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General Practitioners' Decisions about Discontinuation of Medication: An Explorative Study

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Purpose

We investigate how general practitioners' decisions about discontinuing medication are influenced by their institutional context.

Design

Twenty-four GPs were interviewed, three practices were observed and documents were collected. The Gioia methodology was used to analyse data, drawing on a theoretical framework that integrate the sense making perspective and institutional theory.

Findings

Most GPs, who actively consider discontinuation, are reluctant to discontinue medication, because the safest course of action for GPs is to continue prescriptions, rather than discontinue them. We conclude that this is in part due to the ambiguity about the appropriateness of discontinuing medication, experienced by the GPs, and in part because the clinical guidelines do not encourage discontinuation of medication, as they offer GPs a weak frame for discontinuation. Three reasons for this are identified: The guidelines provide dominating triggers for prescribing, they provide weak priming for discontinuation as an option, and they underscore a cognitive constraint against discontinuation.

Originality/value

Our analysis offers new insights about decision-making when discontinuing medication. It also offers one of the first examinations of how the institutional context embedding GPs influences their decisions about discontinuation.

For policymakers interested in the discontinuation of medication, our findings suggest that de-stigmatising discontinuation on an institutional level may be beneficial, allowing GPs to better justify discontinuation in light of the ambiguity they experience.

Keywords:

Decision making, deprescribing, discontinuation, general practitioners, institutional context, medication

Introduction

In recent years we have witnessed an increasing focus on excessive medication (Grady and Redberg, 2010). The phenomenon has been put on the 'healthcare' agenda by medical professionals who worry about the potential side effects of taking multiple medications on a long-term basis (Cassel and Guest, 2012). Simultaneously, research examining patient preferences about discontinuing medication indicate that it is welcomed by most patients (Reeve et al., 2013; Straand and Sandvik, 2001).

The medications a patient must manage and consume are often the result of a process, which has taken place over many years, often with multiple physicians involved at different points in time. Hence, it is difficult for a GP to generate an overview of a patient's medications, and this makes decisions about discontinuation more difficult. Furthermore, the availability of a host of guidelines for when to prescribe different kinds of drugs makes decisions about discontinuation a complicated matter (Greenhalgh et al., 2014; Mangin et al., 2012). In particular, much of the information presented in the guideline draws GPs' attention to prescription of medication, whereas little draws their attention to the possibility of discontinuing medication.

We have limited knowledge about the decision to discontinue, as no empirical study has examined how GPs decide about discontinuation, as well as how these decisions are shaped by the institutional context in which they are performed. In this paper we thus investigate:

- How are GPs' decisions about discontinuation of medication influenced by their institutional context?

For the purpose of answering this question we first review the existing literature about discontinuation. Second, we present our theoretical focus on institutional theory and the sensemaking perspective. Third, we describe our research strategy, and develop our data collection tools. Fourth, drawing on our theoretical framework we analyse of our empirical data. Finally, we conclude on our analysis, and describe how it contributes with new knowledge about decisions regarding discontinuation.

A review of the literature on discontinuing medication and the related challenges

The literature on discontinuation can be grouped into three strands; conceptual clinical algorithms, quantitative trials of its effectiveness, and qualitative studies of patient and physician experience.

The literature focusing on clinical algorithms introduces discontinuation as a part of the prescribing process, as the contributing scholars believe that discontinuation must be considered routinely (Bain et al., 2008; Reeve et al., 2014; Scott et al., 2012). Hilmer et al. (2012) suggest including discontinuation considerations into the everyday GP task of optimising medications, and Graves et al. (1997) argue for the importance of considering safety when discontinuing medication, not least in order to avoid adverse drug withdrawal events by discontinuing too many drugs too quickly. Finally, Bain et al. (2008) describe a set of organizational, clinical, and patient considerations, which must be taken into account when deciding about discontinuation.

The quantitative trials of the effectiveness of discontinuation investigate under what circumstances it is safe and feasible to discontinue medication (Gnjidic et al., 2012). In a systematic review Iyer (2008) showed that when discontinuing hypertension medication, 20-85% of the patients remained normotensive in six months to five years after discontinuing, with no increase in mortality. When discontinuing benzodiazepines and psychotropic drugs, between 20-100% of the patients could be safely withdrawn for between four and fifty-two weeks without any withdrawal symptoms or adverse drug withdrawal events. Garfinkel and Mangin (2010) explored the feasibility of discontinuing multiple drugs simultaneously, in contrast to the one-at-a-time approach generally recommended, and found that nearly 60% of all the patients' drugs were eligible for discontinuation. Of all the drugs discontinued, 2% had to be restarted, no deaths occurred because of discontinuation, and 88% of the patients reported an overall improvement in their health. Finally, a review of interventions for how to encourage appropriate discontinuation concluded that agreement between the patient and physician was crucial for the success of discontinuation (Ostini et al. 2011).

The third strand of research, qualitative studies of how patients and physicians experience discontinuation, is the least developed. Foremost, this research focuses on how patients experience discontinuation. In a systematic review of patient experiences Reeve et al. (2013) found that initiating discontinuation faces a number of barriers, including: that physicians put pressure on patients, in order to make them continue their medication, that both patients and physicians are uncertain about the consequences of discontinuation, and that patients are hopeful about the future benefits of medication, even when they do not know if the

medication has improved their condition. So far only one study (Schuling et al., 2012) looks at GP attitudes towards discontinuation. According to this study GPs experience that discontinuation of risk-reducing medication is more difficult than discontinuation of symptomatic medication. In particular, the difficulty arises because when discontinuing symptomatic medication the patients' experience of the symptoms can be used by GPs as input to their decision-making, whereas for risk reducing medication this is not an option. Also, GPs experience that the clinical guidelines make them prescribe many different drugs and that it is difficult for them to prioritise the drugs (Schuling et al., 2012).

Many studies acknowledge the importance of social factors in the prescribing process, noting that pharmacological considerations are not the only considerations GPs have (Anderson et al., 2014; Campo et al., 2005; Mcdonnell Norms Group, 2008). Anderson et al.'s (2014) systematic review notes that inertia is a particular issue, when the GP is aware of the need to discontinue, but struggle to act on this knowledge. In sum, this strand of research presents several social factors, which affect patients and GPs when they consider discontinuation. As it appears from above, our knowledge about how GPs approach discontinuation is very limited.

Making sense of institutions

For the purpose of providing a theoretical base for our exploration of decisions about discontinuation in the context of GP consultation sessions, we introduce institutional theory, which has often been applied in studies of health care organizations and medical practice (see for example, Meyer, 1994). An important contribution of institutional theory is that it enables us to understand why actors and organizations, in striving for social acceptance, often choose the legitimate option, rather than the option which appears to provide the best result (Scott, 2003).

Institutional theory points out that three types of institutional elements can influence decisions made in GP consultation sessions. According to Scott (2007) these elements are; regulative (for example licensing GPs to practice), normative (for example treatment targets), and cultural-cognitive (for example guidelines for GPs professional practice). While institutional theory might be well placed to account for how institutions influence, for example, the formal structures of organizations, then it has been criticized for having difficulties in reconciling the implicit contradiction arising from the consequences of individual agency within apparently strong institutional structures. As such, institutional

theory does not 'specifically address how human agency influences the social practices from which the institutions are created' (Jensen et al., 2009). In other words, institutional theory alone is not sufficient to further understanding of the response repertoires, and the subsequent actions of individuals after the initial institutional framing (Weick et al., 2005). To remedy these limitations we include the sensemaking perspective to shed light on how individuals create meaning and act upon that meaning, within a broader institutional context (Weber and Glynn, 2006). In an analysis of sensemaking, the core concepts employed are; a frame, a cue, and a connection, which together create meaning: "Meaning = cue + relation + frame" (Weick, 1995, p. 110). Hence, the substance of sensemaking is a frame (an overall paradigm, shared understanding) that summarizes past experiences such as traditions, ideologies, theories of actions or stories, a cue (for example, a new experience, a new technology, a failed project), and a connection between the two – the cue or the frame alone does not make sense, whereas the cue in the frame makes sense or not.

It is popular to regard the sensemaking perspective and institutional theory as distinct approaches, as can be observed from the rare juxtaposition of both theories in organizational analysis (Weick et al., 2005). However, they share a theoretical heritage in social constructivism and phenomenology, and in many ways they attempt to address similar issues (Weber and Glynn, 2006), and this allow for their seemingly divergent utilizations to be reconciled, despite differences in their current analytical usage. For a richer analysis of how institutions influence individual decision making, we draw on Weick's notion of frames of reference, and how they may be primed, edited and triggered the by their institutional context (Weick, 1995).

Our theoretical framework offers some analytical possibilities. First, to examine what kind of frame is used by GPs, as well as how such a frame influences the decisions of individual GPs. Second, the role of the institutional context in framing decisions about discontinuation can be explored.

Empirical setting and methodology

In this paper we use the prescription of statins as our empirical case. This choice of empirical setting is grounded in two observations. First, statins are prescribed to a large number of people, and second, they are known to be one of the drugs that are more difficult to discontinue (Schuling et al., 2012). Statins are drugs prescribed to reduce the risk of suffering from future cardiovascular events. In other words they are prescribed on the basis of risk and

not symptoms or current illnesses. In Denmark, 10% of the population, that is around 500.000 people, is prescribed a statin. This makes statins one of the most prescribed drugs (Heebøll-Nielsen et al., 2011). The pattern is similar for Europe (The NHS Information Centre, 2010; Walley et al., 2005).

The prescription of a statin is initiated on two types of occasions; a) when a patient has experienced a cardiovascular event, for example, a heart attack or a stroke (tertiary prevention), a statin is prescribed to reduce the risk of future event (about 60% of the statin prescriptions in Denmark), and b) when a patient has never suffered from a cardiovascular event (primary prevention), but is assessed as be at high risk of having one (about 40% of the statin prescriptions in Denmark) (Heebøll-Nielsen et al., 2011).

The evidence for the clinical effectiveness and relevance of statins is fiercely debated and there are different prescribing situations with a range of justifiability (Ray et al., 2010; Taylor et al., 2011). For example, some GPs find that statins should be prescribed, as avoiding 3 deaths for every 1000 people that take a statin is justified. Other GPs find that it is not justified to ask 997 out of 1000 people to take a statin with no mortality benefit. There is weak evidence for prescribing statins for primary prevention (Ray et al., 2010), particularly for those over 80 years old (Strandberg et al., 2014). This is partly because as the likely duration of life decreases, the potential benefits of statins decrease. Despite this, patients are still being prescribed statins when in palliative care (Turner et al., 2014).

In Denmark, the Danish College of General Practice issues guidelines for prescription of statins and recommended that anyone who has experienced a cardiovascular event be prescribed a statin. Also, it recommends that anyone who has a 10% risk of dying from a cardiovascular event, is prescribed a statin, and that for anyone who has a 5% risk of dying from a cardiovascular event within the next 10 years, a prescription of a statin can be considered (Danish College of General Practice, 2007).

One of the tools used to determine whether a statin should be prescribed is the Heart Score Risk Chart issued by the Danish College of General Practice, which consists of a three colour-coded chart (red and yellow and green), to indicate a patient's risk and whether a statin should be prescribed.

Unit of analysis

Our unit of analysis is the GPs who serve as the patients' main point of contact in the Danish healthcare system, and also refer them to hospitals for treatment by more specialized hospital

physicians. GP practices host a single GP or several GPs (usually no more than six). General practice operates on a list-based system where a patient is registered to a specific GP. Hence, even though several physicians may have initiated prescriptions of drugs to a patient, a single GP is responsible for all the patient's prescriptions. On a normal day a GP receives approximately 25 patients. The average consultation length is 10-15 minutes, though there are short acute consultations of less than 5 minutes and longer consultations lasting approximately 30 minutes, for medication reviews or patient home visits.

The taxpayers finance the Danish healthcare system, including consultations in GP practices. General practices are privately owned and GPs are self-employed. Patients may book appointments themselves or be called in for consultations by the GP. Patients can choose to see GPs in other practices, but as this requires that they change their default practice and this rarely happens.

Data collection

Our explorative study of GPs decisions about discontinuation employs three different types of qualitative data; semi-structured interviews with GPs, observations of consultations in GP practices, and documents, such as guidelines and recommendations issued by professional associations and public authorities. The interviews and observations enable us to examine the GPs accounts of action as well as their inaction, while the documents enable identification of frames working on the GPs.

For the semi-structured interviews we established a maximum variation sample (Dahlgren et al., 2007) of 24 GPs, based on four criteria; length of practice, gender, size of practice and geographical location. The GPs included in the empirical study were identified; a) by a research colleague, b) from a GP network called 'Doctors without Sponsorship', and c) from medication training courses. Furthermore, GPs interviewed were asked if they could recommend other GPs that would be relevant for the study. The identified GPs were contacted by the first author via an email, which explained the purpose of the study. Ethical approval was not obtained for the study, as this is not required in Denmark for this type of research, but the data were collected according to the Helsinki Declaration (World Medical Association, 2013).

A pilot study of five interviews was carried out to refine the interview guide. GPs were asked to describe recent examples of discontinuation, and if they struggled to do so, then

themes were used as prompts. For example, we asked about their thoughts on discontinuation generally and specifically for statins, how they kept themselves up to date with discontinuing and prescribing practices, and how they organised discontinuation in their practice. All interviews were conducted by the first author, lasted on average one hour, and were recorded with consent of the interviewees, and afterwards transcribed ad verbatim to a total of 406 pages.

Observations of consultations of GP practices took place at three sites, upon completion of the interviews, with the purpose of corroborating the findings generated from the interviews. The observations took place during a day visit to the selected GP practices. When arriving at the practice the first author was informed about consultations where discontinuing medication could become an issue. The observations focused on how discontinuation was discussed, what decisions were made, what plans of action were laid, and the GP's considerations. In between consultations the GPs elaborated on their considerations, and reflected on their interactions with the patient and their decisions.

The documents collected were the material relevant to statins from the Danish College for General Practice. An example of a document is a guideline titled 'Prevention of ischemic heart disease', which is relevant to the prescription of statins.

Data analysis

A first order coding of the data was performed inductively to identify themes relevant to the GPs and reflect their experiences (Gioia et al., 2012). Thereafter, in a second order coding, the material was reanalysed abductively, with the data and theory being analysed in tandem. Here institutional theory was incorporated to generate further concepts, which were then integrated with the themes generated during first order of inductive coding (Gioia et al., 2012). Theoretical concepts were only used to elaborate on the findings of the first order coding, and were discarded if there was not enough data to support their usage.

As GPs are embedded in the healthcare system, they are embedded in an institutional context with a variety of institutional elements, previously described, which might place expectations on the GP. Some institutional elements could be seen from the GPs' interview accounts, where they referred to guidelines as a major source of information, and from document analysis of the guidelines. These different levels of coding and the themes that emerged can be seen in the data structure (see figure 1). During the process of analysis peer debriefing, constant comparisons and negative case analysis were used (Tracy, 2010).

Methodological limitations

The explorative nature of our study called for both the use of a number of different data collection techniques, in order to capture as much potentially relevant information about discontinuation as possible, and for a focus on a single type of drug (statins), in order to enable a comparison of the issues related to discontinuation, which are mentioned by the 24 participants in the empirical study. We acknowledge that the latter might pose some limitations to our results, as by focusing on one type of drug we solely look at the issues related to discontinuation for that kind of drug, issues which might be different for other types of drugs. In addition, it might be a limitation that we only use data from one country, as we do not know if cultural biases influence the handling of discontinuation across nations. Finally, we acknowledge a couple of methodological limitations related to our observations from the consultations. First, the fact that we asked to GPs to identity consultations where discontinuation medication could become an issues might have both biased the interaction between GPs and patients, and have excluded us from observing consultations where it became an issue, in spite of the GPs expectations. Second, it would have strengthened our observation data, if we had observed consultations performed by all 24 interviewed GPs, as thereby we had been able to apply these data more extensively in the analysis, rather than mainly using them for a selective reality check of the accounts of discontinuation given in the interviews with the respective GPs. Yet, it deserves to be mentioned that our observation data supported the findings generated from our interview data.

Findings

In this section we present our findings regarding decisions about discontinuing medication. First, we describe how GPs experience the ambiguity associated with discontinuing medication, as well as how the guidelines issued by the Danish College of General Practice frame discontinuation for the GPs. Second, we examine how GPs arrive at decisions to not discontinue, before we take a closer look at how assessments of patients' risk of future cardiovascular events win over assessments of patients' quality of life, when GPs' decide about discontinuation.

For many GPs the decision to discontinue is associated with ambiguity, as expressed by a GP:

> Of course it is difficult, it's difficult to know for sure, when it doesn't work any more… And this uncertainty about what will happen if we stop is often the reason for continuing. And so what is really difficult is when you prescribe very important medicine. (interview with GP20; p. 1)

In the quote above the GP emphasises that it is difficult to know for sure if the medication is effective and what will happen if it is discontinued. In particular, this is a problem for risk reducing medication, where the benefit materializes as an absence of negative events, as the medicine is designed to prevent these. Such cases have no clear outcomes, and thus, in order to discontinue it is important to be able to justify the decision to do so. This is difficult, because no guidelines issued by professional associations or public authorities include criteria for how to act when considering discontinuation, as mentioned by the GP quoted below:

> …we can't justify that you can just stop [prescribing] it. We can't really do that because of how our treatment criteria look, where there aren't any defined criteria for when we can stop. (interview with GP18; p. 10)

In contrast, when considering initiating medication then a set of clear criteria for why and when this should happen are provided. As a result GPs typically experience that the safest decision is not to discontinue medication. As illustrated by one GP:

> … if there is a guideline, and it says that we are in the yellow area of the chart, then you start the prescription. In the flowchart [risk chart] the patients can be yellow or red. If you are in the yellow field then you start, because then you have at least not done something wrong. Because if the patient then gets a blood clot, and you had done it, then you couldn't say that you hadn't started treatment of the patient. (interview with GP19; p. 13)

Or more simply put, by another GP:

> One can say that it is a lot easier to do something than not to do something. (interview with GP4; p. 3)

Hence, it appears that the difficulties GPs have in justifying discontinuing medication are magnified by the emphasis on prescribing statins in the guidelines issued by professional associations or public authorities.

Deciding not to discontinue

Nearly all of the examples of decision about discontinuation of medication given by the GPs involve two assessments. First, an assessment of the patient's risk of experiencing a cardiovascular event in the future, and second, what is the patient's quality of life, usually by assessing their experience of taking the medicine, with an emphasis on what side effects they experience.

The assessment of the patient's risk of a future cardiovascular event is based on a series of risk factors, for example, diabetes, previous blood clots, family history, low level of physical activity, smoking. Some GPs explain that for a given patient these risk factors are sufficient for initiating medication, even if the patient expresses reservations about taking the statin. As a GP explained:

> So diabetics and ischemic heart disease [patients], they're just going to get it. I do not have any qualms about giving it to people. Down with it. And I'll say yes, you may have read about some side effects, but it's cheap and it's good and is one of the drugs we know most about. (interview with GP21; p. 4)

Diabetes and previous cardiovascular events automatically render a person at 'high risk' according to the guidelines issued by the Danish College of General Practice, and a person's risk is the primary focus when deciding about discontinuation.

The second assessment concerns the quality of life, or more precisely the side effects reported by the patient, and how the GP evaluates these. The difficulty in evaluating the reported side effects was addressed by a GP:

> …generally I spend little energy informing them [the patients] about the risks and the possible side effects, because of the suggestive effects of telling them about side effects, means it just becomes modified in that they'll go home and read more. (interview with GP11; p. 4)

Examples given by GPs after they decided against discontinuing are examples of when they felt the side effects were not a major issue. They explain that depression is a rare side effect, and that it is difficult to know if old bodies ache is a side effect of the medicine, even if often reported by patients prescribed a statin. A common characteristic of these examples is that

GPs' assessments of patients' risks of a future cardiovascular event outweigh patients' quality of life experience. Hence, GPs focus on cues, which indicate that a prescription should be continued, rather than on thorough examinations of the reported side effects, which might justify discontinuation.

When a GP concludes a consideration about discontinuation by emphasising the assessment of the risk level, this can be viewed in three ways; a) the GP assesses that the risk of a future cardiovascular event is so high that the medication cannot be discontinued, b) the GP assesses that the side effects are not serious enough to discontinue, or c) the GP convinces the patient to restart, even after previously agreeing with the patient about a discontinuation. Here we offer three examples to illustrate these different situations. The first two examples arose after the patient raised concerns about their statins, but the GP convinces them to continue *before* they have discontinued themselves. The third example arose after the patient informed the GP that he had already stopped taking the statin. An example of the first type was provided by a GP who, after a patient had asked if she could discontinue, assessed that the risk of a future cardiovascular event was too high:

> The last one was quite easy because it was an old woman of age 82 who believes what she's told and she had an earlier blood clot in her heart and was smoking. I said to her you need to continue, and she continued 'eating' the statin. (interview with GP7; p. 10)

The woman was assessed to be a high-risk patient, as she had suffered from a cardiovascular event. Also, according to the risk chart, smoking increases a person's risk. So she was told by the GP that she had to continue with her medication. This often happens, even though the heart score risk chart cannot be used for persons over the age of 65.

An example of the second type was provided by a GP who judged the side effects as not serious enough to discontinue, either because the reported side effects did not fit with the side effects normally reported for the medicine, or because he did not think the side effects are caused by the medicine:

> She maintains that she has some side effects to it [statin], but I am not completely convinced, because it was one of those side effects, I can't even remember what it was. It wasn't muscle pain, and I think it was just general unease in the body. It was one of those side effects we don't see that much. But just taking medication, taking a placebo will also give side effects. And she had been

> concerned about the side effects, so I put a little pressure on her to continue and she also did so. (interview with GP8; p. 8)

In this example, the reported unease in the body was not acknowledged, because it was an uncommon side effect, and by referring to placebo the GP suggested that it might have other causes. In addition, the GP felt that because of a previous heart attack, the patient had a high risk of a future cardiovascular event, and therefore, he asked her to continue with the medication.

An example of the third type was provided by a GP who convinced a patient to restart, after he had discontinued himself:

> So he actually has some familial risk factors, I mean a massively raised level of cholesterol. So you can say that there is a reason to continue the treatment. So we sit and discuss a bit forth and back. He had stopped taking them himself, but comes in anyway to discuss it. And he says halfway through the discussion, no I don't want to have it, because I've tried those things. Then I explained a little more about the anti-inflammatory effects to him, and that this is something, which grows slowly without him realising it, and suddenly it closes. Okay so he would like them again. So he was started again. (interview with GP5; p. 7)

This GP is even clearer about the assessment of high cardiovascular event risk, which is associated with familial cholesterol, and the importance of taking the medicine. Also, his description of the patient's complaints suggests that he does not think the patient's quality of life concerns are so important. Hence, the high risk of a future cardiovascular event is in focus, and the patient's concerns are secondary.

From above it appears that the guidelines issued by the Danish College of General Practice play an important role when GPs decide about discontinuation, whereas the GPs did not mention other factors, for example, patient resistance or time constraints, as important influences on their decisions. Also, it is worth mentioning that the GPs could not give examples of situations where they discussed and recommended discontinuation. In the following section we examine how the guidelines frame the institutional context in which GPs operate when deciding about discontinuation. Thereby, we throw light on why most GPs decide not to discontinue.

Analysis of institutional influence on discontinuation decisions

Here the findings will be analysed using institutional theory. We now examine how the institutional context frames discontinuation for the GPs, and how this framing influences their decisions about discontinuation. In particular we examine in what ways guidelines shape both this framing, and the GPs' assessment to a preference for not initiating discontinuation.

Dominating triggers for prescribing

Dominating triggers are found in the form of a prescribing imperative. A GP offered a description of this imperative:

> To a high degree our whole treatment system today, is geared to treat people until they close their eyes. You continue with medication and active treatment up to the moment people die. (interview with GP12; p. 10)

Here the GP reflects on the dominant institution of prescribing and continuing to prescribe on a long-term basis. In such an institutional context the focus is on the criteria and situations that can trigger initiating medication, and thus, they attract GPs' attention at the expense of discontinuation. Examples of these dominating triggers include clear treatment thresholds for cholesterol levels, the colour coded risk chart for decision making, and a clear description of high risk factors, for example, diabetes and previous cardiovascular events. The cumulative effect of these triggers is that they attract the GPs' attention to the acts of prescribing and continuing prescriptions.

In addition to outlining clear triggers for when to prescribe, clinical guidelines issued by professional associations, such as the Danish College of General Practice, also play an important role in defining what constitutes 'good' behaviour, and thereby, they set the standards for how GPs, and other physicians, should act. As a GP trainee noted:

> I think specifically, where we are now, with not being fully qualified doctors yet, I think you're generally a bit more concerned about missing something or making a mistake, so you'd better do what it says in all the recommendations [to protect yourself] (interview with GP19; p. 13)

In this quote the GP trainee reflects on her sensitivity to clinical guidelines because of the risk of making a mistake, exacerbated by her by being a junior in the profession. Here ambiguity about what is "the right thing to do' is resolved by following the guidelines as closely as

possible, in order to rule out the risk of ending up in a situation where a 'mistake' occurs, and the GP is found to have done nothing to prevent it. The fact that GPs turn to clinical guidelines when being uncertain of how to proceed, show that they subscribe to a cultural-cognitive logic laid out in the guidelines.

Weak priming for discontinuation

Another framing effect of the clinical guidelines originates from their strong focus on the risk dimension. This downplays the importance of cues about the patients' quality of life. The clinical guidelines focus GPs attention on patient risks and possible treatments of the risk, rather than patient experiences and the possibility of discontinuation. As a GP commented:

> But we also need to stop for a moment and ask, 'do we actually know how it's going with each thing [prescription] individually, you know. When they [the patients] have started with something [a drug], then we are not very good at saying, let's say, after three months, 'Shall we take a break with that, or has it been effective for you?' (interview with GP17; p. 2)

Also, the guidelines issued by the Danish College of General Practice contribute to the weak discontinuation frame, as they solely suggest discontinuation in the most obvious cases:

> For well-controlled patients with mild-to-moderate hypertension, and a low to medium risk can the treatment tentatively be discontinued after six months. (Danish College of General Practice, 2007: 36)

It is worth noting that the guidelines solely mention discontinuation as a possibility for anti-hypertensive medication and not for statins. The recommended condition to discontinue is mild-moderate hypertension and low – medium risk, as there is very little evidence of the benefits achieved by treating patients with these conditions. Hence, discontinuation is presented as a relevant option for medicine with a marginal effect, rather than as a general option to be considered by GPs.

The guidelines also discourage discontinuation by undermining the legitimacy of discontinuation when it is mentioned, as according to the guidelines discontinuation is not really an option:

> It must rest on the general practitioner's clinical assessment in each situation and in close collaboration with the patient. The same considerations apply when one considers stopping a preventive treatment for an old patient. Health economic arguments strictly speaking do not support treatment of older people. Against this cynical and unacceptable consideration the general practitioner must remember that older people's high absolute risk for ischemic heart disease within a short time frame, means that the absolute risk reduction that will follow from treatment is larger than among younger persons, as the relative risk reduction is independent of age (ibid, p. 19).

Statins are not explicitly mentioned, and discontinuation is only mentioned in broad terms. It is mentioned for 'old' patients, not for younger patients, even though it may be relevant regardless of age. The single rationale given (a health economic one, that it is a waste to treat older people) is criticized, and thereafter, the guidelines continue with a rejection of this rationale, by arguing that the risk reduction, which can be achieved by treating older patients, is larger than for younger patients. Other rationales, for example, side effects experienced by the patients or their drug burden, are not mentioned. In sum, discontinuation is not presented as a viable course of action.

Cognitive constraint against discontinuation

The prescription imperative is compounded by the absence of criteria for discontinuation in the guidelines. As no criteria exist, GPs do not know what cues to look for, and thus, they are not guided towards an alternative to the prescription imperative. As a GP noted:

> … there aren't any defined criteria for when we can stop. We can consider it, we can discuss it, but it's difficult to find the good arguments… You can't reject treatment because of age and so on. You can't say no because they're very ill either. (interview with GP18; p. 10)

He emphasises that there are clear criteria for starting and continuing medication, but not for discontinuing, and therefore, discontinuation can be considered, but when a GP attempts to decide in favour of discontinuation the guidelines from the Danish College of General Practice (2007) are not helpful. Instead, the general absence of discontinuation criteria in the guidelines undermines the legitimacy of this option. The guidelines rarely mention discontinuation, and therefore, they act as an internalized cognitive constraint, i.e. if discontinuation was a legitimate option, it would be described in more detail in the guidelines.

Institutional context and GP assessments

Above, we described how the institutional context affects the GPs' medical assessments. The *dominating triggers for prescribing* attract the GPs' attention to the risk factors of the patient, and thus, they emphasise criteria for treatment. As a result GPs are more likely to consider prescription and continuation, than discontinuation. The *weak priming for discontinuation* implies that there is insufficient information for the GPs about when discontinuation can be considered, and therefore, they are unsure about how to prioritise the patients' experiences against a guideline-defined high cardiovascular event risk. Finally, the *cognitive constraint against discontinuation* means that GPs do not experience that discontinuation is a legitimate option. In concert, the cognitive constraints against discontinuation and the dominating triggers for prescribing work to emphasise the importance of the risk assessment when GPs decide about discontinuation.

Discussion

In the present paper we investigated GPs' decisions about discontinuation and how the institutional context in which they operate influences these decisions. In particular, we looked into what influences a GP's to not discontinue a medication. In the empirical contribution and comparison with existing literature we will consider some of the general implications of specific study of statins.

Empirical contribution

Our investigation showed that GPs apply two types of assessment when considering discontinuation. The first concerns the patient's risk of future disease (in this case, a future cardiovascular event). The second concerns the extent to which the patient suffers from side effects caused by the medication.

We also showed that the clinical guidelines issued by the Danish College of General Practice contribute to creating and maintaining a weak discontinuation frame that often prevents initiation of discontinuation. When GPs experience ambiguity about the outcome of a decision to discontinue, then the guidelines imply that the safest decision is to continue and not discontinue medication. In particular, the clinical guidelines contribute to the creation of the weak discontinuation frame, because they focus on prescribing, treatment thresholds as well as the consequences of not treating the risk of a future cardiovascular event, and thereby, they remove GPs attention from discontinuing medication. The clinical guidelines do so, in

three ways; they provide dominating triggers for prescribing, they provide weak priming for discontinuation, and they underscore a cognitive constraint against discontinuation.

For policymakers interested in promoting discontinuing medication, our findings suggest that attempting to de-stigmatise discontinuation is likely to benefit that interest. In the pursuit of that option, guidelines for prescription of medication must systematically describe discontinuation of medication as a possibility. This is especially relevant in light of the proliferation of single disease guidelines that recommend a variety of drugs for the GP to prioritise, but do not provide any help for how to do so (Greenhalgh et al., 2014). In this context it is also important to clarify the conditions under which a given drug can be discontinued, even if the drug is not recommended for discontinuation (Best Practice Advocacy Centre New Zealand, 2010; Schuling et al., 2012). Such suggestions can address the GPs' need to be able to justify their choice of discontinuation in light of the ambiguity they often experience when considering discontinuation.

Comparison with existing literature

Our findings support Schuling et al.'s (2012) findings that GPs experience difficulties in handling prescriptions of risk-reducing medication, and that clinical guidelines based on single disease models are unhelpful for this purpose. In addition, we extend their findings by uncovering how guidelines shape GPs discontinuation frame, and thereby their decisions about discontinuation of medication.

The two types of assessment, which we showed that GPs undertake when deciding about discontinuation; the risk of future disease and the patient quality of life through the proxy of side effects, match the two institutional logics of science and care identified by Dunn and Jones (2010). Furthermore, our study extends their work as it moves beyond medical education settings and examine the professional enactment of specific institutional logics in clinical settings. Dunn and Jones (2010) found that over time the care logic had become more dominant than the science logic, but we found that in clinical settings the reverse is true, as here the science logic tends to dominate over the care logic. Yet, this may be explained by a potential cohort effect, in that current clinical practice does not reflect the current educational programs, and thus, it is important to undertake follow-up studies of GPs decisions about discontinuation of statins.

Our results also echo the findings by Fuller (2004), who examined the role of risk in physician decision making, and identified a primacy of the evidence base, or science logic,

over patient preferences and experience, especially if the patient experience was found to be 'irrational'. We found examples of GPs devaluating a patient's report of side effects because they were not thought to be genuine, thus emphasising the risk assessment in the decision about discontinuation.

Finally, in looking at decision making during statin prescription in the UK, Clinch and Benson (2013) claim a personalisation repertoire, where the GP makes an individual assessment of the person's risk factors for a future cardiovascular event. We support this finding of an individual assessment, but would argue that GPs drew on other types of knowledge, such as the patient experience of treatment, when making a 'personalised' assessment.

What should future research look at?

Future research should advance our knowledge about discontinuing medication by examining GPs decisions about the discontinuation of different drugs. As the present study used the case of statins, an example of risk reducing medication, it would be interesting to examine if our findings apply to other risk reducing medications. Moving beyond the class of risk reducing medication, it would be interesting to examine discontinuation of symptomatic drugs, especially drugs that carry a risk of dependency, for example SSRIs and depression.

The role of the patient in negotiating medication discontinuation, as well as their relationship with the GP, are two other important aspects of discontinuation, which deserve a closer examination. For example, examining how patients' presentations of their experience with the drug influence the GP's decision about discontinuation. Finally, it would be interesting to examine if decisions about discontinuation unfold differently in other settings than primary care. For example, in certain hospital wards, like gerontology wards, discontinuing medication is relevant and it will be interesting to study if it differs from discontinuation in primary care.

Conclusion

In our examination of how GPs assess the option to discontinue medication and how such assessments are institutionally shaped we found that many GPs decided to continue with the medication, even after actively considering discontinuing it. This is primarily due to a weak discontinuation frame which in three ways is shaped by the institutional context that GPs are situated in: dominating triggers for prescribing, weak priming for discontinuation, and

cognitive constraint against discontinuation. Hence, we have showed how discontinuation of medication is shaped by the institutional context in which it is performed.

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