al. 2013, Thomson, Busse et al. 2013). Still, this does not fully explain different approaches between purchasers. We here therefore study how healthcare purchaser's act in practice when pursuing care chain improvement and how their perceptions and actions are shaped by healthcare system characteristics. Our multiple case

study aims to provide more in-depth understanding on the purchaser's role in improving care delivery.

Healthcare purchasers are known to pursue better care delivery, for example by incentivising providers with pay-for-performance or shared savings contracts (Kristensen, Meacock et al. 2014, McWilliams, Chernew et al. 2015). Furthermore, purchasers can negotiate on prices and quality standards, but also support improvement in collaborative ways (Hughes, Allen et al. 2013, Maarse, Jeurissen et al. 2016). Previous research has shown that healthcare system characteristics related to purchaser competition, patient freedom to choose providers and transparency of care quality and outcomes enable or limit purchasers when trying to use these different approaches (Klasa, Greer et al. 2018, Sheaff, Chambers et al. 2013, Thomson, Busse et al. 2013). Interestingly, when comparing ten healthcare systems, Klasa et al (2018) recently showed high variation in whether and how healthcare purchasers fulfil their role as 'strategic' purchaser of care. Besides the differences between countries, they also showed many similarities in healthcare system characteristics, thereby leaving the question what drives the observed variation in purchaser actions. Another research gap relates to barriers encountered by purchasers when pursuing chain-wide improvement. As known, improving task division and collaboration between multiple chronic care providers remains challenging due to conflicting views or interests between providers (Busse, Stahl 2014, van Raak, Paulus et al. 2005, Wagner, Austin et al. 2001), logically complicating the purchaser in fulfilling their role as strategic purchaser.

This paper seek to answer the question: *How do healthcare system's characteristics influence purchaser's perceptions and actions when managing chronic care chains, and how does this affect improvement efforts?* We present a multiple case study aimed at how regional purchasing organizations manage their chronic care chain in England, Sweden and the Netherlands. Each region can be characterized as a 'vanguard', thus providing much room for purchasers to try new approaches in driving care improvement. The different healthcare systems thus likely lead to variation in purchasers' way of pursuing improvement. At the same time, we expect similarities in the challenges encountered when managing different care providers along the chain. By interviewing persons working in provider and purchaser organizations we gain insight in how the purchaser pursued improvement of the care chain in the past three to five years. Herewith we expect to create in-depth understanding of the perceptions of the purchaser that explain their actions when managing the care chain.

In the next section we further substantiate the importance of answering this question by discussing knowledge on chronic care delivery and healthcare purchasing.

Theoretical background

Task division and collaboration in chronic care chains

Particularly for chronically ill patients, the way care chains are organized highly affects performance in terms of quality and costs of provided services (Nolte, McKee 2008). Although the organization of care chains is usually established in national care guidelines and protocols, how care is delivered in practice varies (Seys, Bruyneel et al. 2017). How primary and secondary care providers have organized and agreed upon care provision plays a key role in this variation and associated care chain performance. We further discuss the organization of chronic care chains by distinguishing task division and collaboration between providers.

With respect to task division, a local pathway should be clear for providers showing how patients enter the pathway, what treatment and diagnostics they receive, when they

are referred to another provider and when they are referred back. Several studies have shown preconditions and opportunities for improvement of such system. On an organizational level, it is known to be important to make agreements about expertise, tasks, responsibilities, scheduling and referrals (Minkman, Ahaus et al. 2009, Van Houdt, Heyrman et al. 2013, Wagner, Austin et al. 2001, McKone-Sweet, Hamilton et al. 2005). On an operational level, a structure should be provided within and between organizations in order to be able to exchange diagnostic, treatment and referral information, often based on information technology (McKone-Sweet, Hamilton et al. 2005, Minkman, Ahaus et al. 2009, Van Houdt, Heyrman et al. 2013, Wagner, Austin et al. 2001).

In terms of collaboration, care providers should make agreements on how and when information exchange is needed in order to seek for best solutions for patients. This can be related to (technological) transfer of diagnostic and treatment information, but often goes further than that. What is mainly important is the extent in which different care professionals know each other, can reach each other and collaborate in practice in order to improve patient treatment (Minkman, Ahaus et al. 2009). Also, more structured ways of collaboration between providers have been studied and are known to benefit care outcomes: regular inter-professional consultations, inter-disciplinary meetings and shared treatment plans (Minkman, Ahaus et al. 2009, Van Houdt, Heyrman et al. 2013).

Healthcare purchasing to improve care delivery

As outlined there are vast opportunities to improve chronic care delivery, yet unaligned interests between care providers complicate achievement of this goal. Previous research has shown that healthcare purchasers are limited in their ability to drive improvement and that this differs between countries. Insurance-based competition between purchasers limits the financial power to for example shift funds between care providers (Sheaff, Chambers et al. 2013). Government-based purchaser monopolies may thus be better able to for example steer the division of tasks between providers. Another characteristic is patient freedom to choose care providers. In terms of addressing patients' needs and preferences this may encourage providers to improve their services and achieve patient satisfaction. Yet, it reduces the purchaser's ability to steer the patient throughout the care chain (Klasa, Greer et al. 2018). A last important healthcare system characteristic is access to information of provision, quality and costs of care (Thomson, Busse et al. 2013). Several healthcare systems still struggle to implement systems that accurately provide insights in care delivery, particularly for purchaser's. Providers are often hesitant to increase transparency because of the administrative burden, but also because of privacy matters, distrust towards purchasers and technological issues regarding information systems (van de Ven, Beck et al. 2013). All in all, a multitude of healthcare system characteristics shape the purchaser's role as manager of care chains. Yet, so far, an in-depth explanation of how characteristics on policy and regional levels influence purchasers is lacking. Also, despite the known importance of healthcare systems in determining the purchaser's role, it remains unclear whether one system provides a better functioning purchasing system than the other.

We observe significant freedom in the steering mechanisms healthcare purchasers can choose. Health ministries in several countries for example stimulate purchasers to experiment with incentive schemes to drive improved care delivery. Also 'Vanguard' regions have been appointed (e.g. in England and the Netherlands), where purchasers can actively support improvement (Busse, Stahl 2014). Hence, purchasers have gained much freedom in developing their own approach in managing their care chain or population. This variation is also reflected in healthcare purchasing literature, which for example distinguishes coercive versus collaborative purchaser approaches (Hughes, Allen et al.

2013, Maarse, Jeurissen et al. 2016, Sheaff, Chambers et al. 2013). Why certain governmental purchasers or health insurers choose for steering through regulation, monitoring, financially, persuasion, supporting or collaboration is however unknown. Also there is high variation between and within countries in use of incentive schemes such as pay-for-performance, shared savings or bundled payments (Kristensen, Meacock et al. 2014, McWilliams, Chernew et al. 2015, Porter, Kaplan 2016). Why purchasers choose certain schemes, and sometimes even move back from innovative payments to lump sum budgets remains speculative.

Methodology

Research setting

We conducted a multiple case study aimed at management of chronic care chains by regional purchasing organizations in three countries with different healthcare system characteristics. We particularly focused on care for patients with Chronic Obstructive Pulmonary Disease (COPD). We aimed to understand how and why purchasers use different steering mechanisms when managing the care chain and how this relates to healthcare system characteristics.

In each case, the healthcare purchaser faced similar problems: rising burden of patients with chronic diseases, leading to high use of hospital care services and associated costs. To resolve this problem, purchasers aim to improve collaboration between primary and secondary care providers, for example in terms of information exchange between the hospital and GP. Furthermore, purchasers aim to shift tasks like regular checkups or lifestyle advices that are currently performed in the hospital towards primary care providers like GPs or community nurses. Particularly for patients with a chronic disease like COPD this may lead to earlier detection of symptoms and better capabilities of patients in dealing with their disease, which are known to contribute to health of patient and reduce care like emergency hospitalizations.

Case selection

We selected regions in countries with different systems in terms of the purchasing (government vs market) and provider (public vs private) healthcare market, patient freedom to choose providers and purchaser governance (who is responsible) (table 1). By selecting these cases we expected to find variation in purchaser's approach to managing the care chain.

Table 1. Case characteristics (EN: England, SW: Sweden, NL: the Netherlands). FFS: fee-for-service. PfP: pay-for-performance.

Case	Purchaser market	Provider market	Patient market	Provider payment	Interviews
EN	Government (monopoly). Clinical Commissioning Group (CCG), led by GP Clinical Leads	Mainly public	GP gatekeeper system	Hospitals: 60% FFS, 40% budget (capitation). GPs: 60% budget, 40% FFS, 10% PfP (optional)	6: Purchasing manager (5) (1 individual, 2 group interviews), purchaser medical advisor, respiratory nurse, pulmonologist
SW	Government (monopoly). County Council	70% public, 30%	Free patient choice	Hospitals: 96% budget basis (since 2016),	8: GP, pulmonologist, emergency medical

	(CC), led by regional politicians	private (for profit)		4% FFS. Outpatient clinics: FFS. GPs: 60% budget, 37% FFS and 3% PfP.	specialist, healthcare consultant (4) (2 group interviews), purchasing manager (3)
NL	Social insurance (competition). Health insurers, led by board	100% private (not for profit)	GP gatekeeper system	Hospitals: FFS. GPs: 50% budget (capitation), 50% FFS (including bundled payments for chronic care)	8: Pulmonologist, purchasing manager, purchaser medical advisor, GP, physiotherapist, diagnostic clinic manager, hospital manager (2)

Data collection

The interviews were conducted with multiple persons with different positions within the purchaser and provider organizations. We focused on persons within providers and purchasers involved in contracting, planning and coordination of chronic care services (i.e. those who shape the channel of communication between purchaser and provider). Regarding the purchasers, we interviewed contracting managers, medical advisors and higher level management. Regarding the care providers, we interviewed managers, medical specialists, general practitioners (GPs), nurses and physiotherapists (table 1). The interview protocol is structured in four parts, with the goal of understanding: How chronic care currently is organized and delivered, how chronic care delivery is coordinated (what protocols and agreements are in place?), how the purchaser pursues chronic care chain improvement, how chronic care chains perform.

We conducted data triangulation by analysing secondary data from management reports, care protocols, presentations and reports about regional demographics (Health Systems in Transition, 2010, 2012, 2015, International Profiles of Health Care Systems, Commonwealth Fund, 2017).

Data analysis

After data collection, we pursued an inductive analysis approach as described by Gioia, Corley et al (2013). We consecutively conducted identification of informant terms, first-order coding, second-order coding, and pattern matching. During the first two steps we focused on inductively finding quotes which related to the concepts of our research question; healthcare system characteristics and purchaser's perceptions and actions. During second order coding we aggregated the first order codes into aggregated categories. In the third step we looked for patterns between the different concepts, to understand how healthcare system characteristics shape purchaser's management of care chains and its implications.

Initial results

We identified policy-based and care chain-based healthcare system characteristics encountered by the purchaser when pursuing care chain improvement, see table 2. Subsequently we identified the perceptions and actions which characterize how purchasers pursue care chain improvement. In this section we first provide a within-case analysis which describes how purchasers in each case perceive the characteristics, how

they act upon it and whether this reveals favourable or less favourable characteristics. Next, the cross-case analysis explains relationships between healthcare system characteristics, purchaser perceptions and actions and its consequences.

Table 2. Healthcare system characteristics

Healthcare system characteristics		England	Sweden	The Netherlands
policy-based	*Purchaser monopoly*	Yes	Yes	No
	Purchaser-provider ownership	Yes	Some	No
	Patient provider choice	Moderate	High	Moderate
	Purchaser governance	Professional	Political	Corporate
Care chain-based	*Provider-provider relationships*	Poor	Very poor	Poor
	Insight in quality and outcomes	Good	Good	Poor
	Primary care capacity	Problematic	Problematic	Limited
	Information systems alignment	Moderate	Moderate	Poor

Within-case analysis

England

The CCG pursues care chain improvement by taking a collaborative, medical approach. The CCG is highly involved in medical discussions and design of care pathways, together with professionals in the field. This approach is reflected in the way the CCG communicate with providers. *"So the role of the commissioner in this is to enable this to happen and to support it to happen, rather than just put it in a contract and tell people that's what they've got to do. Because there'd be nothing short of mayhem if we did that." – CCG Director of Organisational Development.* Still, the CCG is also known to have a meddlesome attitude sometimes, *"thinking they know better than the experts." – CCG Director of Organisational Development.*

To incentivize improved service delivery and align interests between providers, the CCG aims for a radical different way of contracting. The goal is a 15-year population contract in which primary and secondary care providers jointly participate, and in which improvement is rewarded with pay-for-performance schemes. The CCG sometimes takes a coercive approach to achieve this contract. *"To use the Italian expression of the mafia; we gave them an offer they couldn't refuse…'If you really don't want to joint us then we will commission it from somewhere else'. So it was a little bit of forced in their hands." – CCG commissioner.* Until realizing the population budget, the current way to reduce hospital care in favour of primary care is by reducing hospital budgets, leading to significant resistance.

By managing on the patient role in care delivery, the CCG aims to stimulate that patients are treated in the right way and in the right place. This is done by organizing meetings, for example for COPD patients, in which they receive support and advice from care professionals, but also exchange experiences with fellow patients. The CCG has furthermore setup so-called multi-disciplinary teams in which different care providers gather to discuss individual patient cases. In this way the purchaser not only steers patients in the care chain, but also 'enforces' communication and collaboration between providers.

As part of the regional contract, the CCG has developed a comprehensive set of quality indicators. This monitoring is driven by the national Quality and Outcomes Framework. Development of these indicators has a strong quality, medical focus, and is supported by analysis of current reimbursement and quality data. To reduce the administrative burden the CCG has reduced the number of required indicators and automated data delivery.

Sweden

The CC takes a supportive role in managing their care chain and usually addresses problems from a professional point of view. The CC has a strong network with care providers and uses this to support projects aimed at improving delivery of chronic diseases. Furthermore they initiated a project to improve information exchange between primary and secondary care providers with a new IT system.

Another way of taking a professional point of view is the CCs attention towards steering the patient in the care chain. This attitude translates in using several ways of informing patients to find the right provider, or to improve how they deal with their disease themselves. This is for example done by phone-based nurses and by websites providing guidance. "*We try to do that by firstly encouraging people to go to primary care. We have something called Care Guide, it is essentially now one website for all the counties in Sweden. And then as a patient you can go there, you can write your condition and then you can see, where is a provider nearby which I can go if I have a headache. And then we, of course, try to advise people to go to the nearest primary care centre." - CC head of unit for health development.* A clear driver of these actions is the limited influence the CC has due to patient's free provider choice.

Driven by their ownership of 70% of the providers, the CCs involvement also has a regulatory element. The CC prescribes care guides or pathways providers should follow, and sometimes exerts direct influence on a practice level. "*And also by commissioning here we can tell them which IT system to use, rules, regulations of all kinds. And with respect to collaboration we say: `you should collaborate on your COPD patients." – CC Strategist and Medical Advisor.*

The CC has a long history of steering with incentives, for example with pay-for-performance contracts, which are developed in collaboration with providers. Still, the CC acknowledges the limitations of this way of driving care improvement, as outcomes may differ between clinics due to different patient populations and since providers are able to game around some of the indicators. The experience with performance contracts is strongly linked to quality and outcome monitoring, which is both regionally and nationally well-developed. Interestingly, to gain control over hospital spending, the CC has gone back to 100% budget funding.

The Netherlands

To date, the insurer mainly pursues budget control by annually contracting individual care providers based on lump sum budgets. This approach seems mainly driven by the insurer's perception of having little influence on care delivery and costs. The purchaser shows hesitance towards signing population contracts based on quality outcomes which could support long-term care chain improvement. "I always find that, personally, shared savings (contracts), you can only do that with the worst in class, because otherwise there is nothing to save. So what you actually do, is that you reward those who do not perform well for their bad behaviour." – Purchaser manager. Recently, however, the purchaser has signed some long-term contracts with providers to facilitate a shift of services from secondary to primary care.

The purchaser furthermore struggles with the lack of transparency of care delivery as this creates uncertainty whether providers deliver care appropriately and effectively. Although frequently naming quality as a motive, achieving more transparency is also clearly driven by cost-accountability. *"…but I don't know, I am more a quality guard, because in the end healthcare is very expensive." – Purchaser medical advisor.* To improve insights in quality and

outcomes of care, but also to push providers to improve, the purchaser requires providers to report nationally and regionally developed indicator sets.

Another approach to drive improvement is building trustworthy relationships through frequent communication and addressing providers financial, administrative or medical concerns. With this approach, the purchaser seeks to increase influence by gaining goodwill from providers. *"The moment that you have a good relationship with those type of big parties, that is nice, otherwise it is not so nice. When there are monopolists (providers) in the region, you are dependent on each other, if the relationship is good, you can profit from that." – Purchaser manager.* Despite this seemingly promising approach, we still observe negative views on the providers' intentions, thus reflection high distrust. *"(Talking about a news item regarding upcoding by hospitals); and I am sure that within hospitals people are instructed to do that (upcoding). They will always deny it but I am sure." – purchaser manager.*

Besides managing relationships with individual providers, the purchaser is also aware of the importance of provider-provider relationships. Therefore, frequent medical discussions are held with physicians in order to address their professional point of view and to gain consensus along providers.

Table 3 summarizes the above described perceptions and actions of the purchasers in each case. In the next section we will discuss how this purchasers' involvement and its implications can be traced back to the earlier presented healthcare system characteristics.

Table 3. Purchaser perceptions and actions

Perceptions and actions		**England**	**Sweden**	**The Netherlands**
Perceptions	*Point of view*	Medical	Medical	Cost
	Influence through	Coercion, collaboration	Contracts/rules, collaboration	Contracts/procedures, relationship-building
Actions	*Regulating*	Moderate	High	Low
	System supporting	High	High	Moderate
	Incentives	High	Moderate	Low
	Monitoring	High	High	Moderate
	Patient steering	Moderate	High	Low

Cross-case analysis: the interplay between healthcare system characteristics and purchaser's chronic care chain management

The different healthcare system characteristics found in each case are partly based on the rules and systems determined by the countries' governments. Yet, we also found a category of healthcare system characteristics originating from within the care chain. These characteristics were not only based on the policy-based healthcare system's characteristics, but also on regional circumstances or situations emerging from care delivery in practice. In all cases both types of characteristics drives purchasers' actions and intentions when pursuing care chain improvement.

Purchaser actions potentially lead to care chain improvement in terms of task division and collaboration. This was for example seen in case 1, where the purchaser achieves care chain improvement which is endorsed by both primary and secondary care providers and which is supported by financial incentives. In case 2, the purchaser takes away care chain barriers by creating a supportive system for improvement. Still, inconsistency of the purchaser may lead to persistence or attenuation of care chain barriers, for example when

creating distrust due to a short-term cost focus (case 3) or by taking a too coercive approach (case 1).

In some occasions, purchasers have limited influence on removing care chain barriers. In case 3, for example, gaining more insight in quality and outcomes of care showed a persisting issue. We thus see that policy-based healthcare system characteristics not only directly influences purchasers, but also has indirect influence by causing care chain barriers. Figure 1 summarizes the above.

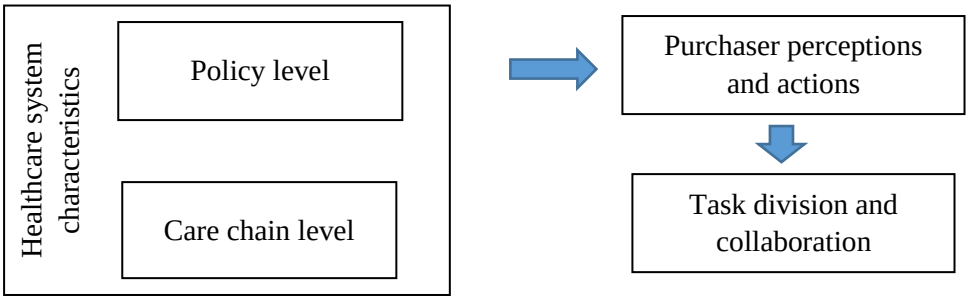

Figure 1. The interplay between healthcare system characteristics and managing chronic care chains

Discussion and conclusion

Recent research on healthcare purchasing shows that third party purchasers in most western countries are unable to drive better care delivery (Klasa, Greer et al. 2018). They explain this failure by health system's characteristics related to patient choice or lacking transparency. In this research we show that such characteristics not only enable or limit healthcare purchasers, but also lead to different perceptions, for example a professional versus cost focus. Furthermore, we show that healthcare system characteristics not only directly originate from the health system design, but also from the care chain itself. Importantly, the healthcare purchaser's way of managing the care chain can attenuate or enhance the presence of such care chain based characteristics.

Policy makers need to be aware that purchasers have to deal with intractable care delivery issues such as distrust between providers or lacking IT systems. Taking away such issues may enable healthcare purchasers in fulfilling their role.

This study is limited as the three regions may be shaped by specific demographic, political or other circumstances and can thus not be generalized one-on-one to their countries' healthcare systems. Furthermore, current paper is based on an initial analysis of the data and needs further research to validate the presented insights.

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