

Knowledge and ambiguity

How GPs manage tensions between systemic biomedical ideals
and medically unexplained symptoms

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Summary

This thesis is a sociological exploration of the management of ambiguity in medical work, and of the relationship between knowledge and ambiguity in that regard. As its case, it takes the management of ‘medically unexplained symptoms’ (MUS), a category of symptoms that are widely considered ambiguous in their nature, cause and treatment. Although increasingly the topic of medical research, MUS have been comparatively little studied in sociology and the social sciences. In particular, there are few sociological inquiries into professional perspectives and work related to MUS. In this study, I therefore explore MUS as a *professional problem*, as problems faced by medical professionals when working with ambiguous cases such as MUS. The study centres on general practitioners (GPs) and the primary care context, since MUS is mainly managed in primary care by GPs. While it has been widely established in the medical research literature *that* GPs consider MUS to be difficult work, much less is known about *why* they think that and *what* they think they can do about it. This is the central problem under investigation here: what is it that makes MUS difficult medical work and how are these difficulties addressed?

These questions are explored by analysing data from focus groups and follow-up interviews with GPs working in Norway, and a document study of medical research articles in scientific journals. Drawing on work in the sociology of knowledge, cultural sociology and medical history, GPs’ work of managing ambiguity in medicine is conceptualized as a form of *interface management*, referring to the knowledge-based managing of contact between categories, persons, institutions and systems. This conception usefully positions GPs as operators in the midst of complex social systems that consist of various interfaces, and proposes that a crucial part of GPs’ work is making connections between these interfaces as a means to resolve medical problems. Interface management thus indicates the relevance of systemic embeddedness and institutional arrangements in managing ambiguity.

Based on four empirical articles, the thesis suggests 1) that the problematic status of MUS results (at least in part) from frictions between systemic biomedical ideals and clinical reality, and 2) that managing these frictions require creative and reflective interface management, drawing on a wide repertoire of knowledge. From the point of view of biomedicine, certain things are *expected* from medical conditions, and MUS *violate* these expectations. Although this alone need not cause difficulties, the systems of health care and health insurance employ and enforce biomedicine as a *regulatory ideal* in matters of health and illness. For GPs, their

work with MUS in different ways puts them in conflict with this ideal; in response, GPs (to varying degrees) work to manage and adapt themselves and their institutional surroundings to remove or smooth over frictions between the enforced biomedical ideals and clinical reality. The argument, then, is that biomedicine, as a regulatory ideal, *makes* MUS ambiguous and problematic work and that medical professionals strive in various ways to *manage* those problems by reorienting themselves and the system to the practical challenges at hand.

The thesis suggests that medical knowledge, as resource and restraint, is implicated in both the making and management of medical ambiguity. That is, ambiguity is caused as much from what we know as from what we do not. The thesis contributes theoretically to the sociology of medical knowledge and the sociology of professions, and to the understanding of MUS as a medical problem in the contexts of health care and health insurance.

Sammendrag

Avhandlingen utforsker håndteringen av tvetydighet i medisinsk arbeid, og forholdet mellom kunnskap og tvetydighet mer overordnet. Som case utforskes håndteringen av 'medisinsk uforklarte plager og sykdommer' (MUPS), en kategori av helseplager som er allment ansett som tvetydige i sin natur, årsak og behandling. Selv om MUPS i økende grad er gjenstand for medisinsk forskning, har slike plager vært relativt lite studert i sosiologi og samfunnsvitenskapene. Spesielt er det få sosiologiske undersøkelser av profesjonelles perspektiver og arbeid relatert til MUPS. I denne avhandlingen undersøkes derfor MUPS som et *profesjonelt problem*, som problemer leger står overfor i arbeidet med tvetydige medisinske saker som MUPS. Fokus er på allmennleger og primærhelsetjenesten, siden MUPS hovedsakelig håndteres i allmennpraksis. Selv om det er grundig dokumentert i den medisinske forskningslitteraturen at allmennleger synes MUPS er vanskelig arbeid, er det i mindre grad kjent hvorfor de syns det og hva de tror de kan gjøre med saken. Dette er de sentrale spørsmålene som undersøkes her: Hva er det som gjør MUPS til vanskelig arbeid og hvordan håndteres disse vanskene?

Disse spørsmålene utforskes ved å analysere data fra fokusgrupper og oppfølgingsintervjuer med allmennleger som arbeider i Norge, og fra en dokumentstudie av medisinske forskningsartikler i vitenskapelige tidsskrift. Basert på arbeider fra kunnskapssosiologi, kultursosiologi og medisinsk historie, konseptualiseres allmennlegers arbeid med å håndtere tvetydighet som en form for *grenseflatestyring* («interface management»), en kunnskapsbasert styring av koblingene mellom kategorier, personer, institusjoner og systemer. Denne begrepsfestingen posisjoner allmennlegene som operatører i komplekse sosiale systemer bestående av ulike grenseflater, og antyder at en viktig del av arbeidet deres er å styre forbindelsene mellom disse grenseflatene, for på den måten å løse medisinske problemer. Slik antydes samtidig relevansen av systemisk forankring og institusjonelle ordninger for håndteringen av tvetydighet.

Basert på fire empiriske artikler foreslår avhandlingen 1) at vanskene forbundet med å jobbe med MUPS (i alle fall delvis) er resultat av friksjoner mellom systemiske idealer fra biomedisinen og kliniske realiteter; og 2) at håndtering av disse friksjonene krever kreativ og refleksiv grenseflatestyring, basert på et bredt kunnskapsrepertoar. Fra et biomedisinsk perspektiv stilles det visse *forventninger* til helseplager, og MUPS *bryter* med disse forventningene. Selv om dette i seg selv ikke behøver skape problemer, har helsevesenet og

helsebyråkratiet gjort biomedisinen til et *regulatorisk ideal* i spørsmål om helse og sykdom. I arbeidet med MUPS opplever legene på ulike måter å komme i konflikt med dette idealet. Som respons forsøker legene (i varierende grad) å håndtere og tilpasse seg selv og sine institusjonelle omgivelser for på den måten å fjerne eller glatte over friksjonen mellom de håndhevede biomedisinske idealene og den kliniske virkeligheten. Argumentet er altså at biomedisinen, som et regulatorisk ideal, *gjør* MUPS til tvetydig og problematisk arbeid, og at leger strever på forskjellige måter for å *håndtere* disse problemene ved å omstille seg selv og systemet til de praktiske utfordringen de har foran seg.

Avhandlingen antyder at medisinsk kunnskap, som ressurs og begrensning, er involvert i både å skape og å håndtere medisinsk tvetydighet. Tvetydigheten er med andre ord forårsaket vel så mye av det vi vet som av det vi ikke vet. Avhandlingen bidrar teoretisk til den medisinske kunnskapssosiologien og profesjonssosiologien, og til den substansielle forståelsen av MUPS som et medisinsk problem i helsevesenet og helsebyråkratiet.

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List of articles

- Article 1 Rasmussen, Erik B. (2017) 'Balancing medical accuracy and diagnostic consequences: Diagnosing medically unexplained symptoms in primary care'. *Sociology of Health & Illness* 39(7): 1227-1241.
- Article 2 Rasmussen, Erik B., Rø, Karin I. (2018) 'How general practitioners understand and handle medically unexplained symptoms: A focus group study'. *BMC Family Practice* 19(50): 1-9.
- Article 3 Rasmussen, Erik B. (forthcoming) 'Rhetorical work and medical authority: Constructing convincing cases in insurance medicine'. Revise and resubmit in *Sociology of Health & Illness*.
- Article 4 Rasmussen, Erik B. (forthcoming) 'Making and managing medical anomalies: Exploring the scientific classification of 'medically unexplained symptoms''. To be submitted to *Social Studies of Science*.

Chapter 1: introduction

Ambiguity denotes ‘cases where the meaning of something is not clear, often because it can be understood in more than one way’ (Merriam-Webster n.d.). This thesis is a sociological exploration of the management of ambiguity in medical work, and of the relationship between knowledge and ambiguity in that regard. Ambiguous cases are a daily occurrence in medicine and learning to manage ambiguity is an important goal of medical training (Atkinson 1984; Fox 1957; Light 1979; Timmermans and Angell 2001). In this thesis, I focus on the management of ambiguity in medical work, and propose ways in which medical knowledge is implicated in the making and management of ambiguity.

As a case, I explore the management of ‘medically unexplained symptoms’ (MUS) in primary care.¹ MUS is a category of symptoms that are widely considered ambiguous in their nature, cause and treatment (Greco 2012; O’Leary 2018). The clinical hallmark is that medical examination yields no biomedical evidence to corroborate the patient’s symptoms (Greco 2012; Jutel 2010a; Nettleton 2006). Often referred to as ‘uncertain illness’ (Dumit 2006), ‘illness without disease’ (Aarseth et al. 2016: 1391), ‘illness that cannot be diagnosed’ (Jutel 2010a: 230) and ‘symptoms that cannot be classified’ (Kornelsen et al. 2016: 367), MUS are associated with conflict-ridden and unfruitful doctor-patient relationships (Czachowski et al. 2011; Hartman et al. 2009; Howman et al. 2016; Salmon 2007; Shattock et al. 2013). In some cases, conflict extends beyond the clinic into the public sphere, often with patient activists and researchers pitted against each other over the epistemic status of medical research into MUS (Aronowitz 1998; Barker 2010; Dumit 2006; Lian and Nettleton 2015). Although the figures vary, MUS are generally agreed to be one of the largest categories of complaints in primary care (Brown 2007; O’Leary 2018). As such, MUS are both ordinary and extraordinary, an everyday problem that is unusually difficult to manage.

Although increasingly the topic of medical research (see Article 4 in this thesis), MUS have been comparatively little studied in sociology and the social sciences. Most such studies have centred on the experiences and perspectives of patients. A consistent finding is that patients feel distrusted by their doctor, they struggle to have their illness legitimated, they are dissatisfied with the help they receive, and they are worried about their health and their future prospects (e.g. Cooper 1997; Dumit 2006; Lian and Hansen 2015; Lian and Lorem 2017; Lian

¹ It could be argued that MUS as a concept has problematic implications (Jutel 2010a). I use it because it is an emic concept frequently used by the profession and medical research (Greco 2012).

and Robson 2017; Nettleton 2006; Nettleton et al. 2005; Werner and Malterud 2003). Others have studied related categories and classification schemes as cultural and historical products, showing how cultural, economic and political factors enter into their ‘biographies’ (e.g. Aronowitz 1991; Greco 2012; Jutel 2010a, 2010b; Lian and Bondevik 2015).

Sociological inquiries into *professional perspectives and work related to MUS* are, however, far fewer in number (but see Horton-Salway 2002; Meershoek, Krumeich, and Vos 2007; Mik-Meyer 2015; Mik-Meyer and Obling 2012). Nonetheless, learning about how doctors think about and act upon MUS is surely crucial to unpacking the perceived ambiguous and problematic nature of the category. Moreover, sociologically informed analyses of the professional perspective can improve our understanding of the troubles of patients with MUS and provide insight into current applications of categories and classification schemes. In this study, I therefore explore MUS as a *professional problem*, as problems faced by medical professionals when working with ambiguous cases such as MUS.

GPs, interface management and relational ambiguity

The study centres on general practitioners (GPs) and the primary care context, since MUS is mainly managed in primary care by GPs (Aamland 2015).² It also investigates the research context, to understand more about how the production of research-based medical knowledge is related to its application. The thesis comprises four empirical articles, each exploring MUS and related practical problems from different angles. The focus is on how working with MUS creates difficulties in connection with performing routine professional tasks, such as diagnosing and sickness certification. It has been widely established that GPs consider MUS to be difficult work, (e.g. Czachowski et al. 2011; Howman et al. 2016; Shattock et al. 2013; Wileman, May, and Chew-Graham 2002; Woivalin et al. 2004). Much less is known about why they think that and what they think they can do about it. This is the central problem under investigation here: what is it that makes MUS difficult medical work and how are these difficulties addressed?

To answer these questions, the thesis proposes conceptualizing the work of managing ambiguity in medicine as a form of *interface management*.³ Interface management refers to

² In this thesis, I use ‘general practice’ and GP in the sense they are used in European countries like Denmark and the Netherlands, where they are more or less the same as ‘family medicine’ and ‘family doctor’ respectively (see Arya et al. 2017).

³ I draw and expand on Rosenberg’s (2002) usage of the term ‘interface manager’ (the concept is developed further in Chapter 3).

the managing of contact between categories, persons, institutions and social systems,⁴ i.e. the work of connecting things (such as patients, diagnoses and treatments) for some purpose (such as providing explanations to and care for patients) within specific contextual constraints (cultural, material, political and so forth). Interface management is thus a meta-category of professional work covering a broad range of practices, including what have been called ‘the three acts of professional practice’, namely diagnosis (classifying a case), inference (reasoning about a case) and treatment (acting upon a case) (Abbott 1988: 40–52). Usefully, the concept places the doctor in the midst of complex social systems that consist of various interfaces, and proposes that a crucial part of medical work is making connections between these interfaces as a means to resolve medical problems, thus indicating the relevance of systemic embeddedness and institutional arrangements in managing ambiguity. If working with MUS involves practical and challenging complications, these complications must relate to the interfaces managed by the GP and they must manifest themselves in problems making connections.

A key aspect of interface management is *knowledge*. First, knowledge is needed to know *how* the interfaces should be managed (such as knowing what is the appropriate diagnosis or treatment plan). Second, those interfaces are themselves either forms of knowledge (such as theories, categories and treatment competencies) or knowledge-based artefacts (such as diagnostic categories or clinical guidelines). As such, knowledge is a *prerequisite* for interface management. However, knowledge and knowledge-based artefacts are also *(re)produced* in the act of applying them (e.g. Barnes 1981, 1982, 1983). In other words, the meaning of, for instance, diagnostic categories and the effects of, say, clinical guidelines, are created and altered in the course and manner of their use. Interface management is therefore also a constituent factor of knowledge. For these reasons, the thesis needs a solid theoretical framework for thinking about knowledge and knowledge application in interface management. To that end, I draw on insights from the sociology of scientific knowledge (*finitism*, e.g. Barnes, Bloor, and Henry 1996) and cultural sociology (*repertoire theory*, e.g. Swidler 2001). Together, they provide a view of knowledge as socially constructed, institutionally embedded and pluralistic; and a view of knowledge-application that is context-sensitive and accommodates habitual as well as reflexive action (see Chapter 3).

⁴ Here, I take social systems to be bundles of institutions. I define institutions thoroughly in Chapter 3.

According to the viewpoint generated by these perspectives, the ambiguity attributed to symptoms is transformed into a *relational* phenomenon: symptoms such as fatigue, headache or back pains are not ‘ambiguous’ or ‘uncertain’ on their own. Instead, such attributions are situated achievements, implying activity and plasticity: symptoms are *ambiguated* – rendered ambiguous – by people in context and can therefore also be *disambiguated*. Moreover, imputations of ambiguity or uncertainty are inextricably intertwined with what is taken to be *unambiguous* and *certain*. MUS are thus not inherently but *relationally* ambiguous. To understand the nature and cause of MUS as a professional problem, therefore, it is necessary to view GPs in their institutional context: MUS are not problematic in and of themselves but because certain tasks need to be performed according to certain standards. Thus, I explore how the challenges associated with medical ambiguity relates to specific forms of knowledge (e.g. medical models, shared beliefs and practical know-how) and specific institutional arrangements (e.g. divisions of labour, formalized guidelines and classification systems and health insurance policies) in the social systems within which GPs process patients with MUS. Moreover, I explore how actors may approach those challenges by working creatively with the available diagnostic categories, narratives and theories to provide meaning and with resources and treatment schemes to transform or control the patient’s future. As I will argue, interface management is often the work of managing disparities between systemic ideals and clinical reality, requiring an extensive and often creative ‘institutional bricolage’ (Clever 2002) in order to secure the system’s proper function (however it may be conceived).

An important task for sociology is to provide realistic and useful descriptions and explanations of social phenomena. That task is no less important in medicine, which is all too often understood as an overly formalistic, positivist, rational and scientific enterprise (Cassell 1991; Hunter 1991; Leder 1990; Meershoek, Krumeich, and Vos 2007; Meershoek 2012; Montgomery 2006). Highlighting the institutional, practical and pragmatic aspects of medical knowledge in medical work can provide us with more realistic beliefs about medicine and more reasonable expectations of medical professionals, thereby facilitating constructive contributions to improve policy and practice. Thus, an important goal of my study is to improve our understandings of how medical professionals and their knowledge produce, for better or worse, medical care. This is a goal I share with sociologists of medicine, knowledge and science, past and present.

Questions and answers

The thesis answers the following research questions:

- *What makes MUS difficult work and how do medical professionals work to resolve those complications?*

Drawing on insights from focus group and follow-up interviews with GPs working in Norway and a critical document analysis of medical research articles in scientific journals (see Chapter 4), the research questions are answered in the following four Articles that make up this thesis:

- 1) *'Balancing medical accuracy and diagnostic consequences: Diagnosing medically unexplained symptoms in primary care'*. This article takes MUS as its case to explore diagnostic classification in the absence of biomedical evidence or other strong medical warrants for diagnosis. Based on focus group interviews, it reconstructs the logic underpinning GPs' diagnostic accounts.
- 2) *'How general practitioners understand and handle medically unexplained symptoms: A focus group study'*. The article explores GPs' framing of MUS, using the same focus group interviews as in Article 1 as data. It shows how GPs alternate between a biomedical and a biopsychosocial frame, and explores how each frame shapes their understanding of and approaches to handling MUS.
- 3) *'Rhetorical work and medical authority: Constructing convincing cases in insurance medicine'*. This article takes as its starting point situations where GPs are convinced that a patient has legitimate claims to benefits but lack the objective evidence to prove it. Based on focus groups and follow-up interviews, it explores how GPs work to persuade bureaucrats in the health insurance system to accept their clinical judgement in these cases. The analysis suggests how GPs may engage with their professional network and institutional environment in creative ways to influence bureaucratic decisions in health insurance cases.
- 4) *'Making and managing medical anomalies: Exploring the scientific classification of 'medically unexplained symptoms'*. Based on a critical document analysis of the research literature on MUS (107 research articles from ten medical journals published 2001-2016), the article suggests how medical scientists' knowledge and research practices are implicated in making MUS an ambiguous scientific category. I also offer a novel reading of the function of the MUS-category in the system of medical knowledge.

Together, the articles provide a thorough sociological analysis of MUS from the perspective of medical knowledge and medical work. First, I suggest that managing MUS is difficult work due to a *lack of fit* between the symptoms on the one hand and systemic biomedical ideals in the social systems within which the symptoms are processed on the other. Simply put, *biomedicine makes MUS difficult work*. Not by itself: ideas have no bearing on social life without being enforced. Biomedicine (or ‘scientific-bureaucratic biomedicine’ or ‘scientific medicine’, e.g. Harrison and Ahmad 2000; Harrison, Moran, and Wood 2002) and its biomedical model of disease (e.g. Annandale 2014: 4–5; Chiong 2004: 130; Lock and Gordon 1988) are strongly enforced as a *regulatory ideal* – a core model for thinking about health, disease, medicine and medical professionalism – and as a ‘co-opted’ instrument of accountability employed by the State (Harrison 2009; Rosenberg 2002).⁵ The biomedical model is thus enforced *within* the medical system (in medical training and clinical and research practice, and through the collective stock of medical knowledge) but also *without*: it has been appropriated by the political and bureaucratic systems with which medicine is variably integrated, furnishing health insurance legislation and policy with a model of health and disease, a standard of professional medical conduct and a moral order of worthiness (see Chapter 2).⁶ Doctors thus find themselves operating within and across social systems that have a strong preference for specific kinds of health problems and specific forms of knowing. When clinical reality impedes such preferences, as it does when patients present with MUS, the performance of basic professional tasks becomes problematic. In other words, the systems whose interfaces doctors manage are poorly adapted to clinical work with MUS. This clash between system and symptom causes frictions in the form of practical problems, making MUS difficult work.

Second, I claim that doctors work to manage and adapt their institutional surroundings to remove or smooth over frictions between the system’s biomedical ideals on the one hand and clinical reality on the other. Moreover, they must adapt themselves and their professional identities (Articles 1 and 2). As interface managers, they can do this in different ways, creating different types of connections and repurposing them to fit the task. This they can do

⁵ As I clarify in Chapter 6, I refer here to a generally ‘received view’ of biomedicine as a bundle of exemplary diseases and medical interventions. Central to the biomedical model of disease, as understood here, are the notions: *i*) that psyche and soma (body) are separate domains; *ii*) that symptoms are effects that should have causes; *iii*) that, following *i*) and *ii*), somatic symptoms should have somatic causes, known as ‘disease entities’; *iv*) that such entities may be detected upon physical examination (blood tests, imaging technologies, palpation, etc.) in the form of objective ‘signs of disease’ (tissue abnormalities, organic pathology, etc.); and, *v*) that upon detection, the objective signs explain the subjective symptom (e.g. Lock and Gordon 1988).

⁶ In Norway, but also in other countries – especially in the OECD region (see Chapter 2).

by working on themselves and their outlook, connecting cases with different cognitive frames and stocks of knowledge (Article 2); by utilizing diagnostic categories and classification systems as tools to provide care and treatment (Article 1); by shaping medical certificates and directing the flow and content of information passed on to the welfare bureaucracy (Articles 1 and 3); or, by drawing creatively on their professional network and local institutional surroundings (Article 3). Furthermore, over time doctors can better understand how to proceed in these cases, learning which sorts of connections work and which do not. They can amass stocks of experience-based clinical knowledge (Malterud 1995, 2001, 2006) about how to adapt themselves, their practice and their environment to the pragmatic needs of the case at hand, using the institutional set-up to their advantage. If doctors act in this way, interface management becomes a form of institutional bricolage. Such work can in turn be interpreted as a form of the physician's care for patients but also as an attempt to preserve the integrity of the system and the profession. In the research context (Article 4), needs for adjustment arise from the lack of consensus about procedures for classifying MUS, resulting in turn from the lack of fit with biomedicine. Thus, researchers use what they have at hand to produce a credible classification procedure, sometimes proposing new standard procedures, producing workable, evidence-based clinical guidance. In both the clinical and the research contexts, the adaptations and the work bringing them about can be interpreted as creative action (Joas 1996; Joas and Knöbl 2009: 127) but also as routine strategies born from habituated forms of such action.

In sum, the analysis suggests that the problematic status of MUS must be understood as resulting (at least in part) from tensions between systemic biomedical ideals and clinical reality, and by extension, as the need for pragmatic adjustments to those tensions. The difficulties associated with MUS result from the lack of fit between what we have come to believe that reality is like, and real-life experiences that violate our expectations. It is an instance of the world seeming ambiguous not due to our ignorance, but due to what we have come to know – due to our shared beliefs about what the world is like. As such, MUS represent a 'paradigm-induced anomaly' (Barnes 1982; Kuhn 2012), or a knowledge-induced ambiguity.

This does not mean that the biomedical model is inherently bad; on the contrary, it has a convincing history as a useful model for thinking about many types of health related problems. The interest of non-medical parties in using biomedicine as a standard of professional accountability testifies to the model's success and power but also to its

suitability, providing governance with a notion of universal and commensurable disease entities (Harrison 2009; Rosenberg 2002) and associated treatment programmes. But like any paradigm, its practical uses are limited. Accordingly, this is not to a critique of biomedicine or the biomedical model as such but of its idealization and institutionalization as the regulatory ideal of medicine and medical work.⁷ The claim is that biomedicine, as a regulatory ideal, *makes* MUS ambiguous and problematic work and that medical professionals strive in various ways to *manage* those problems by reorienting themselves and the system to the practical challenge at hand. However, I suggest that the efforts to smooth over frictions between biomedical ideals and clinical reality might paradoxically have the unanticipated consequence (Merton 1936) of protecting the former by covering up its failure to accommodate the latter (Articles 3 and 4).

Roadmap

The rest of this thesis is organized as follows. Chapter 2 presents some background details about the relevant institutional context for this study. I outline and describe the salient characteristics of Norwegian primary care and the health insurance system, emphasizing GPs' role. Chapter 3 presents the theoretical framework that underlies the thesis as a whole. I develop the concept of interface management and combine insights from the sociology of (scientific) knowledge (Barnes 1982; Barnes, Bloor, and Henry 1996: chap. 3) and 'repertoire theory' in cultural sociology (Swidler 1986, 2001). These theories form the epistemological and methodological basis for the study. Chapter 4 describes and discusses the methods and analytical procedures. Chapter 5 summarizes the four Articles and offers a few notes and remarks about them individually before Chapter 6 discusses the study's findings, their limitations and how they may contribute to theory and practice. The Articles themselves follow thereafter.

⁷ For some such critiques, see Engel (1977), Gabbay and le May (2011), Lock and Nguyen (2010), Kirkengen et al. (2016) and Aamland (2015).

Chapter 2: context of the study

The main actors in this thesis are GPs as the managers of the interfaces between health care and health insurance. The main empirical context is primary health care and insurance medicine in Norway. This chapter describes key aspects of GPs' institutional environment in this, relevant to understanding the making and management of MUS as a practical and clinical problem.

GPs and health care services

Norway has an extensive, generous and predominantly publicly funded health care system based on the principle of universal, equal access for all inhabitants (Ringard et al. 2013). The system can roughly be divided into *primary care* and *secondary care* (Ministry of Health and Care Services 2014).⁸ The former is the responsibility of the municipalities, the latter of the State. As such, its structure is 'semi-decentralized' (Ringard et al. 2013: xv).

GPs play a crucial role in Norwegian health care. Providing primary care, they work at privately run but publicly funded practices. In addition to their clinical work, however, GPs are also responsible for coordinating patients' medical needs across providers in primary and secondary care (Ministry of Health and Care Services 2014). As such, they manage the interfaces between care services throughout the health sector, compiling and transmitting information and making referrals to the appropriate health care providers.

GPs' responsibilities for managing individual patients' care were formalized in 2001, when the Norwegian government introduced a 'Regular GP Scheme' (Ministry of Health and Care Services 2001). According to this scheme, all citizens registered (including asylum seekers and their families) have the right to a regular GP as their main contact point in the health care system who coordinates their contact with other service providers in the system. All participants in the scheme may choose freely from GPs with capacity available and may switch GP up to twice a year. Although participation in the scheme is voluntary, choosing not to join is expensive and impractical; accordingly, ~98% of registered citizens participate in it (Ministry of Health and Care Services 2001; the Norwegian Directorate of Health 2017).

There are currently ~4700 GPs taking part in the Norwegian regular GP scheme, of whom ~60% are qualified 'specialists in general medicine' (the Norwegian Directorate of Health

⁸'Secondary care' is often referred to as 'specialist care'. However, specialists in general medicine, who typically work in primary care and often as GPs, tend to resent this distinction as it undermines their specialist status. I thus use 'secondary care'.

2017). Public funds comprise the majority of these GPs' income and patients pay only a small, out-of-pocket fee per consultation (~NOK150, or ~€16), up to an annual maximum of ~€300 (see Mossialos et al. 2016: 134; Ringard et al. 2013: 59).⁹ On average, GPs in the scheme have ~1100 patients on their books (the Norwegian Directorate of Health 2017). Although the number of patients has been relatively stable over the last decade, there has been a steady increase in the number of consultations of about ~1.7% per annum (Statistics Norway 2018a), with 14.4 million consultations registered in 2017 (Statistics Norway 2018b). GPs' services are thus in increasingly high demand.¹⁰ At the same time, according to the Norwegian Medical Association, recruitment of new GPs to the scheme is poor, and a crisis is looming in primary care unless changes are made (*Dagens medisin* 2017a, 2017b).¹¹ If recruitment is in fact in decline, then one of the changes that could be made would be, as I suggest in Article 2 in particular, to additionally prepare GPs for encountering patients suffering symptoms for which medical science has little to offer, thus softening the shock of clinical reality on newly qualified GPs. I am not alone in making this point (e.g. Aamland 2015: 53).

GPs and the health insurance bureaucracy

In addition to being central interface managers *within* the health care services, GPs in Norway also play a central role in managing the interface *between* health care services and the health insurance bureaucracy (the Labour and Welfare Administration [NAV]). NAV's bureaucrats are custodians of the extensive National Insurance Scheme (NAV 2016). They thus decide whether a patient is eligible for health related benefits, such as sick leave or a disability pension. An important basis for these bureaucrats' decision-making is the patient's medical condition as laid out by a medical certificate. Thus, by producing, compiling and relaying information about the patient's medical condition, the medical profession – and the GP in particular – have an important say in who can obtain access to benefits.

In this context – managing patients' access to health related public benefits – GPs are often referred to as *gatekeepers* (e.g. Brekke and Fugelli 2004; Carlsen and Nyborg 2009; Norheim and Carlsen 2003). Following my definition of interface management in Chapter 1, I

⁹ Exchange rates as per 25.1.2019.

¹⁰ The increase is accounted for by population growth and an increasingly aging population but also by a surge in consultations for young patients aged 16-19, probably due to new demands for students at upper secondary school to document their sick leave (Statistics Norway 2018a).

¹¹ To the best of my knowledge, however, there is a lack of independent studies verifying that there is in fact a shortage of recruits, in which case the profession's declaration of 'crisis' risks becoming a self-fulfilling prophecy (Merton 1948b), demotivating future candidates from pursuing a career in the regular GP scheme.

understand gatekeeping as *an aspect* of interface management, pertaining to the formalized regulation of access to services and benefits, indirectly premised on the wider interface management practices of connecting cases with diagnoses, treatments and so forth. (GPs are also gatekeepers to the specialist services in secondary care and to prescription drugs, enacted in the writing of referrals and prescriptions respectively). Using the metaphor of the gate, we can say that health benefits in Norway are protected by *three* of them: a medical gate, guarded by the patient's GP, followed by two bureaucratic gates at local and regional NAV offices. Bureaucrats at the regional offices decide whether to accept or reject a claim, based on GPs' medical certificates and fitness for work reports from bureaucrats at local offices.¹² This division of labour in health insurance, between medical and legal expertise, is found in most OECD countries, though with important national variations (Mossialos et al. 2016; OECD 2016).

Although probably as much could be said for the bureaucrats' difficult job of assessing cases of MUS, the focus in this thesis is on the GPs' perspective. Studies from the Norwegian context indicate that gatekeeping can be a challenging task for GPs when patients present with MUS (e.g. Nilsen et al. 2011; Aamland, Malterud, and Werner 2012). International studies indicate similar results (e.g. Engblom, Alexanderson, and Rudebeck 2009; Meershoek, Krumeich, and Vos 2007; Mik-Meyer and Obling 2012).

Gatekeeping in the biomedical State

Arguably, one important source of the challenges faced by GPs as gatekeepers stems from the biomedical orientation of the health insurance scheme and of NAV. Important aspects of medical culture have been 'co-opted' (Harrison 2009), or appropriated and integrated, by the State via the health insurance bureaucracy, in a form of 'self-biomedicalization' (Clarke 2014; Conrad 2008). This co-optation of biomedicine as a regulatory ideal can be observed, for instance, in the formulations that make up the core criteria for benefits in the Insurance Act: access to benefits in Norway, it declares, is contingent on medical certification that the patient's functional impairment is primarily due to *disease* (and not, for example, economic or social issues, see Ministry of Labour and Social Affairs 2016; NAV 2016).¹³ Legislation thus stipulates a *causal link* between symptom (the functional impairment) and disease as a criterion for eligibility.¹⁴ Disease, the legislation further stipulates, should be '*scientifically*

¹² Decisions made at regional offices may be appealed at the National Insurance Court.

¹³ Also 'injury' or 'disability' which I exclude from consideration here.

¹⁴ However, following a National Insurance Court ruling (the *Fibromyalgia Verdict* of 1994), formal requirements for objective evidence of disease were abandoned (Ministry of Labour and Social Affairs 2000,

based and widely recognized in medical practice' (NAV 2016, my translation and emphasis; see Ministry of Labour and Social Affairs 2016 for more details).¹⁵ The criteria therefore seem premised on the model of disease from scientific biomedicine, where disease mechanisms cause symptoms (e.g. Rosenberg 2002). Moreover, the criteria are supposedly determined by a continuously updated and science-based medical consensus about the concept of disease— a supposition that empirical evidence (e.g. Aronowitz 2001; Hofmann 2017; Smith 2002; Tikkinen et al. 2012) and ceaseless philosophical debate (e.g. Campbell, Scadding, and Roberts 1979; Sadegh-Zadeh 2000; Mol 2002; Rosenberg 2003) give us reason to doubt. The emphasis on a causal, science-based and restrictive medical concept of disease is not unique in the OECD region (Kalisch, Aman, and Buchele 1998; Meershoek, Krumeich, and Vos 2007).

A second example of the influence of scientific biomedicine can be found in the design of NAV's three-page, standardized form that officially mediates medical certification. The form 'largely reflects a classic, mono-causal and biomedical model of disease (...)', oriented towards symptoms and their causes, encouraging a style of certificate writing that renders patients passive and the author largely invisible (Aarseth et al. 2016: 1383). The form conveys a 'scientific' – or rather a pre-hermeneutic positivist (Leder 1990) – vision of objectivity, which in turn produces a matching style of prose (Aarseth et al. 2016: 1391). As such, the formal line of communication is 'biomedicalized' too. Less is known about the uniqueness of this form in a European context, since few have explored the structural properties of medical certification forms (but see Berg 1996; Berg and Bowker 1997; Timmermans and Berg 2003: chap. 4).

A third example of biomedical appropriation is as follows – as specified by the certification form (under section 2, 'Information of diagnosis and disease', see Aarseth et al. 2016: 1384), GPs must provide *diagnostic codes* attesting to the patient's medical condition that must come from one of two diagnostic manuals in the WHO's 'family' of international classifications (WHO 2003a). The first is the *International Classification of Diseases and Health Related Problems* (ICD). The ICD is currently in its eleventh edition (published June 18 2018, see WHO 2018) and is the original manual in the WHO's family of manuals. In Norway, the ICD is the official classification system in secondary (specialist) care; GPs register ICD codes if a

89); this empowered patients with MUS who claim benefits. Even access without evidence is permissible, however, as it has the status of an exemption in cases of long-term benefits. Moreover, GPs must attest to the probability that impairment is primarily due to disease.

¹⁵ This is why I believe disease (and not e.g. 'illness' or 'sickness') is the appropriate translation.

doctor in secondary care has made the diagnosis. The ICD is also a key device for hospital funding, due to the Diagnose-Related Groups' system (DRG), a central coordination device in the performance-based financing model employed since 1997 that ties fixed prices to diagnostic and procedural codes (Ministry of Health and Care Services 2019, 2018). Doctors or hospital departments diagnose a patient using code X and carry out a procedure coded Y, a 'service provision' for which they are reimbursed and rewarded by the health authorities according to fixed rates per code. The ICD has proven a powerful tool for the generation of epidemiological data on a global scale. For our purposes, however, the interesting point is that the State has incorporated this artefact of codified medical knowledge into its regulation of health services and public health more generally and the manual conveys the idea, foundational to scientific biomedicine, that health conditions can be regarded as decontextualized and uniform across time and space (Bowker and Star 2000).¹⁶

The ICD is, however, not the most important manual for GPs and the management of MUS (see Bowker and Star 2000 for more on the ICD, its history and consequences). GPs across the globe use the *International Classification of Primary Care* (ICPC), currently in its second version (WHO 2003b; WONCA International Classification Committee 1998). It is translatable to the ICD and the two can thus be used side by side. The second version, the ICPC-2, consists of 17 chapters, each divided into symptom diagnoses (code numbers 00-30) and disease diagnoses (code numbers 70-99), and each diagnostic code in turn has a variable number of sub-codes. Additionally, there are several 'process codes', which have not been a preoccupation in this thesis (but see WONCA International Classification Committee 1998). The chapters situate the complaint in the body or mind, apart from two that are for conditions that are 'general and unspecified' or 'social' in kind. The chapters are:

A: General and Unspecified	L: Musculoskeletal	U: Urological
B: Blood, Blood Forming Organs and Immune Mechanism	N: Neurological	W: Pregnancy, Childbearing, Family Planning
D: Digestive	P: Psychological	X: Female Genital
F: Eye	R: Respiratory	Y: Male Genital
H: Ear	S: Skin	Z: Social Problems
K: Cardiovascular	T: Endocrine/Metabolic and Nutritional	

¹⁶ I do not mean to imply criticism at this stage. There is nothing inherently wrong or problematic about the State's appropriation of cultural resources, already used by the medical profession, for the purposes of accountability and control. As Harrison (2009) has argued convincingly, formal medical classification systems are well-suited to managerial purposes. At any rate, unless the alternative were to pay whatever hospitals demanded, control over public expenditures requires some kind of classification system. Here, the point is simply to draw attention to this important feature of how parts of medical knowledge have been made part of the State's regulation of the profession.

Like the ICD in secondary care, since 1992 the ICPC has been a device for financial coordination, whereby GPs are reimbursed upon registering codes with the relevant health authorities (Brage et al. 1996). However, it is also an important means of communication between the health services and NAV. In Article 1, I explore the manner in which MUS are classified by GPs within the boundaries of the ICPC-2. Although the MUS category is not an official diagnosis in any of the WHO's international classifications, I show that, contrasting popular claims in the research literature that MUS 'cannot be diagnosed' (Jutel 2010a: 230) or classified (Kornelsen et al. 2016: 367), MUS is routinely diagnosed/classified in the bureaucratic sense of assigning diagnostic codes to individual cases. Moreover, I show that the manner in which GPs classify MUS runs counter to the way in which diagnosis is perceived in the medical literature and runs counter to the formalistic norm that GPs should convey factual information about the patient's state of health in a disinterested manner. For GPs classifying MUS, the diagnostic categories are more about future utility than their present veracity.

Originally, the ICPC was designed for a very different type of usage than the ICD. Rather than classifying according to the professional's opinion of the patient's complaint, the ICPC was designed to classify the patient's *reason for encounter* (WONCA International Classification Committee 2005: 2). In other words, the target of classification was by design not the patient's 'objective' state of health but her or his 'subjective' understanding of that state (Armstrong 2011; WONCA International Classification Committee 1998). This is in sharp contrast with the purpose of the ICD which was originally to classify objective causes of death – and later of health issues in general (Bowker and Star 2000). However, despite the designers' intentions, the actual application of the ICPC is rarely dictated by patients' subjective understandings (Armstrong 2011; Botsis, Bassøe, and Hartvigsen 2010). It is used more like the ICD, with a view to classifying objective health problem, as understood by the doctor.¹⁷ This is not least because this is what NAV expects. There are probably a number of complex reasons for this, one of them being how doctors are typically trained to think about

¹⁷ At times, as I demonstrate, it is used instead with a view to the anticipated outcomes of classification (see Article 1).

disease as objective (Hunter 1991; Montgomery 2006) and to help even those who cannot see that they are sick.¹⁸

Returning to the narrative of co-optation, the point is that, in addition to the biomedical orientation of the health insurance legislation and the medical certificate form, the State has made medical classification systems a shared terminological medium for coordination between health care and the insurance bureaucracy. This raises the question of the power and autonomy of the medical profession vis-à-vis the State (e.g. Pescosolido 2013): is the co-optation of medicine by the State increasing or diminishing professional power? The answer cannot be determined by the mere fact of co-optation; what matters is how the profession responds to imputed standards and control mechanisms (Timmermans and Berg 2003).¹⁹ In my case, one way to interpret the State's co-optation of biomedicine is as medicine having influence over core regulations of state affairs. As such, it is a sign of medical power and the success of biomedicine – the idealization of scientific and biomedical forms of knowing.

However, it can also lead to medical disempowerment. This is what I argue in Articles 1-3: because biomedicine is an important regulatory ideal, and because MUS do not fit with the biomedical model of disease (as there is no simple way of demonstrating that the cause of the symptoms is disease), GPs find themselves fighting for credibility and authority with NAV (and with *themselves*, as I argue in Article 2). Thus, rather than simply transmitting information about patients' medical conditions, I describe GPs' construction and transmission of information to NAV with a view to securing specific outcomes at the bureaucratic gates. In doing so, GPs must employ forms of knowledge other than scientific biomedicine – practical and experience-based syntheses, including their practice-based knowledge of how to draw effectively on the institutional resources in their environment.

Concluding remarks

GPs are central actors in the health care system, and are important mediators between the systems of health care and health insurance. The health insurance system has adopted

¹⁸ As an exercise in counterfactual history, one might also consider how unlikely the State's incorporation of the ICPC as a means of coordination between health care and health insurance would be, if it were used according to its design. It is hard to imagine the State allowing access to benefits to be conditioned primarily on what patients *think* is wrong with themselves.

¹⁹ In the Norwegian context, it is not even necessarily a matter of the State *versus* the profession, but of the profession as a key player and negotiator of tensions *within* the State, between the Ministry of Health and Care Services and the Ministry of Labour (under which NAV is organized). Consequently, GPs as a sub-profession are variously entangled *in* the State and are an agent *of* the State, whose bundle of tasks includes coordination between politico-administrative state bodies (the ministries).

biomedical conventions about what diseases are, and knowledge-based artefacts in the form of medical classification systems for regulatory purposes. Although the Norwegian system and the GP's role in it has features that make it unique, other features recur in health care and insurance systems in many national contexts in Europe and the political West – in particular the features emphasised here, namely that doctors coordinate care within the health care system and between care and health insurance, and that health insurance policies are influenced by biomedical ideals (e.g. Meershoek, Krumeich, and Vos 2007; Mossialos et al. 2016; OECD 2016, 2010).

Chapter 3: theoretical framework

In this chapter, I describe the theoretical bases for the thesis. Although each of the four articles engage with different theories, here I focus on the theoretical perspectives that underlie the thesis as a whole. These perspectives are not always strongly present in the articles but they have informed my thinking throughout the thesis and bind it together. In the following, I account for these perspectives and indicate how I have used them.

Interface management as medical work

GPs think MUS are difficult work. The central problem under investigation here is why they think that and what they think they can do about it; what is it that makes MUS difficult work and how are these difficulties addressed? I have approached these questions with a view to complications related to specific professional tasks. Abbott (1988: 40–52) provides a useful analytical typology in this regard of what he calls ‘the three acts of professional practice’. These are *diagnosis* (classifying a case), *inference* (reasoning about a case) and *treatment* (acting upon a case). As indicated by Abbott’s ‘systems approach’ to professions and their work, these tasks are performed against a certain cultural and political backdrop, within social systems that are populated by specific institutional arrangements and knowledge-based artefacts (such as the health care and insurance systems described in Chapter 2). Diagnosis thus relates to existing classifications and the task of assigning official diagnostic categories to patients, inference relates to medical knowledge about health conditions and interventions and treatment relates to existing options, available resources and technologies, the acceptability of procedures and risks to patients and so forth.

My intention was thus to think specifically about the performance of this bundle of professional tasks within their relevant social contexts. In that regard, a concept that gradually grew in importance to my explorative efforts was ‘interface management’, drawn from an article by Rosenberg (2002). According to Rosenberg (2002: 253), ‘the clinician can be seen as a kind of interface manager, shaping the intersection between the individual patient and a collectively and cumulatively agreed-upon picture of a particular disease and its optimal treatment’. Moreover, Rosenberg indicates that the role of the interface manager is both empowering and constraining due to its embeddedness in social context:

On the one hand, the physician’s status is enhanced by serving as an access provider to the knowledge and techniques organized around disease categories. Yet at the same time, the physician is necessarily constrained by the very circumstantiality of that generalized knowledge, by increasing tightness of diagnostic and treatment guidelines (...). Although this pattern of practice is described

and justified as 'ensuring quality,' in the terminology of contemporary health administration, slippage, frustration, communication failure, and unmet expectations are inevitable (2002: 253).

I found the notion of doctors as interface managers analytically inspiring: it sparked off lively imagery of health care systems as antique telephone switchboards, operated by doctors who physically connect patients to medical resources by 'plugging' them into the appropriate 'electrical sockets' of the system and triggered other visions that cast the abstract work of diagnostic classification and therapeutic decision-making in a pragmatic and tangible light. Moreover, Rosenberg's concept indicated how aspects of institutional arrangements can make this role a source of power and constraint for doctors, thus pointing the analyst in the direction of relevant contextual factors when exploring how and why medical work is complicated by MUS (such as those described in Chapter 2).

I wanted to use this concept to explore medical work with MUS in primary care. However, the above is more or less all Rosenberg has said about interface managers. He only uses the term *once* in the article (as cited above), and apart from an article revision in a monograph (Rosenberg 2007: chap. 1), he does not, to the best of my knowledge, refine or even use the term in his later work. Nor have others, as far as I have been able to ascertain. Below, I will elaborate on the concept and clarify how I have used it to study GPs' management of MUS.

First, rather than the interface manager as a professional role, I wanted to focus on interface *management* as a type of professional work.²⁰ To an extent, all work is about solving problems and GPs' interface management solves 'medical problems' by making connections between 'interfaces' in the relevant institutional environment. I define 'medical problems' as problems of transforming 'patient problems' into 'solvable problems', where patient problems are the reasons patients give for consulting the health services and solvable problems are ones where the GP 'knows what to do next' (Berg 1992: 155). GPs' solutions are thus about action and utility, not some form of 'correspondence realism': they tell us nothing about whether the patient's problem is correctly understood and factually fixed, nor whether the solution was the best choice of the ones available. 'Solutions' are always revisable: we may come to consider them as erroneous, unwise or unreasonable, and past solutions may become our present problems. 'Solutions' are therefore connections that are considered to resolve medical problems *here and now*.

²⁰ I have followed Becker's (1998, 44–46) advice to turn types of people into types of activities in this.

Interface management is thus the work of solving medical problems – of transforming patient problems into solvable problems – by constructing connections between the various interfaces in the social system in which the operator is embedded. It is reminiscent of what Mintzberg (1989: chap. 10) has dubbed ‘pigeon holing’, consisting of fitting idiosyncratic cases into pre-set standardized ‘solution programmes’ (such as ‘by-pass surgery’, ‘hip replacement’ or ‘dietary counselling’). Evidently, working with MUS makes (aspects of) interface management complicated, meaning that it is somehow more difficult to make successful connections that solve the medical problems these symptoms represent. Importantly, as other actors (patients, their family, other doctors and bureaucrats) are implicated in the connections GPs make, any ‘solution’ depends on other actors’ responses to it, in order for it to work. Interface management is therefore a fundamentally other-oriented, social practice in Weber’s sense (1978).

Second, I wanted to make interface management a ‘meta-category’ of professional work. The point was not to level out differences between tasks, but to look at each from the point of view of solving medical problems by establishing connections between elements in the institutional environment. The work was already ‘meta’ in Rosenberg’s (2002: 253) brief account of interface managers, which included both diagnosis and treatment. Here, however, I include all three tasks from Abbott’s (1988) typology. I understand interface management to include inference, in addition to diagnosis and treatment, not least because looking up facts, procedural guidelines and the latest research – an increasingly important part of clinical work and medical training (e.g. Cooke, Irby, and O’Brien 2010; Timmermans and Angell 2001) – can be conceived of as making connections between elements in the knowledge system and a given case. More fundamentally, however, I have thought about the act of reasoning itself as involving connecting theories, categories, narratives, rules of inference and ‘sense data’. Treating the typology as instances of interface management would also sensitize me to possible interactions between tasks.

Third, I did not want to restrict interface management to its formal aspects but instead include 1) all manner of elements to which GPs connect their cases, and 2) all manner of ways those connections may be established. Thus, diagnosis includes what we may call ‘informal diagnostic categories’ (for examples, see Dobransky 2009, 2011; Hughes 1977; Jeffery 1979); inference includes the informal and lay knowledge that is part of doctors’ thinking (Hughes 1977; Montgomery 2006); treatment implies a wider sense of ‘acting upon a case’, including actions that are not represented by codes in diagnostic manuals (Chapter 2) or that are not

typically thought of as ‘treatments’.²¹ Regarding diagnosis, my approach also departs from Rosenberg’s ‘disease-centeredness’.²² After all, GPs (and other doctors) routinely manage care for patients who are injured or disabled but not understood to have a disease. Moreover, GPs manage interfaces to solve medical problems where the disease status is questionable or in doubt.

I thus use the term ‘interface’ in a wide, metaphorical sense. From the point of view of the operator (the GP in my case), interfaces are the boundaries (cultural or physical) surrounding anything with which a connection can be established. Thus, things whose interfaces are managed include *actors* in the form of nodes in social networks, with their related resources, competencies and practices; *knowledge* in the form of concepts, frames, models and norms of professional conduct but also embodied skills and habits; and *knowledge-based artefacts* in the form of various equipment, or as codified classification systems, guidelines, rules and regulations. An interface is whatever is made to function *as* an interface in the course of establishing a connection; whatever operators can and do connect (bring ‘face-to-face’) to solve medical problems.²³

Inspired by Rosenberg, then, I take interface management to be a meta-category of professional work. It places the doctor as an operator in the midst of complex social systems that consist of various interfaces and it proposes that a crucial part of medical work is making connections between these interfaces (connecting categories, people, practices, resources and technologies) as a means to resolve medical problems. In other words, actions such as explaining conditions to patients, or giving a diagnosis or a form of therapy, are viewed as if they were made up of connections. Moreover, it suggests that the success of such connections depends on the responses of other actors. The concept thus points in the direction of relevant contextual factors for medical work (including those described in Chapter 2) which in turn says something about what the relevant interfaces might be. If working with MUS involves practical and challenging complications, these complications must relate to the interfaces managed by the GP and they must manifest themselves in problems making connections.

²¹ In Articles 1-3, I show how diagnostic categories and health benefits are sometimes used for therapeutic aims.

²² Rosenberg’s article is about the historical development of ‘disease-specificity’ as a powerful notion in medicine. I am not thus criticizing *his* focus on disease, which was wholly appropriate.

²³ In some respects, interface management comes close to the notion of assembly in actor-network theory (ANT) (e.g. Latour 1987; Law 2009). However, interface management breaks away from ANT by focussing on human actors (professionals) and their actions.

As is clear from the above, managing interfaces is expert work that requires *knowledge*, both propositional (knowing that) and practical (knowing how, Ryle 1945). Knowledge is needed to know where and what the interfaces are and how they can be managed successfully (such as knowing what is the appropriate diagnosis or treatment plan). Many of the interfaces are themselves either forms of knowledge (medical models or categories), knowledge-based practices (such as medical examination or patient counselling) or knowledge-based artefacts (such as diagnostic manuals or clinical guidelines). In order to explore how and why interface management is complicated by working with MUS, and what GPs can do about it, we need a clear understanding of *knowledge*, of what it means to apply knowledge in the course of institutionally embedded medical work. To that end, I draw on insights from the sociologies of knowledge and culture. From the sociology of knowledge, I use *finitism*, a general social constructivist theory of knowledge developed by members of the Strong programme (Bloor 1991). From the sociology of culture, I use ‘repertoire theory’ (Swidler 2001). In the following, I account for these perspectives and indicate how I have put them to use to clarify my thinking about interface management as knowledge-based medical work.

Finitism and the sociology of knowledge

For a constructivist²⁴ framework for thinking about expert medical knowledge and its application in medical work, I lean on the Strong programme from the sociology of knowledge (Bloor 1991), also known as the Edinburgh school in the sociology of scientific knowledge, or SSK for short (Barnes, Bloor, and Henry 1996). From its beginning in the late 1960s and early 1970s, SSK’s goal has been to develop an understanding of scientific knowledge as a thoroughly social phenomenon (Enebakk 2008). As Shapin (1995: 297), one of its originators, has put it, ‘SSK set out to (...) to develop an anti-individualistic and anti-empiricist framework for the sociology of knowledge in which “social factors” counted not as contaminants but as constitutive of the very idea of scientific knowledge (...)’. That is, SSK wanted to show that social factors are ‘a necessary condition for making, holding, extending, and changing knowledge’ (Shapin 1995: 300), even with regard to what we consider valid and objective knowledge, rational thought, logical inference and so on. In SSK, ‘the differences between the scientific and the everyday notions [concepts, theories, etc.] are interesting but not at all fundamental’ (Barnes, Bloor, and Henry 1996: 61).

²⁴ Or ‘constructionist’; I understand the terms to be synonymous.

My interest here is in SSK's general theory of knowledge, scientific or otherwise, often called 'meaning finitism', 'sociological finitism' or just 'finitism' (e.g. Barnes 1982: chap. 2; Barnes, Bloor, and Henry 1996: chap. 3; Bloor 1997: chap. 2). Although it was considered radical (Shapin 1995) and has been the subject of much heated debate (e.g. Gross, Levitt, and Lewis 1996; Hollis and Lukes 1982) – most notably in the so-called 'science wars' (see Hacking 1999) – finitism overlaps in important ways with other mainstream constructivist strands in sociological theory. In particular, it shares its insistence that social reality is continually brought about in situated action (e.g. Barnes 1995: 91) with ethnomethodology (Garfinkel 1967), symbolic interactionism (Blumer 1969) and the phenomenologically anchored constructionism of Berger and Luckmann (1966). Moreover, it overlaps on many points with American pragmatism, in particular in insisting that logic and reasoning cannot be separated from the basic human condition (Shapin 1994: 6–7; Weinberg 2009: 290). I draw on SSK and finitism not because of its originality but because I find it to be coherent and precise about the social character of knowledge, including often disputed matters (e.g. relativism and expert judgement) when the topic is the application of knowledge in medical work.

Knowledge as social construction

Finitism begins from a simple premise: Although there is a world, and although we are capable of making sense of and intervening in it, the world does not tell us *how* (Barnes 1988: 50). Luckily, though, there are others to teach us. We are born into cultures of pre-existing traditions for interpreting and acting in the world (Weinberg 2009: 291).

The learner is taught how to grasp things by other people, not by the things themselves, which remain silent and unconcerned. The right way to grasp things is established as convention in the tradition, and is transmitted in a social relationship involving trust in the teacher and acknowledgement of his or her cognitive authority. Which right way is taught will depend upon the tradition in which the learner is embedded (...). (Barnes, Bloor, and Henry 1996: 54)

In SSK, knowledge is fundamentally social; it constitutes the sets of beliefs and practices that are shared and endorsed in a culture (e.g. Barnes 1982; Bloor 1982, 1991: chaps 1–2). Knowledge thus refers to shared and accepted forms of reasoning and acting and we are made part of a culture when we learn how to reason and act according to its conventions.²⁵ This includes not just our primary socialization in early life, but also, for instance, socialization through education and vocational training; for example, when medical students learn to (be a) doctor, they learn how to reason medically and how to grasp and competently intervene in the

²⁵ In SSK, 'convention' does not denote arbitrariness ('mere convention') but tacit or explicit agreement.

world according to medical conventions. Then, as we become members of a culture (or typically, of several), we start to act on its behalf. The members' shared ways of reasoning and styles of practice are what in turn constitute the culture and its conventions: students learn to practice medicine, and by practicing they in turn over time produce what the next cohort must learn. Thus, the shared and collectively endorsed beliefs and practices of the community are what constitutes the knowledge of that community. To say that knowledge is socially constructed is therefore to insist on the role of interaction between human actors in bringing knowledge about. It does not tell us anything of its worth or potential; it simply points us in the direction of human interaction and social context when we wish to understand what knowledge is and how it is brought about.

The consequence of these basic insights is that knowledge, according to finitism, *is an institution*, defined as 'a collective pattern of self-referring activity' (Bloor 1997: 33; see also Barnes 1983, 1988: 46–54). For instance, the leader of a gang is only the leader of the gang if we recognize and treat that person as such (Barnes 1988: 51), like the way that a profession is only a profession if we recognize and treat it as such. Therefore, the truth of the claims that 'that person is the leader of the gang' or 'medicine is a profession' depends on how the person and group in question are treated and understood in a community and on that community's understanding of the terms 'leader' and 'profession'. Knowledge about natural phenomena, such as gravitational waves (Collins 2017), lower back pain or cervical cancer, is self-referring in just the same way. As knowledge, it is 'constructed by people and used to make sense of nature, not (...) insisted upon by nature and imposed upon people by nature' (Barnes 1988: 50). This is a core insight from finitism: *knowledge is whatever people collectively take to be knowledge* (Bloor 1991: 5). Or as Kusch (2004) has put it, knowledge is knowledge by virtue of agreement. Not always explicit agreement. But beliefs and practices are only true, right or good to the extent that it is tacitly or explicitly agreed that they are. This agreement must be *achieved* in continued and concerted practice. To say that knowledge is socially constructed, therefore, is to insist that it is an institution, a fundamentally social phenomenon.

Contrary to popular and surprisingly pervasive misunderstanding (as evidenced in e.g. Bhaskar 1989; Boghossian 2007; Bury 1986; Gross, Levitt, and Lewis 1996; Hollis and Lukes 1982; Peterson 2012), however, saying that knowledge is socially constructed is *not* the same as saying that it is 'only' or 'merely' a social construct (Shapin 2010: 34). As Atkinson (1995: 43) has put it, 'a constructivist view does not imply that actors whimsically conjure reality out of thin air'. Social constructionism, at least in the vein of SSK, does not exclude the role of

evolved psychological dispositions or of physical reality. Rather, it presupposes both (e.g. Barnes 1977: 10, 1988: 47–49; Barnes, Bloor, and Henry 1996: 76–79; Bloor 1991: chapter 2, 1997: 20): Knowledge, according to finitism, rests on the human animal’s capacity for pragmatic, goal-oriented engagement with its environment. Thus, ‘no theory could ever show that knowledge was “purely social”, for our psychological and physical make-up can never be ignored’ (Bloor 1978: 266). Crucially, however, such capacities are insufficient to account for knowledge: mind and matter are not enough. Collectives and their conventions are indispensable. Consider, for instance, technical practices such as clinical examinations for back pain or pelvic surgery:

Obviously, people are here interacting with their material environment: they are not just operating in the sphere of thought, forming idle opinions or dreaming dreams. Nevertheless these are socially organized and socially structured activities in a deep and interesting sense. There are many ways of doing these things, and no unique criterion for deciding how well they have been done. They are done for many different purposes and in many different styles, and with many different understandings of how and why they have gone wrong or fallen short (...). No sociologist should deny the non-social, material and psychological basis of such activities; but conversely, no account that omits the social dimension can be plausible or complete, or do justice to the historical facts (Barnes, Bloor, and Henry 1996: 33).²⁶

According to finitism, therefore, a satisfactory constructivist account of knowledge must include material reality and cognitive endowments (Barnes 1974, 1977: 10; Bloor 1991: 34). But it must also include institutions and socialization, since knowing how to do things correctly or well is knowing how to do things in accordance with an established convention (Bloor 1997; Weinberg 2009: 291). Thus even though examining and operating on patients are real events, with real people and bodies moving and making gestures in an actual material environment, and even though all of this affects the procedures and their outcomes, the *validity* of these procedures and their outcomes is ultimately determined not by material reality but by social convention. Neither ‘a correct diagnosis’ nor ‘a successful surgical procedure’ is a natural phenomenon with a self-evident meaning: ‘correctness’ and ‘success’ are verdicts; judgements people make in context, drawing on shared evaluative standards. There is no sociologically relevant way of being right other than by being found to be right, and no judgements of ‘rightness’ can be made outside of a social and normative context. To say that knowledge is an institution is thus to highlight its regulative or normative character (Bloor 1997).

²⁶ In the excerpt cited, the authors are actually talking about ‘abilities like weaving cloth and making pottery’ but the points they make are no less relevant to abilities exercised in the course of various medical practices.

Finitism thus indicates that the task managing the interfaces in the system of medical knowledge cannot be viewed in isolation from social convention: fitting symptoms with the *right* concepts and treatments is necessarily also always the task of aligning one's approach with that of relevant others and with conventional understandings of appropriate medical practice. Consequently, finitism implies that knowledge is both something actors 'have' as a form of resource, and something that exists between actors in the form of shared conventions that can place significant constraints on their behaviour. Finitism thus makes knowledge both trait and context, resource and restraint. Moreover, it suggests that neither 'ambiguous' nor 'medically unexplained' refers simply to inherent qualities of symptoms, but of how they are understood and treated in context.

Application and production of knowledge

The finitist view influences what it means to *apply* abstract knowledge in specific instances, which is a key concern in improving our understanding of interface management and the performance of related tasks, such as medical certification or diagnostic classification.

According to finitism, the application of concepts (or the following of a rule/norm) is always a situated act that is *underdetermined* by the complexity of reality and by the specificity and boundedness of experience (Barnes 1982: chap. 2; Barnes, Bloor, and Henry 1996: chap. 3; Bloor 1997: chap. 2).²⁷ The current situation in which we act is always to some extent unique, as is our bounded (or *finite*) number of previous experiences. This makes the practical problem of determining what the present situation is *a case of* open-ended. According to finitism, in order to determine if, say, situation X is a case of A or B, we must draw a *similarity relation* between X and previous situations considered instances of A or B (e.g. Barnes 1982: 22–29). To do this, we must emphasize certain aspects of X that appear similar to past As or Bs and ignore other aspects that do not. We must construct an analogy between the present situation and specific past situations (Barnes, Bloor, and Henry 1996: 54). This is how a case is established as 'a case of' something. To draw a similarity relation is thus to make a *connection* between specific cases, typically between a present case and one or more previous cases. In finitism, these connections are always humanmade constructions, and constructing them is a basic mental operation of the human animal that we are entirely dependent on and would not want to wish away; it enables reasoning, learning and understanding in the first place (Barnes, Bloor, and Henry 1996).

²⁷ In this, finitism draws on a sociological reading of Wittgenstein, see Bloor (1997, 1983).

The point of stressing open-endedness is not to suggest that concept application is typically *experienced* as problematic for the actors themselves. In most cases, the construction of similarity relations does not *feel* open-ended at all. The appropriate connection appears to us, so to speak, as a given, as a pre-existing fact of reality. But this is the result of a trick we play on ourselves, whereby we mistake the workings of our conventional habits with those of nature. If we fall for our trick, we lose sight of the role of socialization and of shared conventions. An important reason to be aware of our part in constructing similarity relations is that once they are credibly established, the work of establishing them becomes almost invisible to us. The amalgam of highlighted similarities and ignored dissimilarities fades into X being a case of A or B (or C and so on). The point of stressing open-endedness, socialization and context is thus that it opens up all inferences, from the everyday to the esoteric, to sociological inquiry.²⁸

It follows that *knowledge application is itself a seminal form of construction*. Actors cannot simply apply knowledge without simultaneously *reproducing* it, often introducing subtle changes along the way (Barnes, Bloor, and Henry 1996: chap. 3). Think, for example, about language (Shapin 1992): a language is an institution, constituted by collective patterns of self-referring activity. The meanings of words are not given, but are determined by the manner in which they are used. The stability of meaning we experience derives from a collective pattern of usage, and it is this pattern that guides our future use. In that sense, I might instead have talked about the production and reproduction (or even the ‘translation’, ‘transformation’, or ‘transmutation’) of knowledge (e.g. Freidson 1988 [1970]: 346). The point of drawing ‘application’ into the picture is to emphasize the problem of fitting general concepts and precepts to particular cases, which is just as relevant in scientific work as in clinical work.²⁹ Our conceptualization of interface management is also important here: in connecting cases to categories and procedures to solve medical problems, GPs also contribute to the ongoing self-referential patterns of activities that make up our understanding of what those categories and procedures are, and what their proper function is. Thus, according to finitism, knowledge is shaped in the process of applying it, meaning that the work of connecting interfaces to solve medical problems is itself part of the ongoing (re)negotiation of the medical profession’s knowledge, and the social function of knowledge-based artefacts.

²⁸ Opening up, however, is not the same as being able to study and make sense of something.

²⁹ The distinction between production and application also opens up a space to discuss the way science and clinical practice are each other’s supplier and consumer of knowledge. I discuss this further in Article 4 and Chapter 6.

Knowledge and its anomalies

Another insight from SSK is that beliefs and practices may be more or less institutionalized; patterns of collective self-reference may be *more or less stable*. When beliefs and practices are highly institutionalized, they become a source of stability and coordination in social intercourse (Barnes 1983, 1988: chap. 2): Sharing knowledge means sharing expectations about what the world is like and about how people ought properly to behave. It means sharing a way of life. Conversely, when the institutionalization of beliefs and practices is destabilized or even unstable, coordination suffers, resulting in an increased need to negotiate basic things, such as how the present situation should be defined or how to proceed.³⁰

Highly stable beliefs and practices can, paradoxically, also be an important source of disorder and instability. From the point of view of finitism,³¹ shared and conventional beliefs about the world can make aspects of reality seem problematic to us, simply because the world is not as expected. *Knowledge can make things disorderly and problematic.*

This point can be illustrated with the concept of an ‘anomaly’ (Kuhn 2012 [1962]: chaps 6–8).

³² Following Kuhn, phenomena are not anomalous (or ambiguous, deviant, disorderly, strange, etc.) on their own, but within the context of a specific *paradigm* (an ‘exemplar’ or an accepted ‘problem-solution’, see Barnes 1982: 17–19). Phenomena are anomalous because they are found to deviate from ‘paradigm-induced expectation’ (Kuhn 2012: 53), from what reality is *supposedly* like. For Kuhn (2012), the significance of anomalies was their propensity to generate scientific discoveries, and on occasion their propensity to destabilize conventional beliefs and practices in science, spurring what he called a ‘scientific revolution’. Although common in scientific puzzle-work, and although they are frequently simply ignored, some anomalies resist attempts to resolve them and become intractable and annoying (Barnes 1982; Kuhn 2012; Star 1985). In these cases, anomalies may turn into crises, fostering instability and changes to the paradigm that made the phenomena anomalous to begin with (Kuhn 2012).

When applied to the theme of this thesis, the insight that stable knowledge can make things problematic implies a *relational* view of the ambiguity of MUS: symptoms such as back pain, fatigue or headache are not ambiguous on their own, but *become* ambiguous in specific institutional contexts. Symptoms are *ambiguated* (rendered ambiguous) against the backdrop

³⁰ Put more positively, destabilization spurs more creative action (Joas 1996).

³¹ Drawing extensively on Douglas (2002, 2003), Kuhn (2012) and Lakatos (1976) (see e.g. Barnes 1982; Bloor 1978, 1982).

³² Kuhn never much liked what sociologists of science made of his work (Hacking 2012: xxxvi).

of some shared and stable epistemic and practical conventions. The dialectic between knowledge and anomaly thus suggests that the system within which medical problems are managed may be an important reason why such problems become intractable – the difficulties of working with MUS may be related to specific interfaces and the conventional understanding of how they should interconnect. The problems associated with working with MUS might thus have something to do with stable views about the world and stable approaches or ‘problem solutions’ in medicine, with the fact that certain tasks need to be performed according to certain conventions.

Relativism and instrumentalism

Before moving on, I clarify two aspects of the finitist perspective: First, based on the above, finitism implies relativism. Contrary to popular assumption (e.g. Boghossian 2007: 3), however, it does not imply that any belief or action is as valid or virtuous as the next (it does not imply an ‘equal validity thesis’, see Bloor 2007: 263, see also 2008). Any realistic theory of knowledge must allow for the practical distinction between valid and invalid beliefs and practices, since such distinctions are a routine aspect of social life. Finitism has no quarrel with this fact but insists that these distinctions are situated achievements. It is perfectly permissible to distinguish between, say, subjective claims and objective knowledge, or to believe that you have followed a procedure correctly, only to be told that you have violated it instead (Kusch 2004). The validity of such distinctions derives not from their correspondence with material reality or some platonic universals in an ideational realm, nor from psychological conviction, but from the institutional character of shared standards of judgement (Bloor 1984; Kinzel and Kusch 2018). In the finitist point of view, the final arbiter of truth and virtue (as judgements made about beliefs and actions) is located in the social realm, in the form of institutions (Bloor 1984, 1997: 33).

Second, matching its relativist orientations, finitism has a strong *instrumentalist* orientation (e.g. Barnes 1977; Weinberg 2009). However, in my view, SSK could go further in specifying what this means for the substantial understanding of knowledge, especially since the emphasis on the institutional character of knowledge risks overshadowing the instrumental aspect, making knowledge a ‘hollow shell’. It is reasonable, I think, to add that the common feature of beliefs and practices that makes them knowledge is their pragmatic potential. Thus, I think the term knowledge refers to *collectively endorsed capacities* to think and act.³³ I think the

³³ If we accept thinking as a basic form of action, it refers simply to collectively endorsed capacities to act.

actionable aspect of knowledge deserves further emphasis. Within the context of a specific collective and its conventions, to have propositional knowledge about X is to *be able* to account for or reason about X in the conventional manner, just as having practical knowledge of X is to *be able* to perform X in the conventional manner. Thus, knowledge as the capacity to perform is ascribed to actors and verified by performances that accord with convention or, more typical of modern societies, by reference to some form of certification (Shapin 1994). Phrases such as ‘to have knowledge’ or ‘to be knowledgeable’ or simply ‘able’ rest on and are ascriptions of this sort. In other words, knowing how to account for, reason about and act in accordance with convention represent the core of what it means to have knowledge. This places priority on pragmatic utility over some notion of absolute truth (but, importantly, it preserves the social importance of truth as a pragmatic distinction or judgement – not to mention objectivity, logic and rationality; see Bloor 1984, 1991: chap. 2).

Finitism thus clarifies how even expert knowledge and judgement depend on social context, but, importantly, it does so without trivializing the distinctions between valid and invalid inferences, or between reliable and unreliable information and information sources. This is important to understand challenges associated with MUS: As I argue in Articles 3 and 4, an important set of distinctions from biomedicine structure discussions about MUS, namely those between *subjective/objective*, *symptom/sign*, and *illness/disease*: MUS are referred to as *subjective* complaints without *objective* evidence, as *symptoms* without *signs* of disease, and as ‘illness without disease’ (Aarseth et al. 2016: 1391). These distinctions are culturally contingent conventions, contrasting sharply with, for instance, the symptom-oriented 17th century medicine of Sydenham or the ‘humoral pathology’ of antiquity (Jewson 1976; Jutel 2010a; Porter 1999). But the fact that they are social constructs does not make them trivial. In the systems of health care and health insurance, they are qualifiers of trustworthiness: ‘illness without disease’ means something like ‘personal and potentially biased testimony that is uncorroborated by impartial evidence of structural alterations in the body’ (see Article 2). Thus, MUS *become* ‘uncertain illness’ (e.g. Dumit 2006) in these contexts. It could be otherwise: it is not a fact of nature that people’s testimony about their health is less trustworthy than blood tests or x-ray images (Shapin 1994; Shapin and Schaffer 2011). To insist that these distinctions are social constructions is not to trivialise them, but to point our attention towards how they are variously supported or challenged by institutional arrangements in social systems, such as those of medicine and health insurance.

In sum, finitism offers a collectivist or institutionalist theory of knowledge anchored in actors' pragmatic engagement with sociomaterial reality; it shows how knowledge as an institutional phenomenon can be both a resource and a constraint; it also offers a precise and sociologically informed understanding of the problematics of concept application. It thus *opens up* the application of knowledge in interface management to empirical investigation. Nevertheless, for the purposes of thinking clearly about knowledge in interface management, finitism has two important and related limitations: it says little about *cognitive pluralism*, an essential aspect of modernity and modern medicine, or about actors' reflexive distance to their knowledge. To reinforce my account of knowledge in interface management, I therefore turn to cultural sociology's 'repertoire theory'.

Repertoire theory and cultural sociology

Repertoire theory, or the 'toolkit' approach, is primarily associated with the work of Ann Swidler (1986, 2001). The clear advantage of repertoire theory is its identification and accommodation of *cognitive pluralism* – of the fact that actors tend to know more than one way of thinking about or acting towards phenomena; that some such ways of knowing are contradictory; and that actors may strategically bring disparate knowledge to bear on problematic situations, like tools from a toolkit (Swidler 1986, 1986). Although not in contradiction per se, proponents of finitism have tended to talk about, so to speak, *one convention per collective*, and make those conventions *the engine* of thought more than the *object of it*. There are methodological reasons for this: finitism has predominantly been applied to so-called 'controversy studies' (Mukerji 2007), where scientists or scientific communities each champion a theory of their own in disputes over some issue – such as how properly to conduct science or whether vacuums exist (Shapin and Schaffer 2011). Less attention has been paid to varieties of belief *within* scientific communities. Regardless, the result is a theory that has little to say about the cognitive pluralism of single actors or communities and their potential for reflexive distance concerning their own knowledge.

Repertoire theory, on the other hand, is explicitly about actors' reflexive engagement with pluralistic repertoires. From the perspective of structural theory, it is to be expected that the size and complexity of actors' repertoires increase with the complexity of their status sets and role sets (Merton 1957), if for no other reason than the fact that increased complexity in these sets means more exposure to institutionally differentiated contexts where different beliefs and practices apply. The benefits of accommodating pluralistic repertoires of knowledge are

therefore increased in highly differentiated societies, where actors typically have large status sets and accompanying role sets.

In managing the interfaces of modern health care systems, GPs act in a variety of roles and situations (e.g. as therapist in doctor-patient interactions, as colleague in peer consultation, as gatekeeper in matters of prescribing, referrals and sick listing and as expert in mediating between the health care system and the insurance bureaucracy); add this to the complex bundle of roles and role models GPs have enacted and interacted with during medical school and clinical training and they are likely to have extensive repertoires of beliefs and practices at their disposal. Repertoire theory sensitizes the analyst to the presence of these repertoires (Swidler 2001: chap. 2): in this view, it is to be expected that doctors will have multiple (and potentially contradictory) sets of diagnostic procedures, medical models, patient categories, styles of explanation and so on. Repertoire theory thus adds to the complexity of interface management.

Repertoire theory also introduces a sense of *reflection* and *critical distance* between actors and their repertoires. This is perhaps best illustrated by the very metaphor of the toolkit, which implies that the actor can consider the array of tools on offer in the context of specific problems, situations and tasks. This does not preclude, of course, that actors often use tools habitually and unreflectingly, or that situations ‘actualize’ parts of the repertoire, thereby ‘choosing’ the appropriate tool for the actor, so to speak (Swidler 2001: chap. 5). But it adds useful emphasis to the actors’ potential for critical reflection, and thus for the strategic use, of elements of their repertoires. As repertoire theory opens up for this kind of strategic behaviour, it adds explorative power to interface management as an analytical concept: in addition to being what GPs as interface managers think *with*, knowledge becomes something they can think *about*, critically, creatively, playfully, and so on.

For these reasons, repertoire theory strengthens the understanding of knowledge in interface management in this thesis. In particular, it points in the direction of strategic and instrumental uses of knowledge as a means to solve problems, and in the direction of different forms of knowledge GPs might possess. This helps us see how interface management can take on an adaptive, creative and reflexive character. It has been of importance to the analytical work in Articles 1-3 in particular, helping me see of how GPs can adapt their diagnostic classification, their medical inference, and their sickness certification practices to the lack of fit between systemic ideals and clinical reality when working with MUS. At least to some extent, GPs learn to switch between medical modes of thinking (Article 2), and to draw on knowledge

about the meaning and function of diagnostic categories and forms of information to anticipate how other actors will response to proposed interface connections (Articles 1 and 3).

Combining theories

There are overlaps between finitism and repertoire theory. Like finitism, repertoire theory highlights how actors come to new situations with knowledge gained in previous encounters. This has useful methodological implications: it means that the analyst can analyze speech acts as active and creative assemblages from bits and pieces of the repertoire in response to the interview questions (see Chapter 4). Thus, written words and oral speech becomes a source for learning about shared and accessible repertoires, about knowledge. Moreover, like finitism, repertoire theory takes an instrumentalist approach to knowledge and it makes knowledge a thoroughly social phenomenon (Swidler 2001: chap. 2).

There are also areas of contention between the theories and I will discuss two of them. First, repertoire theory was developed in opposition to classical theories of socialization, whereby individuals *internalize* their culture as an elaborate cognitive representation (Swidler 2001; Lizardo and Strand 2010). Although this by itself is no problem for finitism, repertoire theory can be read as giving too little emphasis to the role of socialization (Lizardo and Strand 2010). Finitism, on the other hand, places central importance on socialization into a shared ‘way of life’, without which basic competence in adhering to rules or abiding by tradition is impossible (Barnes, Bloor, and Henry 1996; Bloor 1997). For finitism, advanced cultural elaborations – such as those displayed in scientific research or scholarly debate – rest on a foundation of learned and taken-for-granted assumptions and habits. However, this difference between the theories is not insurmountable (as suggested by Lizardo and Strand 2010) and here I take it to be the case that repertoire theory is useful for thinking about reflexive and strategic approaches to knowledge and institutional arrangements *when and where they occur*.

Second, finitism and repertoire theory differ in their views of institutions, and of the distinction between ‘the social’ and ‘the cultural’. These differences do not come to the fore in how institutions are defined: although Swidler (2001: 202–4) does not explicitly choose a single definition, her candidates are all broadly compatible with finitism. However, the problem appears when Swidler (2001: 160–206) differentiates between institutions (and social structures) on the one hand, and culture on the other. Consider the following passage:

[P]eople create more elaborated culture where action is more problematic. As institutions constrict discretion, they reduce the need for cultural elaboration. (...) Culture then flourishes especially lushly in the gaps where people must put together lines of action in relation to established institutional

options. Culture and social structure are thus, in the widest sense, reciprocal. People continue to elaborate and shore up with culture that which is not fully institutionalized (Swidler 2001: 132).

Swidler treats culture and institutions as different things, even as in a dialectic relationship with one another. The basis for the distinction appears to be that *institutions are stable* whereas *culture is dynamic*, and that an increase of the one (e.g. institutions/stability) gives a decrease of the other (e.g. culture/dynamism). Thus, according to Swidler, there is *less* culture where there are institutions since the latter ‘reduce the need for cultural elaboration’, just as there is *more* culture where institutions are absent. Moreover, as well as treating institutions as *other than* culture, Swidler seemingly reserves institutions to a rather narrow cluster of phenomena (a restrictive use that does not follow from her bundle of definitions).³⁴ For instance, she distinguishes institutions from ‘semiotic codes’ (2001: 179), interpretative conventions that help actors settle meaning in situ.

This way of talking about institutions is quite different from finitism. In finitism, there is no ‘reciprocity’ between culture and social structure, since social structures are an important part of culture. In finitism, *institutions are cultural phenomena*. That is why the study of scientific knowledge is also typically presented as a study of scientific culture (e.g. Barnes 1982: 5, 9, 10, 15, 18, etc.). In this view, semiotic codes are themselves institutions, brought about by collective and self-referring practices (‘symptom X indicates diagnosis Y’ and so forth). Competent actors must know how to use the code correctly, and the correct way to use it is in turn constituted in the practice of its use in social intercourse (‘symptom A is an X, and therefore indicates diagnosis Y, symptom B is not an X, and therefore does not indicate diagnosis Y’, etc.). Moreover, it is senseless from a finitist point of view to talk about *present* and *absent* institutions. Rather, phenomena are *institutionalized* to varying *degrees*; collective patterns of self-reference are more or less *stable*. Strategic and creative action (‘cultural elaboration’) of the kind Swidler describes is therefore a response to less stable, rather than absent, social patterns.³⁵

³⁴ I note that Swidler (2004, 9) is sceptical about making institutions a concept that is too encompassing. However, she is dissatisfied with her own conceptualizing efforts: looking back on her work, Swidler notes that ‘the next frontier of cultural analysis will require better formulations of what “institutions” and “institutionalization” mean, and better methods of studying them as cultural realities’ (2004, 9). The point here, though, is that in her own analyses of culture in action, Swidler tends to treat institutions as something other than culture. I think this is a mistake (and she seems to agree, given her motivation to study them ‘as cultural realities’): Rather than fearing an all-encompassing notion of institutions, I suggest we instead treat *institutionalization* as an aspect of all social phenomena, and reserve the reified notion of an institution to those cases where the phenomena in question exhibit a minimum degree of stability.

³⁵ I imagine that Swidler agrees with this. My point here is that her work invites confusions that I wish to avoid.

In using repertoire theory, I have therefore adapted its stance on institutions and the social/cultural distinction to the finitist framework. I thus take culture to be synonymous with knowledge (cultural repertoires of ideas³⁶ and practices) and knowledge-based artefacts to be synonymous with manufactured ‘cultural objects’ (quilts, pottery and paintings, but also drugs, diagnostic manuals, microscopes, plaster, scalpels, scientific journals, etc.). Like knowledge, culture is instrumental in the sense that it is something that can be more or less adapted to our present purposes but never *true* in an absolute sense. To become a competent member of a society, one must learn its culture – its repertoire of conventions – so that one can take part in society in the culturally appropriate way. You must have knowledge of how to think and act, of how to use words and symbols, to convey meaning appropriately.

Thus, in a finitist reading, the passage above implies the following: when social life is *less institutionalized*, negotiations are more frequent and elaborate. This is how I choose to read Swidler in this thesis: repertoire theory suggests that the strategic use of ‘culture’ (or knowledge) is both enabled and in demand when social practices a) are less stably institutionalized or b) are stably pluralistic. In this thesis, I add a third type of situation: cultural elaboration is also in demand when strong and stable institutionalized conventions are difficult to adhere to: when, as suggested above, reality fails to meet our paradigm-induced expectations. The stricter the untenable ideals, the higher the demand on creative action (Joas 1996).

In closing, I note that assimilating culture and knowledge is not a novel approach in the sociology of knowledge. When setting out the aims and principles of the sociology of knowledge, for instance, Merton (1968: 521) has noted that

Knowledge has often come to be assimilated to the term ‘culture’ so that not only the exact sciences but ethical convictions, epistemological postulates, material predications, synthetic judgements, political beliefs, the categories of thought, eschatological doxies, moral norms, ontological assumptions, and observations of empirical fact are more or less indiscriminately held to be ‘existentially conditioned’.

When conducting studies into the sociology of knowledge, he therefore suggested that ‘The term “knowledge” must be interpreted very broadly indeed, since studies in this area have dealt with virtually the entire gamut of cultural products (ideas, ideologies, juristic and ethical beliefs, philosophy, science, technology)’ (Merton 1968: 510). Swidler has made similar

³⁶ Including beliefs, assumptions, categories, ethical convictions, hypotheses, postulates, principles, theories and so forth.

remarks herself when outlining ‘the new sociology of knowledge’ (Swidler and Arditì 1994).³⁷

Concluding remarks

To understand the management of MUS, this chapter has developed interface management as an analytical concept. The concept is inspired by Rosenberg’s notion of interface managers, and supported here by solid theories about the production and application of knowledge. It usefully places GPs as operators in complex social systems and indicates how they must work to solve medical problems by making connections between interfaces within and between systems. Moreover, it suggests that challenges in working with MUS must relate to the interfaces being managed by the GP, and that these challenges manifest themselves in problems with making connections.

Although not apparent to me at first, I have come to think that an important reason why interface management was a useful concept for making sense of both what makes MUS difficult work and how GPs respond, is that it helped make the familiar seem strange. That is, it offered a form of *defamiliarization* (Tavory and Timmermans 2014: 55–58). I was of course already a stranger to medicine and medical work. But like most people, I still had ideas about, for instance, what diagnosis is or how doctors reason about disease and treatment. In thinking about medical work as the tangible work of connecting things, I put some distance between myself and my preconceptions, which open up to seeing diagnosis, inference and treatment in a new light, taking them less for granted.

As knowledge is a key factor in interface management – operators require knowledge, and many interfaces are themselves either forms of knowledge or knowledge-based artefacts – I supported the concept with insights from two different theories about knowledge in action. Finitism defines knowledge as a social phenomenon embedded in collective patterns of practice, makes knowledge application open-ended and an important form of knowledge construction, and shows how institutionalized beliefs and practices can make phenomena anomalous and problematic simply because they fail to conform to expectation. Repertoire theory brings multiple and contradictory beliefs and practices into view, and also reflexive and strategic ways of relating to knowledge in various forms. Both pointed in the direction of

³⁷ In a review article that, strangely enough, contained not a single remark about SSK, apart from a brief mention of the ‘post-Kuhnian (1970) sociology of science’ on p. 311.

knowledge and institutional arrangements as important places to search to understand what makes MUS difficult work and what GPs do about it.

Chapter 4: methods

In this chapter, I detail and discuss the methodology used to explore how and why professional tasks are complicated by working with MUS, and how GPs address these complications. I begin by describing how the data were obtained,³⁸ and go on to clarify my analytical position and approach and point out strengths and limitations. As a lot of ground is already covered in the articles, I here elaborate on aspects that did not fit into the article format.

Beginnings

As there is comparatively little sociological research into the professional perspective on MUS compared to patients', and GPs are the ones responsible for the management of MUS (Chapter 1), I was interested in exploring MUS from the perspectives of GPs. Choosing to study GPs working in Norway was convenient, as I am Norwegian and live in Norway. The Norwegian context has of course affected the results, but most Western contexts involving elaborate and interacting medical and health insurance systems could arguably have supported a broadly similar narrative about the negotiation of tensions between knowledge-based regulatory ideals and clinical realities (see Chapter 2).

In the original proposal for the study, the plan was to focus on GPs' roles as gatekeepers and their task of balancing a range of expectations, forms of knowledge, procedures, persons and the peculiarities of institutional arrangements – all at once. Although the proposal did not explicitly thematize GPs' management of tensions between clinical realities and systemic ideals, and although it contained nothing on knowledge as a cause of ambiguity, it was committed to exploring the role of knowledge and institutional arrangements from the very beginning. In particular, I suspected that GPs were critical of certain aspects of their own codified knowledge and of aspects of the health insurance scheme. My suspicion was based on experiences gained while working on my Master's dissertation (Rasmussen 2013) – a document analysis of online discussions between doctors about MUS – and subsequent work on 'disease prestige' (the different patterns of valuation of medical categories and medical work among professionals) (Album, Johannessen, and Rasmussen 2017; Grue, Johannessen, and Rasmussen 2015).³⁹ Moreover, as a sociologist I am trained to be attentive to the role of

³⁸ Or 'constructed', 'generated', 'produced', etc. The point is to convey that data are not just 'found' or 'picked up' but actively brought about by the researcher, the people and materials (s)he interacts with, and the character of their interaction (Holstein and Gubrium 1995).

³⁹ It was during work on my Master's that I came into contact with SSK and the Strong programme in the form of Nicolson and McLaughlin's (1988) study of multiple sclerosis research.

social structure in explaining social action, but also to the role of action in explaining social structure. Thus, from the outset, I had a view to actors, knowledge and social structure – yet I did not have a clear idea about what the relevant knowledge or structural features were, or how they mattered to GPs.

Interview methodology

To learn more about professional perspectives and approaches to MUS, I conducted focus group and individual follow-up interviews with GPs. In terms of interview methodology, I follow the main tenets of the *active interview* approach formulated by Holstein and Gubrium (1995), one that sits well with a view of culture and knowledge as a *collective resource* for situated engagement in and with the world (such as that of finitism and repertoire theory, see Chapter 3). It is a ‘middle-ground’ approach, aiming ‘to strike a balance between’ the interest in what is said (the ‘whats’) and how it is said (the ‘hows’), contrasting with more classical positivist traditions in the social sciences (Holstein and Gubrium 1995: 5).⁴⁰

On the one hand, the approach insists on the active, interpretative or constructive aspects of interview situations: people do not have ready-made answers to interview questions, they are not ‘passive *vessels of answers*’ for the interviewer to ‘mine’ (Holstein and Gubrium 1995: 7). Rather, answers to questions are created actively in situ, in the course of giving them. They are creative responses to being asked and shaped by both the person doing the asking and the interpretative context. An important aspect of interview data is therefore *how* they are brought about, their situated co-construction (Kitzinger 1994; Wilkinson 1998). This point is particularly emphasized for focus groups, and rightly so as focus group data often stem from interaction between participants (Barbour 2007; Morgan 1996). But it is equally relevant for one-on-one interviews, as exchanges between the interviewer and interviewee are interactions too (Holstein and Gubrium 1995).

On the other hand, the active interview approach also insists on the importance of all those situated interactions the actor has been part of *prior* to the interview. Thus, although answers are assembled more or less on the spot, they are assembled from the ‘stocks of knowledge’ (Holstein and Gubrium 1995: 33) the actor has come to possess and brings to the present situation. All manner of previous socialization and, by extension, social systems, and shared conventions actors enact in the scene therefore inevitably shape its outcome. In this way, the active approach also points to these stocks of knowledge, these repertoires and their

⁴⁰ Such as that found in the early Chicago school (see e.g. Denzin and Lincoln 1994).

conventional application, as a research interest; it combines an interest in the *hows* and *whats* of talk as interaction. In planning, conducting and analyzing interviews, I have pursued this dual interest.

Focus group interviews

Focus group interviewing is among the more recent methodological acquisitions in social science research. While historically associated mostly with marketing research, focus group interviewing is used more and more by social scientists, and is now an established qualitative method in social science research (Barbour 2007: chap. 1; Morgan 1996: 4–5). More like a social laboratory than a ‘naturally occurring’ event, the idea behind focus group interviewing is to have a group of people engage in discussion about a specific, pre-selected topic (i.e. a *focussed* discussion) that each participant has some experience with (Barbour 2007; Kitzinger 1994; Morgan 1996). As such, the distinguishing features of focus groups are 1) the focused (moderated) discussion and 2) the interaction between participants as an important source of data (Morgan 2010; Kitzinger 1994; Wilkinson 1998). As such, it is an effective method to generate concentrated data about topics for which it is hard to obtain a substantial set of observations (Barbour 2007; Morgan 1996) – such as various approaches to diagnosing, inferring about, and treating MUS.

In line with the explorative aims of the study, I wanted the GPs to help me make interesting discoveries and identify salient dimensions of conflict and agreement by having them draw on their expert knowledge and clinical experience to engage with one another in discussion. This is a task for which focus group methodology is well-suited (Barbour 2007; Morgan 1996). Moreover, given the ambiguous and contested public image of MUS, I felt confident that group discussions would yield interesting results. It would be very interesting, for example, if all the GPs were in complete agreement about the nature and cause of MUS and knew what to do – but so too would a case of complete disagreement, or any possible scenario in between. For these reasons, although I was open to pursuing other methods afterwards (more on that below), I thought focus groups would be a well-suited and efficient starting point for my exploration.

Much could also be learned about the clinical challenges related to MUS by shadowing GPs at their surgeries or by observing or recording consultations (e.g. Atkinson 1995; Becker et al. 1977; Montgomery 2006; Silverman 1987): indeed, participant observation might have led to conclusions similar to those in the present study while providing richer data on some points.

However, participant observation would also have been considerably more time-consuming – especially because GPs often work alone and because the knowledge I have been interested in is not easily observed in doctor-patient interaction (e.g. concerning the logic of diagnosis and the various informal patient categories and styles of reasoning GPs use to understand and manage MUS). Moreover, given the routine occurrence of MUS in primary care, I expected GPs to have more or less rich repertoires of beliefs and practices of relevance to their management, and that aspects of those repertoires could be elicited based on how participants answered and posed questions in discussions about such conditions. Theoretically, moreover, discussions are ideal for exploring repertoires in this way (Swidler 2001: chap. 2).

Recruitment

I recruited established groups in the continuing medical education programme, a five-year specialization programme to become or remain a specialist in general medicine, wherein regular group sessions are a mandatory activity (The Norwegian Medical Association 2018a, 2018b). This strategy was suggested and facilitated by Karin Isaksson Rø (who as well as being the co-author of Article 2, is a medical doctor and director at the Institute for the Study of the Medical Profession). Interviewing established groups has potential drawbacks or advantages, depending on how they are organized and enacted (Morgan 1996: 37–38). For instance, I could have recruited dysfunctional groups with old conflicts unduly driving the discussions. Moreover, established groups might have established hierarchies of authority and honour, which could mask variations in perspectives and opinions. However, the advantages are that established groups, as the name implies, already exist and may be recruited in one go; that the participants do not have to set aside work or leisure to participate; and that being acquainted with one another to some extent can make it easier to talk freely. In my view, the advantages characterized the sessions.

After the Norwegian Social Scientific Data Services had approved the study (Appendix 1), I contacted one member of each group via e-mail (provided by Rø), informed them about the project and asked them to disseminate that information in the form of an attached document (Appendix 2) to the rest of their group and inquire about possible participation. The contact persons then emailed me with the result, which was positive for each group, and suggested a date based on their group's schedule. A likely reason for the positive response was that the topic suggested seemed highly relevant. In retrospect, it also seemed that the participants found the prospect of being the topic of research pleasing.

Focus group 1 (FG1) included five GPs practising mainly in the capital city, Oslo. Focus group 2 (FG2) included nine GPs practising in suburban municipalities. Focus group 3 (FG3) included nine GPs practising in rural municipalities. The rule of thumb for group sizes in focus group interviews, according to some practitioners, is between six and ten participants: ‘Below 6, it may be difficult to sustain a discussion; above 10, it may be difficult to control one’ (Morgan 1996: 43). Other researchers claim that groups of as few as three can work perfectly well and that groups of more than eight can be challenging to analyze, not least because of difficulties in telling voices apart on the audio recording (e.g. Barbour 2007: 60). In my case, as it turned out, five was not too few, and nine was not too many.⁴¹ I recruited groups with varied experience in terms of place and years of practice and specialist status. I opted for variation not with a mind to statistical representation. Rather, the idea was, within practical limits, to maximize the chance of getting in touch with different types of clinical experience (also called ‘maximum variation sampling’, see Flyvbjerg 2006: 230). This would, I thought, help me raise more questions and explore more assumptions, both of which were prime motivations for carrying out an explorative study. Due either to luck or the mechanisms by which these groups were put together, I also had variation in age, gender and background (see Table 1).

Table 1 Focus group characteristics

	Experience (yrs.)			Specialist (yrs.)			Age (yrs.)			Gender	
	<5	5-10	10>	Not	<5	5>	<40	40-50	50>	F	M
FG1	7	1	1	8	-	1	6	3	-	4	5
FG2	1	3	5	2	2	5	1	3	5	4	5
FG3	-	3	2	-	3	2	-	5	-	4	1

Preparing for and conducting focus group interviews

In preparation for the focus groups, I devised a semi-structured interview guide (see Appendix 3). As stated, numerous studies document that MUS are difficult, but few explore what it is that makes them difficult in a clinical context and how GPs address the difficulties. The initial purpose of the focus groups was to learn more about this. In addition to some opening questions about the participants’ professional backgrounds, the guide had sections on 1) MUS and ‘uncertain illness’ in general, 2) patient types, 3) diagnoses and diagnosis, 4) sickness

⁴¹ Apart from having to listen very closely with the playback slowed during certain busy passages.

certification and work capability assessments, 5) referrals and 6) health insurance and the welfare bureaucracy. Roughly speaking, sections 1 and 3 make up Article 1, sections 1, 2 and 4 make up Article 2, whereas Article 3 is based on sections 4, 5 and 6 (in addition to follow-up interviews, see below). I opened with section 1, using a prepared vignette (see Appendix 3). Thereafter, the guide served mostly as a checklist. Apart from the vignette, I deliberately used MUS as a ‘placeholder’ – an empty box for the participants to fill with whichever conditions and patient groups they saw fit (but, as I clarify in Articles 1-3, I did ask questions about some conditions that are typical examples of MUS in many contexts).

The focus groups were conducted between January and March 2015. Sessions lasted for 90–120 minutes. Each interview was audio recorded and I wrote analytical and contextual notes after each focus group, no later than the next morning. Informed consent was obtained in writing. Because Rø had taken an interest in the project, she offered to assist with the interviews. As she was an experienced researcher, and because I was in fact anxious about the prospect of interviewing groups of experts about their field of expertise, I accepted. She operated the audio recorders (one main, one auxiliary) in all three groups and I invited her to ask questions where she felt it was appropriate – not least because I thought having a ‘non-participating participant’ would make everyone feel uneasy. She mostly listened but did occasionally ask questions – in particular to ensure that all participants were heard. When analyzing the data, I have had her role in the interviews in mind, considering her responses and queries on a par with mine as the moderator.

FG1 was conducted in the evening in a private home. The interview was relaxed and overall good-humoured. FG2 was also conducted in a private home. The atmosphere was relaxed but possibly because the group was relatively inexperienced, the discussion was more ‘normative’ than in FG1 – it was more oriented on what clinical medicine ought to be like or how patients ought (not) to behave (this is explored further in Article 2). FG3 was conducted at a workplace where some of the participants had an affiliation. We sat around a large conference table in a disproportionately small meeting room. Probably because it was the most heterogeneous in terms of experience, this was the group where the style and content of participants’ contributions varied the most.

Who was I to the participants (Venkatesh 2002)? I have a somewhat scruffy appearance and an informal mannerism. The information letter was, however, serious and academic in tone, and during the sessions, I displayed a somewhat informed grasp of aspects of their knowledge and work. Thus, I think I came across as knowledgeable enough to be taken seriously, and

informal enough to avoid mere formalistic, ‘correct’ discourse. It felt like they took my queries and me seriously. As moderator, I shifted between high and low involvement (Morgan 1996), intervening directly to guide discussions as the need arose (Barbour 2007: chap. 8). Some of the questions I asked were, I think, rather atypical. Inspired by works in the sociology of knowledge and science studies, I invited the participants to explore the fuzzy and dynamic character of conceptual boundaries (e.g. Gieryn 1983). For instance, when participants distinguished between diseases and non-diseases (saying, e.g., ‘Fatigue is not a disease’), I would ask them what it would take for a complaint to cross the boundary (e.g. ‘But what would it take, in your view, for fatigue to become a disease?’). In inviting them to play with boundaries, I emphasized the generally elusive character of conceptual definitions; for instance, in each interview I disclosed that my colleagues and I at the Centre for the Study of Professions – with all scholars in the sociology of the professions – were unable to come up with a clear and unified definition of ‘professions’. This probably motivated them to engage with difficult boundary questions.

Follow-up interviews

In designing the study initially, I applied for approval to do follow-up interviews in addition to the focus groups but I had no exact plan in terms of how I would use them. They were more of a contingency. It was not until the first rounds of analyzing data for Article 1 that I realized I could use them to elaborate on GPs’ relationship with their local NAV office. Reading through the transcripts made it clear that communicating with NAV about health benefits for patients with MUS put GPs face to face with issues of trust and authority. Thus, the idea was to ask GPs about this type of situation, specifically to learn what they did about it, if anything. Additionally, I had the sense that local institutional arrangements (diagnostic support, treatment options, etc.) varied and affected GPs’ power to ‘get things done’. For these reasons, I wanted idiosyncratic details about their local NAV office, health service access and the job market situation in their area of practice. Although idiosyncrasy is not altogether undesirable in focus groups, prolonged excursions into individual detail are often unwelcome in discussions with many participants. In one-on-one interviews, however, they are not.

There are many ways to combine methods such as in-depth and focus group interviewing (Morgan 1996; Barbour 2007). One way is to use in-depth interviews as follow-up interviews, as I have, to explore in detail certain topics or conflicting dimensions that came up during the focus groups. Another is to go in the opposite direction; conducting in-depth interviews first to come up with experience-based topics for group discussion. In my case, a key advantage of

doing follow-up interviews was that I could use what the participants had said in the focus groups as probes, asking them to elaborate on their meaning in greater detail. This turned out to be effective. Moreover, I also probed using things other participants had said (that I could not have thought of before conducting the focus groups): I recapped statements and events from the focus groups and asked the participant in the follow-up interview to relate that to her or his own practice. This was a good way to make participants relate to differences and similarities between others' practices and their own.

Recruitment

I contacted those who had stated in writing that they would accept being contacted for a follow-up interview. Since most of the doctors in FG2 had relatively few years of experience, I had reason to expect that they would be in possession of limited relevant input about health insurance cases, which are usually prolonged affairs (the focus group data indicated as much). FG2 was therefore excluded from the follow-up round. The recruitment procedure amounted to four follow-up interviews with five GPs. Although a small sample, I considered it apt given its purpose of supporting the focus group data. There is no denying that more interviews could have strengthened the analysis. However, the interviews indispensably improved the analysis in Article 3 and the study overall.

Preparing and conducting follow-up interviews

As with the focus groups, I prepared a semi-structured interview guide (see Appendix 4). The guide was based on three topics: 1) the specifics of their local NAV office and the nature of their communication; 2) local and extra-local health services and hospital specialists they referred patients to; and, 3) 'other local factors' (such as infrastructure, the labour market and personal network). As with the focus groups, I referred to the MUS category as a 'placeholder'. The goal was to have the GPs talk as much as they could about how local institutional arrangements affected them in their work with MUS and how they might in turn use such arrangements to their advantage (which, seemingly, often meant to the patients' advantage).

The follow-up interviews were conducted in October and November 2016. Each interview lasted 30-75 minutes (~50 minutes on average) and was audio recorded. The interviews took place at different times of day, in participants' offices or their private homes. I conducted four interviews with five GPs. Four of the five were men so the sample is gender skewed. Two were from FG1, three from FG3. The last interview, with the GPs I call Howard and Jonathan,

was not intended to be a group interview. Originally, only Howard had agreed to participate. However, for some reason (I think regarding a patient), Howard had spoken to Jonathan on the phone and had suggested he join us.⁴² Howard thus contacted me to ask if that was okay, which it was. This interview made me rethink the notion that idiosyncrasy and groups are necessarily a mismatch: our *small* group of three offered the chance for Howard and Jonathan to relate to each other's professional biographies and local institutional circumstances comparatively and for me to probe this. It may have benefitted the study to do the other follow-up interviews in small groups with two participants.

I knew from the focus groups that the topic would be of interest and relevance to the participants, so detailed elaboration was easy. I asked mostly descriptive questions (Spradley 1979) about local institutional arrangements and the participants' specific practices related to that. For instance, I asked them about their relationship with their local NAV office(s) (if they knew the names and had the direct phone numbers of the bureaucrats, etc.) and in which ways they communicated with them; I also asked them about the health services they used in their community. As it decreases the chance of participants engaging in purely normative discourse, asking descriptive questions is an effective way of learning details about how GPs operate (Spradley 1979).

Analyzing interview data

In preparation for the analysis, I transcribed the interview data using NVivo (described in Articles 1-3). Transcribing medical terminology was challenging at times but resolvable due to the possibility of slowing down the recording and searching the internet for the meaning of different words and phrases (such as 'hydrops in the knee'). This work also provided a rough overview of the data (Kowal and O'Connell 2014). During transcription, I also made analytical notes when something caught my eye or set me on a train of thought, notes I revisited during the analysis. I read the interviews one after another but switched the order upon re-reading. This was to prevent a strong 'path dependency' developing, where the structure and content of one transcript would unduly shape the reading of subsequent transcripts. The quality and quantity of the analytical surprises that a reader is exposed to during analysis is to an extent dictated by how (s)he organizes the reading (Tavory and

⁴² They were acquainted but not closely, I think, as it was both Jonathan's and my first visit to Howard's home, and their interaction was very formal, not least when Jonathan was introduced to Howard's partner who arrived during the interview.

Timmermans 2014: chap. 4).⁴³ For instance, to prevent FG1 from unduly shaping the reading of FG2 and FG3, I changed the order of reading on the next round (e.g. FG3, FG2 and FG1). In that sense, I wanted each interview to have the chance of upsetting my reading of the other ones.

A very rough outline for the articles came about during the transcription of the focus group interviews, leading me to organize the material into sections about diagnosis (Article 1), how MUS was understood (Article 2) and about problems working with welfare bureaucrats (Article 3). Moreover, the preliminary analysis of the data for Article 4 (see below) was performed after a preliminary analysis for Articles 2 and 3, but before writing them up. As such, the analysis in Article 4 is affected by work on Articles 2 and 3, just as the writing up of Articles 2 and 3 was affected by the preliminary analysis for Article 4. Although each article tells a somewhat bounded analytical narrative, the actual analytical processes were more integrated.

With hindsight, I think of my analytical procedures (and evolving research design) as *abductive* (Tavory and Timmermans 2014). Although the concept of abduction has a long history and a complex meaning, its main thrust as understood here is the combination of theoretical pluralism and empirical sensitivity. More specifically, abduction ‘refers to a creative inferential process aimed at producing new hypotheses and theories based on surprising research evidence’ (Tavory and Timmermans 2014: 5). The idea is that a wide repertoire of theories increases the analyst’s likelihood of being surprised or fascinated by events and patterns in the data.⁴⁴ Although I only recently became acquainted with the term, the abductive way of thinking about research is not new to me: I learned from Merton (1948a) to think about analysis in terms of ‘serendipity patterns’, a kind of structural predisposition for surprising and fortunate discoveries, and I can see many affinities between this idea and abduction. Still, when working on Articles 1-3, I had not yet become familiar with the term. If asked today, I would no longer agree that my analyses were inductive in kind, as I claim in Article 1, but abductive.

⁴³ A similar ‘path dependency’ occurs internally in a text, when reading interview transcripts from start to finish. Arguably, reading transcript sections in a random order could be an instrument to estrange the reader from the interpretative frame ‘suggested’ by the unfolding of the text. This could in turn sensitize the analyst to seeing how and to what extent the meaning of the present speech act depends on the meaning established in previous acts and it could open up for more disentangled ways of reading.

⁴⁴ As I argue in Chapter 6, the dynamic between theory and data is thus similar to the process whereby symptoms are complicated and ‘ambiguated’ by expectations induced from biomedicine. Yet in abductive research, surprises are welcomed, and indeed cultivated, through cognitive/theoretical pluralism

In Articles 1-3, I ended up telling a story about actors nested in a social system, responsible for communicating between that system and a neighbouring one, and how characteristics of these systems cause problems for the actors. Although I already had an idea that MUS were somehow made troublesome by the structural properties of the social systems within which the category is managed, I did not know which properties of which system or why. In particular, I had no idea of the extent to which the mediation between medicine and health insurance caused problems. The particularities of the unfolding of each analysis are described in Articles 1-3.

Combining whats and hows

As mentioned, the analyses combine an interest in both the ‘whats’ and the ‘hows’ of the data (Halkier 2010; Holstein and Gubrium 1995; Morgan 2010). There are many ways of marrying ‘whats’ and ‘hows’, however. In my analyses, the substantive focus was on the ‘whats’: I used the data to reconstruct actors’ repertoires of beliefs and practices in their work with MUS. In doing so, I explored some more or less shared ways of thinking about patients, bureaucrats, diagnosis and treatment, and some more or less shared ways of practising medicine in that regard. Additionally, I have used ‘the whats’ of speech as a basis for inferring salient contextual factors, and, on occasion, to make inferences about what doctors sometimes do. In line with repertoire theory (Swidler 2001) and the active approach to interviewing, I did not look for consistency in the ‘whats’: ‘rather than searching for the best or most authentic answer’, my aim was to capture ‘applicable ways of knowing – the possible answers – that respondents can reveal, as diverse and contradictory as they might be’ (Holstein and Gubrium 1995: 37).

I have used the ‘hows’ primarily as cues to understanding the ‘whats’. ‘Hows’ are advantageous for interpreting what is going on or what is meant by an utterance. For instance, like Halkier (2010), I rely on expressions of self-evidence and surprise or of assent and dissent: the way an utterance is performed or received might indicate whether it, for instance, is considered unproblematic and routine (self-evident) or problematic and/or unfamiliar (surprise). In the same way, utterances may be met with a nod, a muttered ‘yes’ or an ‘mhm’, or by an elaboration by the next speaker (assent), or it may encounter awkward silences, frowns or grumpy retorts (dissent). (I include my own and Rø’s expressions as data to this end, in addition to those of the participants).

One cannot determine privately whether one's own analytical inferences are good or credible. I may personally believe that they are for reasons I find compelling, but none of that alters the fact that, for the validation of this thesis, I depend ultimately on the intersubjective endorsement of relevant communities (Barnes, Bloor, and Henry 1996: 33). Such an intersubjective notion of validity has been appropriated in qualitative research methodology (e.g. Morse 2015; Tavory and Timmermans 2014: chap. 7). To that end, as I clarify in the articles, I have presented early and later versions of the analyses to colleagues and audiences of sociologists, and medical practitioners and researchers. This was a way to draw academic attention to the study. Importantly, however, it was also a way to introduce a valuable 'intersubjectivity check' on the propensity for subjective steering of the material; it served as a valuable check on the risk of my private political perspectives and academic pet peeves, of which I have a few, unduly interfering with the analysis and overruling the data. Additionally, I have used existing studies as a way to check if and how my work resonates with that of others.

Talk and action

A relevant debate in the qualitative methods literature concerns the use of interviews for making inferences about practice. Jerolmack and Khan (2014) have argued that talk is 'cheap' and tells us little about what people actually do: accounts of events are, after all, never identical to the events accounted and thus caution is advisable. Yet, although this is sound advice against the careless use of interview data *in general*, the view that talk is cheap is in part based on a simplistic understanding of interview methodology (Lamont and Swidler 2014). For instance, the criticism seems to assume that interview questions are limited to probing people's attitudes or normative discourse (see Jerolmack and Khan 2014; Vaisey 2009). This view is ill-founded: it exaggerates the difference *between* methods and understates the heterogeneity *within* each method. For instance, there are ways of telling more and less credible accounts apart, such as an awareness of social desirability bias (DiMaggio 2014) or adhering to basic source criticism (e.g. Hodne, Kjeldstadli, and Rosander 1981). Useful accounts of practice may also be generated by asking descriptive rather than normative questions (Spradley 1979). Thus, interviewers can be interested in matters other than people's private attitudes (such as their shared repertoires of beliefs and practices) and they can do more than ask people what they think about an issue.

For these reasons, I have used some parts of the interview data as indicative of practices, in addition to shared beliefs. However, I have not done so with a view to producing

generalizability in the statistical sense. To clarify, my inferences about practices are of two types, implying two different meanings of the word ‘practice’ (as I hope is reasonably clear in the articles). The *first* is the conventional sense of practice as the concrete carrying out of an action. When I, for instance, asked GPs what diagnoses they typically used in cases of MUS, I was not asking for their attitudes, nor for a normative account of diagnostic procedures. I was asking them to single out candidates from a bounded list of formal diagnostic categories and discuss why they used this rather than that diagnosis. Likewise, when the GPs recounted lived episodes, I could critically appraise and use parts of those accounts as credible data about practice. I found it credible, for instance, that GP Steve does most of his communication with NAV on Wednesdays and that he spends a lot of that time writing certificates but that he does not spend time on the phone talking to NAV since they rarely answer.

The *second* meaning of practice consists of descriptions and reconstructions of ‘ways of practicing’ or of ‘logics’ or ‘methods’ of practice; for instance, in the form of a typology of rhetorical work (Article 3) or the practice of diagnosing by anticipation (Article 1). Thus, what I refer to in these cases could be called ‘methodologies’ or *knowledge about ways of doing things*. Whether and to what extent these practices are actually put to work, so to speak, is an empirical question and the thesis does not offer conclusions in that regard. However, the individual articles engage with relevant bodies of literature to provide qualified suggestions, amounting to indications that the ‘methods’ are important where they occur and that their regular (as opposed to freak) occurrence is likely. Thus, I would claim that knowing these practices can be relevant to both the doing and understanding of medical work and that they inform us about how GPs can work to resolve tensions between systemic ideals and clinical reality.

In addition to practices, I have reconstructed repertoires of beliefs from speech data. This is less contentious but one point should be clarified: when I speak of beliefs as part of a repertoire of beliefs, I am not necessarily referring to personally held *convictions*. Rather than conviction, the point is having *access*: holding a range of different beliefs means having access to a repertoire of beliefs – whether or not you personally condone any of them. It could be argued that such a repertoire has little impact on how we act: they are mere justifications (Vaisey 2009). It is far from self-evident, however, that our personal convictions are necessarily, or even typically, what serve as the basis for our actions. Indeed, beliefs that are institutionally sanctioned may hold much more sway over our actions than our private convictions do (Ridgeway 2014: 5). The medical frames GPs shift between (Article 2) are

examples of this, as is this study's claim that biomedicine is a regulatory ideal in medicine and health insurance.

Document study

As well as focus group and follow-up interviews, the thesis analyzes documents in the form of medical research articles (Article 4). While reviewing the literature for Articles 1-3, I became aware of different ways of using the MUS category in medical research. This, coupled with a long-standing interest in various forms of category theory – from cultural anthropology and classical sociology (Douglas 2003; Durkheim 2008), social psychology (Moscovici 2000, 2008) and the sociology of scientific knowledge (Chapter 3) – made me curious about MUS not as a cluster of patients and symptoms but as a category in the system of medical knowledge. I wanted to understand what place the MUS category occupies in this knowledge system and its function in the research context. Moreover, having learned from the interviews how diagnosis and inference in clinical practice varied substantially for pragmatic and local reasons, I was interested in the interplay between clinical practice and research. I therefore set about conducting a document analysis (Prior 2003) of the medical research literature into MUS.

In sociology and the social sciences in general, documents are typically treated as 'docile containers' (Rapley and Rees 2017) or 'inert receptacles' of knowledge (Prior 2008). However, much like the active approach to interviewing described above, it is increasingly argued that documents also play an active role in social life. In that regard, Prior (2008: 824) has argued for analyzing documents 'not merely as containers of content, but as active agents in episodes of interaction and schemes of social organization'. On the one hand, my approach has much in common with the 'inert receptacle' approach, studying scientific classification in research articles to understand how MUS is understood and used in medical science. Inspired by Jutel (2010a),⁴⁵ I chose a research design resembling a literature review but with a very different analytical aim – *not* to produce a systematic review of findings, but to use the documents as a way to learn how the MUS category is understood and applied in research. Yet the analysis is also motivated by a more 'active understanding': a key interest is what the

⁴⁵ On September 4 2018, I asked Jutel via email some questions about her methodology. I was curious about her claim that 'Almost half of the articles in this review that made reference to medically unexplained symptoms also expressed doubt about the psychogenic assumptions underpinning the management of medically unexplained symptoms' (2010a: 239). The reason for asking was my hunch that we meant different things by 'expressing doubt' and that, in my view, many who occasionally 'express doubt' in 'psychogenic assumptions' combine that with an otherwise seemingly full commitment to taking it for granted. Not only was I answered in full, but Jutel also sent me her entire analysis spreadsheet and invited me to ask further questions if I had them.

research literature ‘does’,⁴⁶ which forms of knowledge and clinical practice it promotes and so forth. As documents, research articles are enlisted in systematic reviews, textbooks and procedural and policy guidelines and are brought to bear on the definition of MUS as a health issue and thus the provision of attention and funds in clinical practice and medical research (Prior 2003, 2008). Moreover, the documents provide a means of communication between research communities. Analyzing research articles is thus not mere dabbling in literary exegesis but involves studying a seminal social force, a technology that is gaining currency in contemporary knowledge economies (Prior 2003, 2008).

The sampling procedure is described in detail in Article 4 and only briefly recapped here. In January 2017, I conducted a search in the *Web of Science* for all medical research articles published in English between 2001 and 2016 in scientific journals which centrally or peripherally topicalized MUS (i.e. that featured the phrase ‘medically unexplained symptom’ or ‘symptoms’ in the title, abstract or keywords). The final sample comprised 107 articles from the ten journals that published most frequently on MUS in the period, all of which are analyzed in Article 4.

Analyzing documents

In preparing for the analysis, I imported the documents into NVivo, organized them into different folders based on their source journal and coded them to enable tabulation (with regard to methods, the data’s country of origin, publication year and other features that drew my attention during the analysis). I read the medical research documents ‘journal by journal’, meaning that I read all documents from a single journal before moving on to documents from the next one. This was to maintain a manageable system ensuring that each article was read. Yet to the extent that the source journal correlates with document properties, this approach creates a path dependency that affects the analysis. To counter the potential impact of this, I deliberately alternated between sources from family medicine and psychiatry. Moreover, as with the interviews, I switched the order of reading on consecutive rounds. To the extent that journal type correlated with document properties, then, the effect was reduced by this

⁴⁶ I put ‘does’ in quotes because I do not subscribe to the notion of ‘blurred agency’ or ‘actants’ (see Sismondo 2010) or to what Callon (1984) has described as a form of symmetry between humans/animals and things with regard to their (imputed) agency. I agree fully that things, such as walls, have consequences but not that this fact should lead us to employ a form of esoteric language about actants and acting things. I think such a language will only succeed in estranging social science from society. I acknowledge of course that others might find ‘blurred agency vocabularies’ analytically sensitizing but I think it is perfectly possible to be sensitive to the contextually contingent consequences of walls and other things, without subscribing to either the view or the vocabulary of blurred agency.

procedure. During the reading and re-reading, I wrote extensive analytical notes and annotations, indispensable resources during all stages of the analysis.

A labour intensive aspect of this analysis was understanding medical terminology. I needed to *get into* the jargon without becoming numb to analytical surprises. The fear of numbness was warranted: after a while, I became at least somewhat accustomed to the medical style of writing, which from my point of view is typically brief and uninterested in nuance and distinction, and indeed in conceptual clarification. Whenever I felt like I was not seeing very much in the documents, I therefore read some of my earlier analytical notes and annotations to remember what I initially found surprising, interesting or problematic. Although this rekindling of previous analytical surprises risks cultivating a form of path-dependency of its own, it was a necessary procedure to ensure a consistent analytical approach throughout the sample.

From early on, I became interested in looking specifically at how MUS were defined (typically in the introduction section) and operationalized (in the methods section) in each article. Based on the rough coding in NVivo, I analyzed each article in Word, commenting on the definitions and operationalizations in particular, while noting the aims of the article, its uses of the MUS category and how the authors drew on previous studies and reflected intertextually on their own definitional and operationalizing practices (writing analytical notes of ~500 words per article).

Although documents differ from interview data in many ways, it made sense to think about ‘whats’ and ‘hows’ in the document analysis too. The whats are what is articulated in the text; the hows relate to genre (medical discourse, research articles from peer-reviewed scientific journals) but also to matters such as how, for instance, definitional style silences both voices and social structures that are essential in understanding the social character of the MUS category. As I show in Article 4, most definitions of MUS conceal the role of the medical profession and its knowledge system in creating the MUS category.

Analyzing the analyst

The analyst is not a neutral, a-perspectival pattern-finding machine but an actor with natural and social propensities and skills and interests that are refined mainly by happenstance and circumstance, but occasionally by choice. I will therefore clarify briefly my own views of MUS, medicine and knowledge: I am a pragmatist/instrumentalist (which resonates well with both finitism and repertoire theory, see Chapter 3), meaning that I think that knowledge –

scientific or otherwise – is valuable not for its truth in an absolute sense but for its *enabling properties*. When talking about MUS, therefore, my view is that discussions about whether symptoms are somatic or psychiatric, or subjective or objective, or whether people with MUS truly are sick, are really discussions about how the conditions may usefully be understood. The classification of people and things is a way of sorting them into categories based on how we mean to act on or towards them. In this sense, it is a moral and pragmatic question.

Thus, regarding MUS, I do not think the question of, say, whether people ‘really are sick’ is interesting in any fundamental sense (although it is a question I have frequently been asked). I do not think there is a fundamental sense to that question, beyond matters of trust and solidarity between strangers, and deciding between courses of action. In Norway, a recent debate among patients and professionals about myalgic encephalopathy (ME) has revolved around who has ‘real’ ME, based on patients’ responses to cognitive behavioural therapy. One side claimed that those who were cured by the treatment did not really ‘have ME’ in the first place and that the treatment exacerbated ‘real ME’ (e.g. Saugstad 2017). The other side disagreed (e.g. Johnson 2017). I contributed to this heated debate by arguing that if the function of diagnoses is to lump people together who might benefit from the same treatment (as I think it is), ME is a dysfunctional diagnosis: it seemingly lumps people with widely differing needs together (Rasmussen 2017). This exemplifies how I think about the relationship between representations and interventions (and here I agree with Hacking 1983): representations are not true but they may be more or less helpful in guiding our interventions.

This brings us to the relationship of social constructions to reality: consider, for example, Hacking’s (1983: 22) dictum on realism after he learned of an experiment where atoms were sprayed with some chemical substance: ‘If you can spray them, then they are real’. I agree. But we still have to decide how that piece of reality is to be understood in order to decide how to act in the world. Once the question of the nature or quality of reality is posed in this way, we open up for other forms of reality, or rather reality in other forms. We open ourselves up to forms of being other than, say, that of atoms. Think, for example, about witchcraft, a socially constructed phenomenon if there ever was one. Paraphrasing Hacking, I would like to say: ‘If you can burn someone at the stake for it, then it is real’. Even if witchcraft were not real in the sense that people actually possessed magical powers and communed with the devil, it was certainly real enough to the people who agreed that someone ought to burn for it, not to mention those whose lives ended at the stake. In line with this, I think it is wrong to

distinguish between real on the one hand and socially constructed on the other.⁴⁷ *Social constructions are real* in the only meaningful sense of that word I can think of – that *they make a difference*.

Ethics

The document analysis involves more or less public documents and scrutinizing them entails few ethical problems; the focus group and follow-up interviews do raise ethical concerns, however, most of which are addressed in the articles. The Norwegian Social Scientific Data Services approved both the focus group interviews and the follow-up interviews on January 15 2015 (Appendix 1). Before the interviews, I informed the participants about the overall project and the planned data treatment – first in writing upon recruitment, then verbally prior to beginning the interview (Appendix 2). Informed consent was obtained in writing, for the focus groups and the follow-up interviews. I have anonymized the participants in the transcripts, and the recorded interviews have been erased, in accordance with the approval from The Norwegian Social Scientific Data Services.⁴⁸ I have also given the participants a chance to check the citations selected for the articles. This latter procedure served two functions: it ensured that the participants could comment on my rendition of their contributions to the interviews and it ensured that they could check whether they had breached doctor-patient confidentiality in their accounts of specific cases. On one occasion, I was asked to redact or alter a citation for reasons of confidentiality (the citation was not used but the alterations were made permanent in the transcript).

One ethical issue not addressed in the articles concerns the dissemination of my findings: among other things, I show how doctors work to help patients by acting in ways that many will find problematic. Several of my colleagues, for instance, have reacted critically to what I call rhetorical work (Article 3). Others have reacted with relief, saying that it is comforting to know that GPs can be empathetic and see beyond rigid formalities. A relevant question is therefore whether wide dissemination of my findings could negatively affect my participants. However, these matters are also of general political interest and it could be equally

⁴⁷ Here, notably, I disagree with Hacking who, at least on occasion, has distinguished between what is real and what is constructed (e.g. 2005, 103).

⁴⁸ Due to the nature of the recruitment strategy and choice of group interviews, it is possible that participants *from the same group* can remember who said what and thus recognize one another in cited data. However, the recruitment strategy was disclosed in full in the application to the Norwegian Social Scientific Data Services, and the proposed and approved procedure of data sampling and anonymization has been followed.

problematic not to debate such matters openly, in particular because doing so might also be a means to improving care for this patient group.

Closing remarks

This chapter has presented the methodology and analytical approach of the study, focusing on those aspects that are less thoroughly described in the articles. As I discuss further in Chapter 6, the study has limitations with regard to its dataset, both in terms of its relatively modest volume and its relatively narrow field of study. In particular, having more interview data would have provided me with more variation in the data, which could have additionally supported the development of theory (Tavory and Timmermans 2014: chaps 4–5). Having too little data places the researcher at risk of shallow analysis with obvious results or mere cherry-picking (Morse 2015: 1214). Had I experienced the tell-tale signs of insufficient data (such as difficulty analyzing and theorizing due to lacking variation or much irrelevant data, see Morse 2015), I would have tried to obtain more. (As described above, I conducted follow-up interviews for Article 3 to increase data volume and variation). Overall, however, I feel the data offer sufficient ‘information power’ (Malterud, Siersma, and Guassora 2015) for the explorative aims of the study, i.e. to make a solid contribution to the sociological study of medicine and medical knowledge in general, and MUS in particular. Nevertheless, I try to be clear about these limitations as I present and discuss my findings, in particular with regard to what the findings can tell us about the world outside of my data.

Chapter 5: summary of articles and notes

In this chapter, I provide a brief overview of the articles in the thesis and offer a few reflections post-publication and post-submission.

Article 1: Diagnosis and MUS

Rasmussen, Erik B. (2017) 'Balancing medical accuracy and diagnostic consequences: Diagnosing medically unexplained symptoms in primary care'. *Sociology of Health & Illness* 39(7): 1227-1241.

The article explores the diagnostic classification of MUS or conditions for which so-called objective evidence is unobtainable. The starting point is the assumption that MUS as a category refers to conditions that cannot be diagnosed. The article argues that this assumption is based on an incomplete understanding of the diagnostic enterprise. Based on focus group interviews, it reconstructs the logic underpinning GPs' diagnostic accounts. It suggests that in these cases, GPs confer diagnostic categories by balancing (unwarranted) medical accuracy against (anticipated) harmful diagnostic consequences. The concept of 'diagnosing by anticipation' is proposed. To diagnose by anticipation is to consider a diagnostic category as a cultural object, imbued with meaning, and to anticipate how generalized others (notably patients and bureaucrats in the health insurance bureaucracy) will respond to its meaning. The theoretical and societal importance of this diagnostic approach is discussed.

Since writing this article, I have become less certain of the legitimacy of my way of distinguishing between MUS and 'subjective complaints' more generally. It is not an unwarranted distinction but it is far from obvious (as I learned in particular while working on Article 4). Moreover, there is an error in table 1 (the signs '<' and '>' were mixed up) and an error in the reference to Mik-Meyer (it should say 2015, not 2014).

Article 2: Medical models and MUS

Rasmussen, Erik B., Rø, Karin I. (2018) 'How general practitioners understand and handle medically unexplained symptoms: A focus group study'. *BMC Family Practice* 19(50): 1-9.

The article explores GPs' framings of MUS, using the focus group interviews as data. It shows how GPs alternate between what my co-author and I dub a biomedical and a biopsychosocial frame and explores how each frame shapes their understanding and approaches to the handling of MUS. It argues that a biomedical framing emphasizes what is

missing (objective evidence), renders problematic what is present (patient testimony) and manifests feelings of uncertainty, doubt and powerlessness. Biopsychosocial framing, on the other hand, seems to diminish and even solve some of these problems. In particular, it makes the symptoms understandable and turns patient testimony into a valuable source of information, turning clinical experience into a valued resource, thereby making GPs more comfortable and confident. Thus, the problematic character of MUS can be seen, to some extent, as frame-dependent. It is suggested how this finding – regarding MUS as a frame-related clinical challenge – can illuminate and clarify tensions within the existing research literature.

Two points should be noted. First, this article stands out within the context of a sociological thesis – not just because it was published in a medical journal but also because to some extent it mimics the conventions of texts in this type of medical journal. In particular, this means that there is little explicit theory in the text compared with the other articles. With my co-author, I wanted to write an article for this type of medical journal, given the primary audience we had in mind. Second, had I read Armstrong's (1987) well-founded critique of the biopsychosocial model from Engel (1977) before sending this article to print, I would have made a slight alteration in the way it is presented. Specifically, I would have clarified the distinctions between a fragmented and an integrated biopsychosocial model. Armstrong argues that Engel's model does nothing to alter the way disease is understood in biomedicine: it introduces new domains (mind and culture) but does not integrate them with the biological realm. The thing I call a biopsychosocial frame in the analysis seems to me to be more integrated.

Article 3: Insurance medicine and MUS

Rasmussen, Erik B. (forthcoming) 'Rhetorical work and medical authority: Constructing convincing cases in insurance medicine'. Revise and resubmit in *Sociology of Health & Illness*.

This article takes as its starting point situations where GPs are convinced that a patient has a legitimate claim to benefits but lacks the objective evidence to prove it. Based on the focus group and follow-up interviews, it explores how GPs work to persuade bureaucrats in the health insurance system to accept their clinical judgement in these cases. The concept of 'rhetorical work' is proposed to characterize this part of their practice and a typology of such work is reconstructed. Highlighting the variance in the data, the analysis suggests that GPs

may engage with their professional network and institutional environment in creative ways to influence bureaucratic decisions in health insurance cases; it also argues that such cases can fruitfully be seen as ‘rhetorical chains’ where patients, doctors and bureaucrats work to persuade the actor in the next link. Focusing on GPs’ roles as sickness certifiers or gatekeepers, the article also discusses how we may think about rhetorical work as patient advocacy.

The article will be revised for resubmission to the journal *Sociology of Health & Illness*. Among other changes, I will clarify the difference between rhetoric as a general aspect of social life in general and my elaboration of rhetorical work as an analytical category. I will also develop the concept of the medical certificate form as a formalized means of communication and relate other forms of rhetorical work to this concept. The version in this thesis is a proofread version of the submitted manuscript.

Article 4: Medical science and MUS

Rasmussen, Erik B. (forthcoming) ‘Making and managing medical anomalies: Exploring the scientific classification of ‘medically unexplained symptoms’’. To be submitted to *Social Studies of Science*.

The article explores the function of the MUS category in medical science. It has been suggested, by Jutel (2010a) and others, that MUS is a ‘wastebasket diagnosis’. However, although a powerful metaphor, it does neither the category nor the profession justice: unlike waste in a wastebasket, unexplained symptoms are not discarded but *contained*; not ejected but *managed*. The article offers a novel reading of the MUS category: rather than a ‘wastebasket’, I propose that we instead think about it as a ‘messy drawer’. In the Norwegian usage, a ‘messy drawer’ (*roteskuff*) is an ordering device whose function is the management and containment of things we want to keep but have nowhere else to put. Based on a critical document analysis of the research literature on MUS (107 research articles from 10 medical journals published 2001-2016), the article explores how the MUS category is constituted and managed as a messy drawer in medical science. It shows, first, that across medical articles, journals and fields, MUS as a category is consistently constructed as a violation of central biomedical norms, of core conventions for thinking about health and disease in biomedicine. Second, although broadly agreeing on what MUS *means*, researchers disagree about how to operationalise the category in research. Yet researchers seem mostly unaware that they disagree: there is little intertextual reflection about how the MUS category is operationalized.

The article will be submitted to *Social Studies of Science*, a journal with a longstanding interest in science and medicine (and technology).

Chapter 6: discussion and conclusion

The chapter discusses the study's findings, its limitations and potential bearings on future research.

Summary of the main findings

The study asked why doctors think MUS are complicated work and how they attempt to resolve the related complications. I have approached these questions by thinking about medical work as a form of interface management and exploring related complications and GPs' responses to specific tasks, such as diagnosis, inference and treatment.

Based on the articles that comprise this thesis, I suggest, first, that interface management for MUS is complicated work because the conditions fit poorly with the specific institutional arrangements within which they are processed. In other words, the systems whose interfaces doctors manage are poorly adapted to clinical work with MUS. This clash between system and symptom causes practical problems, making MUS difficult work (Articles 1-3). The root of this problem, I suggest, stems from biomedicine and biomedical knowledge – not just from what is unknown but potentially knowable from a biomedical point of view but, more importantly, from *what is already known and held to be true*: biomedicine as an epistemic convention gives rise to strong (and often taken for granted) beliefs about what medical diseases ought to be like, how they ought properly to behave, be established and managed. From the point of view of biomedicine, therefore, certain things are *expected* from medical conditions, and MUS *violate* these expectations (see Article 4 in particular, but also 1-3). Although this alone need not cause difficulties or complicate care for patients, the reason why biomedicine is at 'the root' of the problem is that the institutional arrangements employed and enforced in health care and health insurance systems are in part founded on an idealization⁴⁹ of biomedicine as *the* medical model – as a *regulatory ideal* in matters of health and illness (Articles 1-4). Within the context of these arrangements, and the conventions from which they spring, MUS become complicated work. The complications therefore result, I argue, from tensions between institutionally enforced regulatory ideals from biomedicine on the one hand and the clinical reality of MUS on the other.

⁴⁹ Idealization in this sense pertains to both valuation and simplification. Biomedicine is lifted above other forms of knowing, but it is also reduced. I am thus talking about 'the received view' of biomedicine (more on this below).

Second, I suggest that in response to such tensions, doctors (to varying degrees) work to manage and adapt themselves and their institutional surroundings to remove or smooth over frictions between the enforced biomedical ideals and clinical reality. As interface managers, doctors can adapt to overcome complications caused by biomedical expectations by creating different types of connections and repurposing them to fit the task. Beginning with Articles 1 and 2, I argue that GPs adapt their diagnostic, inferential and therapeutic approaches to the clinical reality of managing MUS. This involves an overall adjustment of their own understanding of medicine and medical practice (Article 2). They must work with themselves and their professional identities and reflect on their various cognitive frames and stocks of knowledge. Doing so can help GPs make sense of MUS and understand and be able to explain the symptoms in a way that, though not biomedical or ‘scientific’ in kind, is pragmatic and clinically useful.

Moreover, adapting to the clinical reality of MUS involves a reorientation of their logic of diagnostic classification (Article 1). An important concept in this regard is, I propose, ‘diagnosis by anticipation’: GPs diagnose based in part on the anticipated consequences of using this or that diagnosis, primarily regarding the patient’s well-being and their chances of success in the health insurance system. The act of diagnosing by anticipation illustrates the potentially reflexive character of interface management, involving considerations of how diagnostic categories are interpreted by generalized others; what this or that diagnosis as a cultural object means to these others. Together, Articles 1 and 2 illustrate how biomedical knowledge is only a part of GPs’ clinical repertoire and how MUS can make them draw on other, less idealized, ways of practising medicine. Moreover, these articles suggest a reflexive and critical awareness among GPs about the ideal status of biomedicine within medicine and outside of it, and, moreover, about how other, more experience-based and practical forms of knowing are often better suited to their clinical work.

As outlined in Articles 1 and 2, the State’s adoption of biomedicine as a regulatory ideal is an additional reason why MUS are a clinical problem, *one that cannot be overcome by refining one’s own understanding*. As underlined in Chapter 3, the solutions to medical problems depend on the responses of other actors to succeed. Even if GPs free themselves from the allure of the biomedical model, patients’ eligibility for benefits is not for doctors alone to decide. This matter is further explored in Article 3 where I suggest that GPs, to varying degrees, also adapt their approach to sickness certification in order to persuade bureaucrats at NAV to make specific decisions about patients’ benefit claims. With Article 1, Article 3

argues that GPs will at times engage in institutional bricolage (Cleaver 2002), shaping medical certificates and directing the production and flow of information passed on to the insurance bureaucracy to guide decision-making processes across the jurisdictional fault-line that separates medicine from the insurance bureaucracy. In doing so, they must constantly balance their goal of helping the patient with their overall views of professional and responsible practice, using diagnoses and generating information that should be effectively persuasive but not implicate them in a lie. The concept of ‘rhetorical work’ is proposed as a resource in analyzing and discussing how GPs try to affect decision-making across jurisdictional boundaries on behalf of patients they believe have a legitimate claim to benefits.

The articles also tell us something about the challenges with gatekeeping in the ‘biomedicalized State’: as interface managers, GPs mediate between the medical system they inhabit and the bureaucratic system they want to persuade to accept a patient’s claims. This mediation, I suggest, is problematized by pervasive assumptions about disease and medical practice within the bureaucratic system, based on an idealization of medical knowledge and practice (Meershoek, Krumeich, and Vos 2007). GPs are thus being held accountable to medical ideals that stem from the enormous successes of biomedicine (Timmermans and Almeling 2009) but that are a poor match for the sort of situation GPs encounter with MUS.

Finally, Article 4 indicates that medical science is not producing knowledge of the kind that can help GPs understand and manage MUS (see Article 2). Due to their research design, such studies make the qualitative details of the symptoms and the illness experience more or less invisible, emphasizing instead quantifiable aspects such as the effect, number and persistence of the symptoms or the frequency of patients’ visits to the doctor. As in the ‘biomedical frame’ in Article 2, details of possible importance to care and treatment are excluded from the biomedical field of vision that is predominantly employed and are thus often not considered by medical research into MUS. Because this biomedical view is largely taken for granted as *the* medical view in the research context, questions about its effects remain unarticulated by and large.

The pragmatic adjustments undertaken by the medical profession could be interpreted as a form of care. Not just in GPs’ approach to clinical work (Articles 1-3) but also to the extent that researchers are trying to come up with new ways of classifying and treating patients (Article 4). However, in the clinical context, the adjustments are ‘workarounds’ (Gasser 1986, see Article 3) or strategies to *circumvent* problems that arise from the lack of fit between biomedicine and MUS. To an extent, successful workarounds preserve problems while

avoiding them. An alternative approach would be working *out* rather than *around* the problem, openly criticizing and attacking it at its root – namely the idealization and enforcement of biomedicine as the regulatory principle in medicine and health insurance. However, to the extent that the idealization of biomedicine is an important reason why patients trust doctors with their health, doing so might also place the profession's jurisdiction at risk.

Based on these findings, it seems reasonable to claim that medical knowledge and institutional arrangements are implicated in the making and management of MUS as a professional problem. An important cause of the problems GPs associate with MUS seems to be the mismatch between symptoms and the social systems within which they are interpreted and acted upon. The ambiguous and problematic character of MUS, I claim, is thus a relational, context-dependent product. That is of course not to say that the social context is what makes people sick (although it is not to rule it out either). But it is to say that doctors might find working with MUS less difficult in a context where there were less stable assumptions about what disease ought to be like, or with more symptom- and person-oriented styles of practice – such as the 'bedside medicine' practiced before and during the rise of somatic hospitals (Armstrong 1979; Jewson 1976) or even the humoral pathology of Galenic medicine (Porter 1999).⁵⁰ In sum, therefore, I suggest that MUS, as a practical problem and an ambiguous medical category, must be understood as resulting in part from tensions between enforced scientific biomedical ideals and clinical reality, and by extension as the need for pragmatic adjustments to those tensions.⁵¹

Bearings on the sociology of medical knowledge

Knowledge and reflexivity

The main findings in the study contribute to the sociology of medical knowledge by indicating the dual role of knowledge as a constraint and resource, and by providing insight into the pragmatics of medical knowledge and medical work.⁵² The study also demonstrates

⁵⁰ This does not mean that things were better before biomedicine and medical science. I can think of no one who would choose 18th century medicine over contemporary medicine. The point is just to indicate some important social and structural causes of MUS being difficult medical work.

⁵¹ I say 'in part' because I have no data or insight into what is going on in patients' bodies and how bodily states are brought about or developed.

⁵² Strictly speaking, the sociology of medical knowledge (SMK) is not a clearly defined 'sociology': it has yet to have its 'Towards a sociology of ...' article written. Only a limited number of studies explicitly identify themselves as belonging to SMK (e.g. Atkinson 1995; Armstrong 2002), and, as far as I can tell, only one person is a professor of SMK (Steve Sturdy at the University of Edinburgh). Yet despite the lack of formal demarcation, a plethora of studies may be classified as contributions to SMK, depending of course on how we define it. Here, I define SMK widely as *social constructivist studies of the production and application of medical knowledge*.

the fruitfulness of combining institutionally minded and contextually sensitive constructivist perspectives, such as those of the Strong programme in the sociology of knowledge, with the pluralistic and reflexive perspective of culture in action found in Swidler's repertoire theory. Moreover, in demonstrating the fruitfulness of combining finitism with repertoire theory, the study also helps bridge the gap between the sociology of (scientific) knowledge and cultural sociology. These are closely linked in terms of theory and substantive interests (e.g. Shapin 1995; Swidler and Ardit 1994) but rarely come together in dialogue.

In terms of diagnosis and sickness certification (Articles 1 and 3), the thesis shows the analytical importance of recognizing actors' potential for adopting a critical and reflexive view of their profession's knowledge and knowledge-based artefacts – for instance, in making choices about diagnoses or wordings in medical certificates. As demonstrated by studies of 'disease prestige' (e.g. Album, Johannessen, and Rasmussen 2017), diagnoses are *cultural objects* that doctors and others have opinions about. The public meanings associated with diagnoses as cultural objects should be recognized as a phenomenon that is important to study as it may impinge on medical work. This thesis elaborates on how the public valuation of diagnostic categories can have a practical bearing (Articles 1 and 3) – especially in cases of a mismatch between systemic ideals and the case at hand, doctors can make decisions based on critical and reflexive thinking about the meaning attributed to the categories they have at their disposal. As such, it shows that, in addition to being something doctors think *with*, medical knowledge is also something doctors think *about*, in the course of doing their jobs.

Thinking about knowledge as public, shared and external in this way moreover opens up an interesting window for thinking about of power and dominance between the individual practitioner and the medical profession, and also between the professional association and global organizations, such as the WHO (which controls the international classification systems, see Chapter 2) and national health authorities, that have appropriated the profession's knowledge for the purpose of accountability and control. Importantly, rank and file GPs do not create the official categories of their profession, nor do they decide which resources, rights, narratives and responses should be connected with them. When using the classification systems of their profession, therefore, individual GPs are wielding a power that they are themselves subject to.

A forgotten aspect of diagnosis

An additional contribution of this study to the sociology of medical knowledge, and in particular to the subfield of the sociology of diagnosis (Jutel 2009; Jutel and Nettleton 2011; McGann and Hutson 2011), consists of the theoretical account of diagnosis in medicine (in Article 1, in particular). It has been claimed that MUS cannot be diagnosed or classified (Jutel 2010a: 230; Kornelsen et al. 2016: 367). This claim, I argue, is based on a problematic understanding of what diagnosis is, and how it can be analyzed. As I suggest in Article 1, sociological and medical accounts of diagnosis have been preoccupied with the cognitive aspect of diagnosis as answering the question: ‘What is happening to the patient?’ (Llewelyn et al. 2014: 26), but have largely forgotten the bureaucratic aspect of diagnosis as a task that connects people to an appropriate and official diagnostic category. Forgetting this makes diagnosis an overly cognitive affair, one that assumes that once the condition has been identified, the appropriate category to confer follows from this as a matter of course. The case of MUS illustrates clearly that, in many cases, it does not, and the ensuing bureaucratic and important job of deciding which category to use is thus made invisible.

To be clear, the argument here is not that sociologists of diagnosis are unaware of the bureaucratic functions of diagnosis (e.g. Jutel 2009: 279) but rather that this awareness has not been integrated in the conceptualization of diagnostic practice. A satisfactory theory of diagnosis should account for the fact that diagnostic categories are cultural objects that are public and meaningful to people, often formalized and codified in larger classification systems and often tied to specific resources and treatment programs. Such features of diagnostic categories are important in diagnostic classification, I suggest, because a crucial aspect of diagnosing involves anticipating how others will interpret and respond to candidate diagnostic categories (‘diagnosing by anticipation’). In this sense, diagnosis is much more than an attempt to identify the patient’s condition; it is a fundamentally social, other-oriented enterprise, where the anticipated responses of generalized others feed back into the process of decision-making (Article 1). MUS are routinely diagnosed in both clinical practice (Article 1) and medical science (Article 4) and an important aspect of diagnosing MUS is relating to the institutionalized public categories and their anticipated meaning among generalized others (Articles 1 and 3).

Forms of medical knowledge

Another contribution is to the account of different forms of medical knowledge. The study emphasizes the importance of recognizing ‘clinical knowledge’ (e.g. Malterud 1995) as a

crucial form of medical knowledge (see Article 2).⁵³ Clinical knowledge consists of beliefs and practices formed from the clinical experience of oneself and others. The study thus contributes to a project that Malterud (1993, 1995, 2001, 2006) has spearheaded in medicine for more than two decades, emphasizing the importance of clinical knowledge. It is now considered an important goal in medicine (Cooke, Irby, and O'Brien 2010). Sociologists of medicine have argued in compatible ways for the recognition and impact of informal and practical ways of knowing in professional medical work (e.g. Atkinson 1995; Delamont and Atkinson 2001; Gabbay and le May 2011; Meershoek, Krumeich, and Vos 2007; Montgomery 2006). Not to celebrate it, but to emphasize its central role in medical work.

As well as highlighting the importance of such knowledge, this thesis also expands on the notion of what clinical knowledge entails. It includes the management of tensions between systemic ideals and clinical realities, as it includes the knowledge of the institutional environment and knowing how to operate it purposively for the provision of care. The practices I call interface management, diagnosis by anticipation and rhetorical work intimately depend on clinical knowledge (such as learning to anticipate how bureaucrats and patients will respond to a certain diagnosis or learning which service provider will write the most convincing functional assessments). Clinical knowledge is also important in the pragmatic framing described in Article 2 and in the routine clinical examinations that are integrated into research projects to produce data for analysis. Because clinical research to an extent depends on the classificatory practices of clinicians when producing data (Article 4), understanding clinical knowledge is also relevant to understand the in-input side of medical research. If clinical knowledge were taken more seriously as something for medical research to document and learn from – not least in terms of investigating whether such knowledge benefits or harms the provision of care, which must not merely be assumed (see Article 2) – this might improve the profession's understanding of itself and its work. If such knowledge can produce better quality care, if nothing else then for its capacity to take patients and their perspectives seriously, then it also has the chance to benefit patients suffering from MUS.

Knowledge and ambiguity

On a more general level, the study contributes to the composite literature on the relationship between knowledge and ambiguity, or the 'knowledge-ambiguity dialectic' as I refer to it

⁵³ Interestingly, by arguing that some skills and forms of reasoning are unrecognized but important forms of medical knowledge, this thesis and other contributions are part of an attempt to have these very forms of activity recognized and institutionalized *as* knowledge. It is part of a pattern of reference that may grow and become self-referential.

here.⁵⁴ As has been pointed out by several classic sociological contributions, the growth of knowledge often leads to new ambiguities: paradigms create anomalies that foster paradigm shifts (Kuhn 2012); answers beget questions that require answers (Merton 1987); the construction and refinement of order often beget disorder, dirt and other types of mismatch, each encouraging renewed attempts at tidying up (Bauman 1993; Douglas 2003); and, technological and scientific advances to harness nature pose new, destructive risks (Beck 1992a, 1992b; Giddens 1990). The same dialectic can be seen at play in medicine, for instance in diagnostic screening tests that indicate the *risk* of disease rather than disease itself (Aronowitz 2009, 2015; Timmermans and Buchbinder 2012): new knowledge about disease means new fears in the face of potential risk factors. In medicine, moreover, the identification, control and potential elimination of ambiguity are a seminal driving force behind the evidence-based movement (e.g. Timmermans and Berg 2003), and a seminal goal of medical training, as demonstrated in classic works in the sociology of medicine and the sociology of uncertainty (Atkinson 1984; Fox 1957; Light 1979; Timmermans and Angell 2001).

The thesis contributes to this literature by detailing how medical knowledge and institutional arrangements – in clinical practice, medical science and the health insurance bureaucracy – are implicated in both the making and management of medical ambiguity. It demonstrates how ambiguity results not just from ignorance, but from what is known, held to be true and expected of the world: it is thus not on their own, but in the interpretative and practical context of positively held and idealized beliefs from biomedicine about disease and medical practice, that MUS are made ambiguous and difficult professional problems. To clarify, unlike those who claim that the uncertainty associated with MUS ‘originates from a *lack* of medical knowledge (...)’ and that ‘The *less* medical knowledge we have, the *larger* the space for cultural imprints becomes’ (Lian and Robson 2018: 2 *my italics*), I claim that uncertainty originates as much from the actual *possession* of medical knowledge and, moreover, that it is mistaken to assume a reverse proportionality in the relative volume of knowledge and culture – as if culture has more room when knowledge is absent (as clarified in Chapter 3). It is mistaken, because *knowledge is cultural*, as much as any other cultural phenomenon. In my view, the correct sociological diagnosis should therefore focus instead on the *relative stability or instability* of culture/knowledge, and of power relations and epistemic authority, in medical practice. It should focus on the *institutionalization*, or on the character and pervasiveness of

⁵⁴ I use ambiguity rather than uncertainty because the former more specifically relates to the interplay between knowledge and ignorance. Linguistically, ambiguity requires existing alternative interpretations, a diverse meaning structure. One may know that X can mean A or B (knowledge), but not which one (ignorance).

collective patterns of self-referential activity. With MUS, the network of categories, complaints, narratives, people, practices and so forth, is unstable. This instability is what makes interface management demanding but it is also what makes room for creativity in solving medical problems.

Bearings on the sociology of professions

The thesis also contributes to a field with intimate historical links to the sociologies of knowledge and medicine (e.g. Atkinson 1995; Freidson 1988; Wright and Treacher 1982), namely the sociology of professions. It does so by demonstrating the importance of approaching the study of professional work with a theory of knowledge that integrates situated activity, institutional context and complexity, and reflexive and strategic action, such as the synthesis proposed in Chapter 3 of this thesis.

By detailing how professionals work to adapt the system to reality, the thesis also contributes to this academic field by constructing analytical concepts with a wider application, namely *interface management* (Chapter 3), *diagnosis by anticipation* (Article 1) and *rhetorical work* (Article 3). Interface management is suggested as a meta-category of professional work. In a professional context, interface management brings out the potential for the creative use of the status occupant's total network of discretion-based powers and resources. It shows how professionals may draw on the institutionalized resources they have at their disposal and put them to work in creative ways to resolve tensions between strong and stable conventions and the practicalities of the case at hand. Moreover, it highlights how the solutions professionals construct to resolve practical problems are dependent on contextual factors and on their legitimacy in the eyes of significant others (such as patients and bureaucrats in the case of GPs and primary care).

Furthermore, I propose that diagnosis by anticipation and rhetorical work are useful concepts for studying professional action. Here, they are construed as types or aspects of interface management. As analytical concepts, they can support the study of the way in which professionals use professional categories or communicate their professional judgement. For instance, this could be used to study how teachers award grades with a view to their effect on students' performances, or how police officers might categorize offences based on what they think should befall the offender (a similar account from the penal system is offered in Sudnow 1965: 262). The concept of rhetorical work could also be used to study how top bureaucrats shape information to be used in policy making, negotiating the thin line between advising

(facilitating decision-making) and grooming (facilitating specific decisions) (in a study like that of Mangset and Asdal 2018). Moreover, as analytical concepts, they can support the study of interface management across the internal divisions of institutionally differentiated social structures (such as modern hospitals or universities) or between related social systems (such as health care and health insurance). They can thus support professional studies that are interested in embedding the profession under study in its larger ecological context (Abbott 2005), sensitizing the researcher to professionals' efforts to *coordinate meaning across social space*, or to *adjust social systems to practical needs*.

Related to that, diagnosing by anticipation and engaging in rhetorical work can be seen as examples of professionals trying to operate beyond their, widely speaking, legitimate sphere of decision-making, to influence decisions across jurisdictional boundaries.⁵⁵ Doing so can of course be regarded as problematic, especially in democratic contexts where the legal aspect of those boundaries (the Insurance Act, health insurance policy, etc.) to some extent represents 'the will of the people'. But in as much as the goal of attempting to influence decisions outside one's formal jurisdiction is the adaptation of social systems to reality, to secure the system's 'intended purpose' (however this may be conceived of), condemnation should be applied with thoughtful restraint. Diagnosis by anticipation and rhetorical work, or other forms of creative 'tinkering' across jurisdictional boundaries, might turn out to be indispensable elements in the production of good and fair public services (Timmermans and Berg 2003: chap. 4).⁵⁶ In accordance with Weber's (1978) methodological principle of *Verstehen*, we should strive to understand what is going on (why people are doing what they are doing) before we pass judgement.

Concepts such as diagnosis by anticipation and rhetorical work may thus be considered contributions to this end: without good concepts to guide our reasoning about these forms of professional action, we risk producing naive accounts of 'misconduct' simply because we observe professionals behaving in surprising ways (surprising from a 'de-jure' or legal point of view). This extends to cases where professionals 'deviate' from more technical standards too. For instance, the fact that GPs use different diagnoses for 'identical cases' (e.g. Maeland et al. 2012), or that some practitioners diagnose in ways that deviate from clinical guidelines (e.g. Owe et al. 2016) is not necessarily evidence of problematic practice. It might just as well

⁵⁵ This is not necessarily their interpretation per se but there is a strong sense of awareness expressed in the interview data that diagnoses are chosen for their consequences and that certain practices are advisable because they might persuade bureaucrats to act in this way rather than that. See Articles 1 and 3.

⁵⁶ Though mere speculation on my part, perhaps such 'tinkering' could be framed as civil disobedience.

be evidence of problematic assumptions about medicine or the world, such as believing that a clinical guideline can determine practice (Timmermans and Berg 2003), or that clinical cases are ever truly identical (Barnes, Bloor, and Henry 1996).⁵⁷

Clarifications of the main argument

The main argument in the thesis is that, owing to a lack of fit with the enforced biomedical paradigm, MUS create frictions in the social systems where they are embedded and that this friction requires much work to manage properly. Having summarized how my work contributes to the sociologies of medical knowledge and professions respectively, some clarifications are in order.

A critique of the idealization of biomedicine

This thesis has approached biomedicine as a bundle of exemplary (paradigm) medical conditions and interventions, all centred around a biomedical model of disease. This model presumes: *i*) that psyche and soma (body) are separate domains; *ii*) that symptoms are effects that should have causes; *iii*) that, following *i*) and *ii*), somatic symptoms should have somatic causes, known as ‘diseases entities’; *iv*) that such entities may be detected upon physical examination (blood tests, imaging technologies, palpation, etc.) in the form of objective ‘signs of disease’ (tissue abnormalities, organic pathology, etc.); and, *v*) that upon detection, the objective signs explain the subjective symptom (e.g. Lock and Gordon 1988).

I would emphasize that the thesis and its findings should not be interpreted as a critique of biomedicine per se. According to the sociological perspective employed here, there is nothing wrong or damning about biomedicine (or any other epistemic convention) having limitations. A model or theory that accommodates all phenomena is likely to be of little use to anyone, as it directs action in any and all direction(s) at once. Although it is of course good to strive to improve our models and theories, it is also good to remember that their limitations are the flipside of their pragmatic strengths. The often criticized propensity for the objectification of human subjects in the biomedical approach is, for instance, also an important reason for the successes of medicine: objectification is pragmatically useful, directing attention and reducing complexity (Timmermans and Almeling 2009).

⁵⁷ The cited study by Maeland and colleagues (2012) let doctors see identical video vignettes. But that does not make the cases identical from the point of view of the practitioners, who meet these vignettes with different clinical experiences from different contexts. In this sense, recorded and replicated patient testimonies are not ‘identical’ if they are not experienced nor understood the same way by those who assess them; the same video looks different from different perspectives.

It may, however, be argued that in speaking of ‘biomedicine’ and ‘scientific biomedicine’, I have missed out on recent and current developments in biomedicine, including genomics, ‘genetic editing’, personalized medicine, precision medicine, and so forth, with medical science increasingly centred on the individual expressions of disease and treatments tailored to the patients’ genetic makeup (e.g. Coote and Joyner 2015; Hicks and Dunnenberger 2018; Tutton 2016). Moreover, it could be argued that I have overlooked varieties and complexities in the different ways of understanding biomedicine at different times and in different places (e.g. Lawrence and Weisz 1998). It could thus be said that I am referring to ‘the received view’ of biomedicine – the simplified, general notions that are most widely known. I have no quarrel with this, suffice it to say that, based on the data I have analyzed and the literature I have read, this is how biomedicine is *generally* experienced and understood; I have tried to indicate as much by claiming that biomedicine is problematically *idealized* – a notion entailing both simplification and ascent. The problem is not with the actual performance of fruitful clinical and scientific medical work guided by a biomedical paradigm but with the elevation of biomedicine in this ‘received view’, to the status of a regulatory ideal: when biomedicine is understood and enforced as *the* model of medical thought and action; when it is forgotten, momentarily or entirely, that some tasks may require forms of knowing and practice other than those of biomedicine.

In this regard, let me also emphasize that the thesis is not a critique of the use of biomedicine or biomedical standards for coordinative and regulatory purposes. As argued by Harrison (2009), the biomedical model is generally well-suited to a ‘managerial logic’: for the purposes of holding professionals accountable, standardized, objectifying classifications for idiosyncratic health problems offer a means to register and keep track of the ‘output’ of medical practice (Harrison 2009: 190; see also Rosenberg 2002: 240). Nor is there anything inherently problematic in the State wanting to make professions accountable, nor the intention to manage and control aspects of their work. The problem, again, is the *idealization* of biomedicine as a regulatory ideal in the systems of health care and health insurance. I have suggested that it is in this way that medical knowledge and institutional arrangements contribute to making MUS ambiguous and problematic.

For whichever reason, if the reader does not accept the claim that the *idealization of biomedicine* is at the root of the problem, it may perhaps nonetheless be agreed, based on the enclosed articles and this introduction, that 1) stable notions about disease, and medical

knowledge and practice, and 2) institutional arrangements in the social systems in which MUS are interpreted and acted upon, are important factors in making MUS difficult work.

Friction and phenomenological loudness

An important part of the main argument of this thesis is that lacking biomedical evidence *where evidence is expected* is a primary cause of friction in cases of MUS. What, then, about cases where biomedical evidence *is* found, and even in abundance? Are such cases without friction of the sort described above? Of course not. Recent and classical work in sociology and social science more broadly tells us of a world of frictions, one in which self-sustaining stability and coherence are mere fiction. For instance, John Law and Annemarie Mol have spoken of *ontological patchwork* (a practice) as a form of work necessary to enact reality, a reality which is itself therefore an ontological patchwork (the result of the practice), brought about by the work of patching it together (Law 2006; Law and Mol 1995). To make the notion of an ontological patchwork mundane and relevant, we can exemplify it with the diagnosis and treatment of a fractured leg. Both diagnosis and treatment amount to the coming together of bodies, beliefs, practices and things (palpating hands, fractured legs, x-ray machines, the moulding of a cast, including the plaster and fabric, etc.) which in turn shape reality as we understand it and act in it, as the effects of those actions take hold. This coming together – this assembly (e.g. Law 2009) – of various elements alters what people do, what things have been put together and how, and the future state of the patient’s fractured bone. To the extent that this is what we mean by ontological patchwork (practice/result), it amounts to not taking effects of any sort for granted, whether social or otherwise.⁵⁸

For the arguments presented here, then, the point is that no social system, and no social practice, is *in or of itself* adapted to reality, but must be adopted and applied in each instance (a view Law and Moll share with finitism, not to mention ethnomethodology and symbolic interactionism). There is thus no *absolute* difference between cases of MUS and other cases where biomedical evidence abounds in terms of the need to actively adjust and adapt to the particular case at hand (cf. Gardner et al. 2011; Nettleton, Kitzinger, and Kitzinger 2014). When calling attention to 1) how systemic maladaptation makes MUS difficult work and 2)

⁵⁸ I happily accept this general point but wish to avoid committing to what I consider the needlessly esoteric discourse of ‘multiple ontologies’ or ‘blurred agencies’ associated with work in science studies (see Sismondo 2010). I see no reason why a conventional lay discourse, where people act and things have effects, should prevent me from accepting or exploring the role of x-ray machines or plaster in the diagnosis and treatment of fractured bones. Maintaining such a conventional tone will, I think, also enable me to communicate more easily with people who may benefit from my study.

GPs' adaptive responses, I am therefore endeavouring to describe an area of medicine where the ontological patchwork is *loud, clunky* and *glaring* enough to rouse actors from their routinized slumber and force them to see themselves, to some extent, *as* patchworkers. Working with MUS thus involves a *phenomenologically significant level of friction* that provokes a pragmatic response in the form of reflection and creative action. Studies into medical knowledge and medical work will inevitably move between phenomenologically significant and insignificant levels of friction. MUS are often on the significant side because GPs' patchworks are challenged due to their lack of fit with the scheme enforced.

Implications

The thesis can be considered an invitation for clinical practitioners and medical scientists to reflect on how their work, professional knowledge and institutional arrangements are implicated in the making and management of ambiguous and problematic medical work, such as MUS.

Regarding biomedical idealization and MUS in primary care in Norway, the Norwegian Association for General Practice is already working to help GPs think outside of the biomedical frame, with a chapter in a new official guideline for general practice dedicated to MUS (Malterud 2016) and a reference group dedicated to producing teaching materials and holding seminars about MUS (Norwegian Association for General Practice 2018). These efforts are rather new and their effects are not yet known. From appearances, however, they seem to treat the 'symptoms' of biomedical idealization rather than focus on 'disease prevention': the target of these efforts are practicing GPs rather than students at medical school and in medical training. Moreover, there is little attention directed to the short-comings of biomedicine as a regulatory ideal.

Regarding medical research, I think there is a need for more thorough reflection on the future direction of research into MUS. In particular, as I show in Article 4, there is a need to reflect on how existing beliefs and assumptions impinge on analytical inference (psychogenic assumptions and biomedical doxa) and operationalization.

Starting with analytical inference, it is often assumed without argument that biomedical procedures fail to uncover disease because there is none such to discover (Jutel 2010a). Instead, the patients are believed to have misunderstood their symptoms; what *feels* like pain in the body is *actually* pain in the mind, wrongly attributed to the body by the patient. As unpersuaded social scientists have put it, doctors thus 'shift the blame' (Horton-Salway 2002;

Jutel 2010a) from the profession to the patients. In contrast, Greco (2012) claims that this form of psychogenic interpretation may be legitimate to the extent that the patients' problems actually *are* mental in kind. From the point of view taken in this thesis, the question is not whether the symptoms actually are mental, but rather if treating them as such works. Are psychogenic explanation and treatment a viable solution? Based on the literature examined in Article 4, they do not seem to be: patients reject psychiatric treatment and the implication that they suffer from 'somatovisceral illusions' (Bogaerts et al. 2008), causing them to misunderstand their own illness experience. Undeterred, researchers have experimented with the reframing of psychiatric treatment as somatic treatment; an attempt to get patients to undergo psychiatric treatment in disguise (e.g. Van Ravesteijn et al. 2013: 300). In one study, this strategy is unashamedly presented as 'a Trojan horse' (Katsamanis et al. 2011, 3), without considering the risk that patients will learn to fear GPs when they come bearing 'therapeutic gifts'.

There is also a need to reflect on how the MUS category is operationalized in research. As I show in Article 4, researchers operationalize MUS in a wide variety of ways. However, their disagreement is not made the topic of shared dialogue, and thus there is no awareness that they disagree about which cases can be properly understood as cases of MUS. What is needed, I think, is more active intertextual discussion about how the MUS category is applied in medical research. To me, this signals that the research suffers from a lack of theory and theorizing. Not in the sense that large sections of medical articles should be devoted to discussing theories and theoreticians. The suggestion is less far-reaching: there is a need for researchers to clarify what they mean by their most central concepts and relate how this conceptualization differs from other relevant conceptualizations. Doing so would help bring key underlying assumptions into view, thus creating an opportunity for dialogue and transparency in conceptual practices.

Cognitive pluralism as epistemic ideal

The thesis problematizes the institutionalization of biomedicine as *the* ideal that tells us what to expect from medicine, health and disease. There is a need, I think, for medicine to embrace itself as a pluralistic discipline. Although medicine is already a site for diverse styles of thinking and acting towards medical problems (Cooke, Irby, and O'Brien 2010; King 1982; Kirkengen et al. 2016; Malterud et al. 2015), there is a need, I think, to foster further recognition and advancement of the pragmatic value of cognitive pluralism in medicine.

The arguments for cognitive pluralism are not limited to medicine, however. An interesting parallel within the context of a sociological thesis is in the history of sociology. According to Merton (1976), despite the routine cry of despair that sociology lacks a single all-encompassing theory, there are good reasons to prefer a ‘pluralistic cognitive structure’ (p. 129). As he put it:

Were I called in as a consulting physician to review not only the diagnosis but also the recommended therapy, my opinion would be this: that the chronic crisis of sociology, with its diversity, competition, and clash of doctrine, seems preferable to the therapy sometimes proposed for handling the acute crisis, namely, the prescription of a single theoretical perspective that promises to provide full and exclusive access to the sociological truth. The reasons for my opinion are clear, if not compelling. No one paradigm has even begun to demonstrate its unique cogency for investigating the entire range of sociologically interesting questions (Merton 1976: 116).

Further reasons for embracing pluralism, as valid for medicine as for sociology, are found in Merton’s (1948a) description of ‘the serendipity pattern’, and in Tavory and Timmermans’ (2014) detailed outline of abductive analysis. Although GPs are not generally in the business of developing theory, the general point holds that by having multiple theories or viewpoints at their disposal, GPs are better equipped to understand the multiple and complex phenomena they encounter. As a parallel, it could be argued that by idealizing biomedicine, medicine is practising ‘the extended case method’ (see Tavory and Timmermans 2014): ‘The danger’ in employing such an approach ‘is one of moving from observation to predetermined theorization all too quickly’ (Tavory and Timmermans 2014: 19). Empirical research (e.g. Horton-Salway 2002; Jutel 2010a), including that presented in this thesis, suggests that this type of inference is an important and much too frequent occurrence in clinical practice and medical research (e.g. in the form of psychogenic assumptions discussed above).

My cautious recommendation is therefore for medicine to embrace a ‘pluralistic cognitive structure’, thus furthering its ‘abductive-pragmatic powers’. I say ‘embrace’, because, to reiterate, medicine is already multiple. But this attribute should be cultivated. The goal is not to fracture the stability of a strongly institutionalized biomedicine, but to provide flexibility in the form of multiple stable modes of reasoning and practice.

Rethinking the MUS category

Finally, this thesis offers a chance to rethink our understanding of the MUS category. First, regarding its function: Jutel (2010a) and others have characterized the MUS category as ‘a wastebasket diagnosis’. Wastebaskets are effective ordering devices, offering storage for discarded materials. Given the unflattering monikers that are sometimes used about patients

with MUS, such as ‘frequent flyers’, ‘thick folder patients’ (Greco 2012) and ‘heart-sink patients’ (Mathers and Gask 1995), and, given how the patients often feel disrespected and distrusted by doctors (e.g. Lian and Nettleton 2015), it is not so strange to argue that MUS are ‘medical waste’. Nevertheless, as I argue in Article 4, the wastebasket metaphor does neither the category nor the profession justice: unlike waste in a wastebasket, unexplained symptoms are not discarded but *contained*; not ejected but *managed*.

Rather than a wastebasket, therefore, I suggest instead that MUS is a ‘messy drawer’. In English, a ‘messy drawer’ is simply a phrase that describes the internal state of a drawer, an adjective and a noun. In Norwegian, however, ‘messy drawer’ (*roteskuff*) is a concept, referring to a particular kind of ordering device whose function is the management and containment of things we want to keep but have nowhere else to put. It lets us hold on to such things, but frees us from having to leave them lying about, or from having to put them into neatly ordered drawers where they do not belong. Its job, then, is to help *maintain order by containing disorder*. Whereas a wastebasket is for getting rid of disorder, a messy drawer is for storage and management (more on this in Article 4).

Second, as I have hopefully clarified by now, MUS are not incomprehensible, inexplicable or unmanageable in an absolute sense, but from a biomedical point of view. To an extent, GPs can (sometimes) understand, explain and manage MUS, but not in ways that align with ‘scientific biomedicine’. That is, the symptoms are not necessarily ‘medically unexplained’ as much as they are ‘biomedically unexplained’. Although it may sound funny, it would perhaps be more appropriate to talk not about MUS but BUS – *biomedically* unexplained symptoms. That way, we could relax a bit more and say: 1) it is unexplained by biomedicine, but most things are; and 2) it is not that doctors do not have explanations, it is just that their explanations reflects other ways of conceptualizing disease.

Limitations and future research

The findings outline various logics and ways of practicing medicine and indicate how these are embedded in – and draw on – epistemic conventions and institutional arrangements. However, as I have been careful to note in the articles, the limited data set and related choices of research design prevent me from making any claims about the extent to which, for instance, GPs engage in diagnosing by anticipation, or the extent to which they alternate between medical models. Moreover, although all contexts are different, the fact that all my data about GPs are from Norway, and a small part of Norway at that, means that I have based my

inferences on a rather narrow context. I have tried to illustrate how specific arrangements can make MUS difficult and highlight what is (probably) more or less specific about them. Additionally, the thesis has a creative and ‘solution-oriented’ bias: because I have been preoccupied with understanding the various ways GPs can resolve problems associated with MUS, I have generated more data about solutions. However, more research is needed to determine the extent of these forms of conduct and their structural conditions.

I have chosen to focus on the professional point of view, centred on GPs in primary care. This has pointed me in the direction of structures and conventions that matter to GPs working with MUS. However, my choice of focus on GPs has been at the expense of the perspectives of patients and bureaucrats – actors of key importance to the problems I have described. Patients’ interaction with GPs in the clinical context is a vital part in constructing what I have referred to here as ‘clinical knowledge’. Likewise, the interaction between bureaucrats and GPs, and the occasional interaction between all three actors, is of course of seminal importance to the experiences I have described of GPs working with sickness certification. I have tried to compensate somewhat for these limitations by addressing relevant research on patients and bureaucrats. But beyond this, I could have performed an ethnography after or in addition to the interviews. This would have provided the study with richer data about practices and the contextual rationality of GPs’ clinical habits and creative work. In particular, there would have been much to learn about the conclusions in Article 2 and 3, but the study could have been strengthened by other methods too. As with an ethnography, I could have provided richer descriptions of my central findings with support from extensive document analysis to learn more about the systems of medicine and health insurance, such as reading through medical certificates for patients with MUS. Moreover, I could have looked for or generated statistics about, for instance, which diagnostic categories are used where, to look for traces of what I call diagnostic strategies (Article 1). There is no doubt, then, that my study could have benefitted from more data, or from studying the phenomenon from additional angles.

Overall, though, I suggest that the general point holds: to understand the nature of the problems associated with MUS, it is necessary to look at how MUS relate to the norms and constrictions of the system within which they are treated. To understand how the problems are resolved, concepts like interface management, diagnosing by anticipation and rhetorical work can be of assistance. Moreover, the theoretical contributions to understanding how medical and other professional work is complicated by epistemic and practical conventions in and

between social systems, and how those complications may be resolved, transcend both the Norwegian context and that of primary health care.

In the future, there is a clear need for studies that go further in tracing cases, in particular health insurance cases, from start to finish, from medicine through to the health insurance bureaucracy, combining interactional data from participant observations with document analysis of the various documents produced in the process. Such a study could include ethnographic research at regional NAV offices and their ‘production’ of legitimate and illegitimate claims – including the translation between diagnostic systems in order to produce commensurable statistics. Moreover, there is a need for studies that examine how cases of MUS are handled across local medical and bureaucratic contexts. As I argue in Article 3, we risk producing an incomplete picture of how doctors, patients and bureaucrats behave unless we study their interaction in specific cases, because variations in practice among GPs might be *in response* to variations in practice at local bureaucratic offices (and vice versa).

Finally, I suggest that based on existing research, including the articles in this thesis, there is a need to study further the overall *interplay* between the State, clinical practice, medical science and lay culture, in the making of MUS – understood here as in the actual manifestation of the symptoms as they are lived and experienced by patients. In proposing this, I am *not* suggesting that MUS in general results from social organization and human interaction: I make no claim to understand the known and unknown physical/biological processes that underlie symptoms of individual patients that are classified as MUS. But based on my understanding of social processes, it is not farfetched to assume that people can get sick (in some sense) from being told that they are in danger (e.g. searching the internet for possible yet unlikely and often scary explanations for one’s symptoms), and from being treated by health care professionals with suspicion rather than basic compassion and human decency (as research indicates occurs more often than it should, e.g. Lian and Nettleton 2015; Lian and Robson 2018).

Such a project could combine insights from studies that focus on the interplay between knowledge, institutional context and practice (such as this thesis), with studies from clinical consultations, medical training and studies into how lay people relate to and use publicly available medical knowledge. In particular, it could learn from studies of clinical consultations that show how GPs often miss important clues and chances to comfort their patient (Salmon 2007), combined with the insights provided here about how the biomedical idealization makes MUS problematic work, suggesting that the current organization and

delivery of care not only fails to help but risk causing iatrogenic harm (e.g. Dowrick et al. 2004; Salmon 2007). Analytically, one approach could be to conceive of this bundle of fields and practices as a *machine* (the 'machine trick', see Becker 1998: 35–40) that produces not just conceptual ambiguity and practical challenges, but actually makes people sick. Such a project could reveal, for instance, how widespread notions about health, disease and medicine affect behaviours in clinical consultations; this in turn affects the production of data in clinical medical research, itself structured by the same widespread notions about health, disease and medicine, which produces knowledge that is later disseminated into health care, health insurance and society at large. Thus, a proportion of patients with MUS – or at least some aspects of their illness – could potentially be understood as the *outcome* of being handled poorly in a system that does not understand the problem and makes it worse by trying to trick patients into treatments that require their co-operation to work.

Such a research project would need sociology as a key component but would also need researchers with medical competencies. Thus, I suggest that there is a need for multidisciplinary research that explores *the extent* to which the institutionalization and production of health care make people sick and *the mechanisms* by which this occurs.

Conclusion

This thesis has explored the management of ambiguity in medicine and the relationship between knowledge and ambiguity in that regard, taking MUS in primary care as its case. The starting point was the fact that doctors think MUS is difficult work. The thesis asked why that is, and moreover how doctors address the difficulties (Chapter 1). As its empirical basis, the thesis draws on focus group and follow-up interviews with GPs working in Norway, and a document study of research articles into MUS published in medical journals (Chapter 4). Based on these methods and data, the thesis explores challenges associated with medical tasks such as diagnostic classification (in clinical medicine and science), inference, treatment, and sickness certification. The thesis takes a sociological, action-oriented and context-sensitive point of view, drawing on resources from the sociologies of knowledge and culture. Moreover, the thesis develops a conceptual framework (related to *interface management*) for making sense of challenges related to MUS, and doctors' reflexive, strategic and creative responses (Chapter 4). Based on four empirical articles, the main argument of the thesis is that 1) MUS create frictions in the social system in which they are embedded, resulting from the lack of fit of the symptoms with regulatory ideals from biomedicine; and 2) that managing these frictions require creative and reflective work, drawing on a wide repertoire of

knowledge. The thesis suggests that knowledge, as resource and restraint, is implicated in both the making and management of medical ambiguity. The study contributes theoretically to the sociology of medical knowledge and the sociology of professions, and to the understanding of MUS as a medical problem in the contexts of health care in health insurance.

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Appendix 1: ethical approval

Norsk samfunnsvitenskapelig datatjeneste AS
NORWEGIAN SOCIAL SCIENCE DATA SERVICES



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Erik Fossasn Rasmussen
Senter for profesjonsstudier Høgskolen i Oslo og Akershus
Postboks 4 St. Olavs plass
0130 OSLO

Vår dato: 15.01.2015

Vår ref: 41259 / 3 / AMS

Deres dato:

Deres ref:

TILBAKEMELDING PÅ MELDING OM BEHANDLING AV PERSONOPPLYSNINGER

Vi viser til melding om behandling av personopplysninger, mottatt 17.12.2014. Meldingen gjelder prosjektet:

41259 *Fastlegen - portvokter i helsevesenet*
Behandlingsansvarlig *Høgskolen i Oslo og Akershus, ved institusjonens øverste leder*
Daglig ansvarlig *Erik Fossasn Rasmussen*

Personvernombudet har vurdert prosjektet og finner at behandlingen av personopplysninger er meldepliktig i henhold til personopplysningsloven § 31. Behandlingen tilfredsstillende kravene i personopplysningsloven.

Personvernombudets vurdering forutsetter at prosjektet gjennomføres i tråd med opplysningene gitt i meldeskjemaet, korrespondanse med ombudet, ombudets kommentarer samt personopplysningsloven og helseregisterloven med forskrifter. Behandlingen av personopplysninger kan settes i gang.

Det gjøres oppmerksom på at det skal gis ny melding dersom behandlingen endres i forhold til de opplysninger som ligger til grunn for personvernombudets vurdering. Endringsmeldinger gis via et eget skjema, <http://www.nsd.uib.no/personvern/meldeplikt/skjema.html>. Det skal også gis melding etter tre år dersom prosjektet fortsatt pågår. Meldinger skal skje skriftlig til ombudet.

Personvernombudet har lagt ut opplysninger om prosjektet i en offentlig database, <http://pvo.nsd.no/prosjekt>.

Personvernombudet vil ved prosjektets avslutning, 31.12.2018, rette en henvendelse angående status for behandlingen av personopplysninger.

Vennlig hilsen

Vigdis Namtvedt Kvalheim

Anne-Mette Somby

Kontaktperson: Anne-Mette Somby tlf: 55 58 24 10

Vedlegg: Prosjektvurdering

Dokumentet er elektronisk produsert og godkjent ved NSDs rutiner for elektronisk godkjenning.

Avdelingskontorer / District Offices:

OSLO NSD, Universitetet i Oslo, Postboks 1055 Blindern, 0316 Oslo. Tel: +47-22 85 52 11. nsd@uio.no

TRONDHEIM NSD, Norges teknisk-naturvitenskapelige universitet, 7491 Trondheim. Tel: +47-73 59 19 07. kyrre.svarva@svt.ntnu.no

TROMSØ NSD, SVF, Universitetet i Tromsø, 9037 Tromsø. Tel: +47-77 64 43 36. nsdmaa@sv.uit.no

Appendix 2: information letter

Forespørsel om deltakelse i forskningsprosjektet

”Fastlegen – portvokter i helsevesenet”

Bakgrunn og formål

Det er kjent at arbeidet med å vurdere sykdom og arbeidsevne kan være krevende, samtidig som det er en sentral del av fastlegers virke. Undersøkelser viser at pasientens ønske kan gå på tvers av legens medisinskfaglige vurderinger, og at pasientens ønske ofte kan veie tungt. Men vi vet ikke så mye om hvorfor det blir sånn, og heller ikke så mye om hva leger selv tenker om dette, eller hvordan det er å stå midt oppe i det. Prosjektets formål er å få belyst norske fastlegers tanker om og erfaringer med dette arbeidet.

Prosjektet inngår i en doktorgradsavhandling tilknyttet Senter for profesjonsstudier (SPS) og Legeforskningsinstituttet (LEFO).

Hva innebærer deltakelse i studien?

Datainnsamlingen vil bestå av gruppeintervjuer med fastleger, med varighet på ca. 1,5 timer. Spørsmålene vil omhandle deltakernes erfaringer med vurdering av sykdom og arbeidsevne i tilfeller med «diffuse lidelser», inklusive spørsmål om pasientgrupper, diagnostisering, utredning, behandling, grenser, grensesetting, forventinger, roller og identiteter. Intervjuene vil lagres på lydopptaker.

Hva skjer med informasjonen om deg?

Alle personopplysninger vil bli behandlet konfidensielt. Kun prosjektgruppen vil ha tilgang til lydopptakene. Lydopptakene vil lagres på passordbeskyttet datamaskin i en bygning med krav til personlig adgangskort. Prosjektgruppen og doktorandens veiledere vil ha tilgang til de transkriberte intervjuene. Disse vil anonymiseres, slik at deltakerne ikke vil kunne gjenkjennes i publikasjon.

Prosjektet skal etter planen avsluttes den 31.12.2018. Da vil lydopptakene slettes, og alle transkriberte data vil være anonymiserte.

Frivillig deltakelse

Det er frivillig å delta i studien, og du kan når som helst trekke ditt samtykke uten å oppgi noen grunn. Dersom du trekker deg, vil alle opplysninger om deg bli anonymisert.

Dersom du ønsker å delta eller har spørsmål til studien, ta kontakt med Erik Rasmussen på epost (Erik-Fossan.Rasmussen@hioa.no) eller telefon (92210882).

Studien er meldt til Personvernombudet for forskning, Norsk samfunnsvitenskapelig datatjeneste AS.

Appendix 3: focus group guide

- A) Opening questions
 - a. Specialist or in training
 - b. Years of experience as GP
 - c. Place of practice
 - d. Other practical experience working in the health services
- B) MUS or uncertain illness
 - a. Some doctors say that questions of sickness and sickness certification are challenging when handling patients with MUS. Consider the following statement (by GP from an online and public forum for general practice):
 - i. “Some patients are in obvious good health, while others are obviously very sick. The problem arises when we operate in the so-called “grey area”: fibromyalgia, whiplash, chronic fatigue syndrome, personality disorder, and chronified bullying by employers. A single case can utterly drain a GP with a certain level of commitment”.
 - ii. What are your thoughts? Is this a recognisable way to think about MUS?
- C) Patient types
 - a. Have you ever had a patient with what one might call MUS or uncertain illness?
 - i. Describe a typical patient
 - ii. What characterises them?
 - iii. Could you give an example?
 - b. How do you approach such patients?
 - i. What is important, and what should you not do?
 - c. What is it like to work with these patients?
- D) Diagnoses
 - a. How do you decide what diagnosis to use?
 - b. Some doctors are sceptical or negative about certain diagnoses, e.g. ME or fibromyalgia. Why do you think that is? What are your thoughts?
 - c. Do you use such diagnoses?
- E) Sickness certification and work capability assessment
 - a. When is sickness certification appropriate? When is it not?
- F) Referral
 - a. To whom do you refer?
 - b. What are your experiences with regards to referrals? Are some specialists easy to cooperate with? Or hard?
- G) Health insurance
 - a. How is your cooperation with NAV (the national insurance bureaucracy)?

Appendix 4: follow-up guide

Innledning

Samtykkeerklæring.

- Lydopptak, anonymiseres, opptakene slettes, frivillig deltakelse (kan trekkes)

Om prosjektet, og om ideen til artikkel tre.

- Om allmennlegers arbeid med «diffuse lidelser», eller MUPS.
- I den tredje artikkelen ønsker jeg å utforske de *lokale* strukturelle og institusjonelle betingelsene for legenes profesjonsutøvelse. Vi ønsker å få vite mer om *lokale forhold*, for den enkelte lege, i dette tilfellet; deg. Målet er å tegne et bilde av konteksten du praktiserer i, og hvordan dette virker inn på din praksis. Vi skal innom NAV, spesialister og behandlingssteder, og andre forhold som kollektivnettet, arbeidsmarkedet og sosiale møteplasser.

NAV

Dere snakket mye om NAV, og særlig om vansker med å få NAV til å skjønne det dere vet om pasientene deres. Hvordan er kontakten med NAV for deg? Kan du fortelle litt om det?

- Har du kontakt med flere kontor?
 - a. Store eller små, mange avdelinger eller få, rett i nærheten eller langt unna?
- Saksbehandlere?
 - a. Kjenner du dem? Kan du navn osv.? Hvor mange?
- Rådgivende leger
 - a. Kjenner du dem? Kan du navn osv.? Hvor mange?
- Er kontakten på epost, brev, telefon, videokonferanse, ansikt til ansikt?
 - a. Er det noe du gjør eller kan gjøre, for å få dem til å forstå?
 - b. Ansikt til ansikt?

Behandlingssteder

I gruppeintervjuene ble det nevnt behandlingssteder man kunne sende pasientene til, hvor de fikk ulike former for oppfølging.

- Har du noen slike som du kan bruke?
- Bruker du de? Virker de?
- Hva har det å si for deg?

Spesialister (utredning/behandling)

I gruppeintervjuene ble det også snakket om ulike spesialister og kompetansesentre. Som psykiater, psykolog, nevrolog eller revmatolog.

- Har du noen slike som du kan bruke?
- Bruker du de? Virker de? Hvordan?
- Hva har det å si for deg?

Andre lokale forhold (kollektivforbindelse, arbeidsmarked, nettverk)

Kollektivnettet

- Gradert sykmelding og bussforbindelse

Lokalt arbeidsmarked

- Basert på gruppeintervjuene får jeg inntrykk av at en rekke tiltak, som gradert sykmelding, er avhengig av mulighet for tilrettelegging eller bestemte typer arbeid, og at andre tiltak, som full sykmelding eller uførepensjon, noen ganger må brukes fordi slike muligheter mangler.
- Hvordan er de lokale arbeidsmarkedsforholdene her? Møter du slike problemer? Kan du fortelle om dem?

Sosiale møteplasser

- Nettverk
- Lokalmiljø
- Stigma

Article 1

Rasmussen, Erik B. (2017) 'Balancing medical accuracy and diagnostic consequences: Diagnosing medically unexplained symptoms in primary care'. *Sociology of Health & Illness* 39(7): 1227-1241.

Balancing medical accuracy and diagnostic consequences: diagnosing medically unexplained symptoms in primary care

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Abstract Focusing on the case of medically unexplained symptoms (MUS), this article explores diagnostic classification in the absence of biomedical evidence or other strong medical warrants for diagnosis. The data are from three focus group interviews with Norwegian general practitioners (GPs) conducted in 2015, that centred on the issue of what diagnoses to use (or not) for MUS. The qualitative analysis reconstructs the logic underlying GPs' diagnostic accounts, which centred on the meaning of diagnostic categories and on anticipating how 'generalised others' would respond to those meanings (called 'diagnosing by anticipation'). The analysis suggests that GPs confer diagnoses by balancing unwarranted medical accuracy and anticipated harmful diagnostic consequences; the goal of diagnosis was finding categories in the International Classification of Primary Care that would yield acceptable results, without making a liar of the GP in the process. Drawing on the distinction between diagnosis as colligation and classification, the findings and their relevance for medical sociology are discussed. Counter to frequent descriptions as 'illness that cannot be diagnosed', the analysis shows how GPs can diagnose MUS in the bureaucratic sense of diagnosis as classification – a sense that has been missing from sociological view.

Keywords: diagnostic classification, medically unexplained symptoms (MUS), general practitioner (GP), focus group interviews, International Classification of Primary Care (ICPC-2).

Introduction

This article explores general practitioners' (GPs') perspectives on the diagnostic classification of medically unexplained symptoms (MUS). MUS refers to conditions that cannot be credibly established in biomedical terms and are considered unexplained by medical sciences. Fibromyalgia and myalgic encephalomyelitis (ME) are renowned examples (cf. Greco 2012). Classifying MUS is challenging work that complicates doctor-patient relationships (Arrelöv *et al.* 2007; Czachowski *et al.* 2011; Shattock *et al.* 2013), not least because of difficulties in treating the patients (Lundh *et al.* 2004) and explaining their condition (Hartman *et al.* 2009).

The hallmark of MUS is that medical examination yields no biomedical evidence to corroborate the patient's symptoms (cf. Greco 2012, Nettleton 2006). Diagnosing MUS therefore

requires GPs ‘to make judgements on the basis of something other than purely objective medical findings, contrary to their training’ (Mik-Meyer 2014: 13). This challenge is not unique to MUS: Symptoms without objective medical findings are ‘the commonest single category of complaints in general medical practice’ (Brown 2007: 773), and in that regard, MUS are typical. In other regards – such as being persisting, debilitating and widely contested conditions (Aronowitz 1998; Barker 2010; Brown 2007; Jutel 2010) – MUS differ from other ‘subjective complaints’ (e.g. ‘headache’ or ‘loss of appetite’).

In this article, MUS is used as a prism to understand the logic of diagnostic classification in situations where medical examination does not unilaterally indicate a diagnostic category, that is, when there are no strong medical warrants for choosing one category (e.g. wheezing) over another (e.g. asthma).¹ Such situations are typical in primary care, occurring whenever ambiguous or complex conditions must be classified within the discrete niches of the International Classification of Primary Care (ICPC-2, see WHO 2003). The ICPC-2 comprises 17 chapters (e.g. ‘A: General and Unspecified’ and ‘L: Musculoskeletal’), each divided into symptom diagnoses (code numbers 00-30) and disease diagnoses (code numbers 70-99).² The question is how, in these instances, GPs choose between official diagnostic categories.

Diagnosis as colligation and classification

In the medical literature, diagnosis is portrayed as a process of ‘pattern recognition’, whereby ‘The key cues to a patient’s problem – whether from the medical history, physical examination, x-ray studies, or laboratory tests – coalesce into a pattern that the physician identifies as a specific disease or condition’ (Groopman 2007: 34). Doctors are cast as ‘puzzle solvers’ or ‘scientific detectives’ probing patients’ bodies for clues (biomedical evidence) about the culprit (the disease) (Atkinson 1984, Chiong 2001). Despite competing discourses (cf. Engel 1977; Gabbay and le May 2011), this narrative of a scientific ‘disease hunt’ (Chiong 2001) is pervasive.

This image of diagnosis – in particular its underlying positivist philosophy (Leder 1990) – has been challenged in the sociological literature. Patterns are not merely detected in bodies, but are constructed, ‘transformed into a series of signs and representations, by means of a complex array of technologies of inspection’ (Atkinson 1995: 62). Far from medicine’s ‘dream of a purified objectivity’ (Leder 1990: 22), diagnosis must be understood as a hermeneutic process. Clinical interpretation follows narrative structures (Montgomery 2006), and ‘identification’ is guided by social conventions (Rees 2011) and narrative templates (Davenport 2011) or clinical frames (Dodier 1998).

Despite those achievements, the sociological account has a one-sided focus on diagnosing as the work of identifying conditions. Following Abbott (1988), we can distinguish between diagnosing as colligation and classification. Colligation refers to piecing relevant information together into a coherent picture, while classification refers to appropriately framing this picture within a formal diagnostic framework. Sociological (and medical) discourse has centred on colligation, on how doctors answer the clinical question ‘what is happening to the patient’ (Llewelyn *et al.* 2014: 26)? Little has been said about the more bureaucratic question, ‘how should we classify this within the niches of our formal framework?’ As a result, GPs’ formal task of diagnostic classification and the accompanying role as interface manager (Rosenberg 2002), operating the pigeonholes of professional bureaucracies (Mintzberg 1989), is missing from the sociological account of diagnosis.

This absence of diagnosis as classification is evident in sociological studies of MUS. Most studies explore patient experiences and patient perspectives (cf. Cooper 1997; Dumit 2006; Nettleton 2006; Nettleton *et al.* 2005) or provide historical and conceptual investigations into categories or classification schemes (cf. Jutel 2010; Lian and Bondevik 2015). A few studies

explore professional perspectives on the colligation of MUS (Mik-Meyer and Obling 2012; Horton-Salway 2002). However, to my knowledge, no one has dealt explicitly with the diagnostic classification of MUS in Abbott's sense. That is the aim of the present article.

I explore the logic of diagnostic classification when colligation does not provide a clear-cut biomedical picture, using MUS as a case thereof. The empirical analysis draws on focus group discussions with GPs centred on the issue of what diagnoses to use (or not) for patients presenting with MUS, and the reasons why. It reconstructs the logic underlying GPs' diagnostic classification in the absence of biomedical evidence and other strong medical warrants for diagnosis. Before we get to the findings, however, we turn to the method of inquiry.

Method

Three focus group interviews were conducted between January and March of 2015, with 23 GPs working in Norway. Recruitment took advantage of a system of specialist certification requiring GPs to participate regularly in peer groups. Group A included five GPs practising mainly in the capital city. Group B included nine GPs practising in suburban municipalities. Group C included nine GPs practising in rural municipalities. (For more group characteristics, see Table 1.) Sessions lasted for 90–120 minutes. Informed consent was elicited in writing. The Norwegian Social Science Data Services approved the study.

The author moderated, and an assistant controlled the recording devices in all the interviews. A topic-based interview guide was prepared, focusing on MUS in general, with some questions specifically about fibromyalgia and ME. I asked about patients with MUS and the GPs' approach to diagnosing them. The groups had convened before (to discuss other topics) and thus the participants were not complete strangers. These factors shaped the construction of the data and subsequent analysis.

Because focus groups allow for producing concentrated data about topics for which it is hard to obtain a substantial set of observations (Morgan 1996), it was a more efficient approach than observation in clinical settings. I used GPs' esoteric knowledge and disparate perspectives as a tool for exploration, by having them engage each other in debate; because of their training and experience, they could give informed responses and rebuttals in ways I could not. Letting the participants take concerted control over the direction of the discussions was a good way of discovering things I did not think to look for.

The recorded interviews were transcribed in NVivo 10 (QSR International, Brisbane), and a translator was used for selected quotes. I followed Barbour's (2013) style of marking speech events. Accentuated words are underlined. Added information, such as codes in the ICPC-2, is in parentheses (e.g. '(A04)'). Brackets either signify interruptions or simultaneous speech, or contain non-lexical utterances (e.g. '[mhm]') and descriptions of actions (e.g. '[chuckling]').

Table 1 *Focus group characteristics*

	<i>Experience as GP</i> (yrs.)			<i>Specialist (yrs.)</i>			<i>Age (yrs.)</i>			<i>Gender</i>	
	>5	5-10	10<	<i>Not</i>	>5	5<	>40	40-50	50<	<i>F</i>	<i>M</i>
Group A	-	3	2	-	3	2	-	5	-	4	1
Group B	7	1	1	8	-	1	6	3	-	4	5
Group C	1	3	5	2	2	5	1	3	5	4	5

Speakers are unspecified when I was unable to determine who spoke or when there were multiple speakers. Pauses are indicated by ‘...’, and breaks in quotations are indicated by ‘(...)’. To secure anonymity, I have changed both participants’ names and facts about persons and places that came up in conversation. To secure transparency, I describe and show my contributions to the data. All participants have had an opportunity to read and comment on the quotes.

A thematic analysis was conducted, combining an interest in the contents and form of the discussions (in line with Halkier 2010, Morgan 1996, 2010). Deductive coding ordered data into manageable thematic clusters, namely ‘diagnosing and diagnoses’, ‘patients and patient types’, ‘diseases and non-diseases’, ‘fit notes, work assessment allowance and disability pensions’ and ‘bureaucrats and bureaucracy’. Inductive coding was done by taking notes and making comments whilst reading and re-reading the data. The findings result from the inductive analysis of the ‘diagnosing and diagnoses’ cluster.

Initially, my analytical interest was in how the GPs valorised diagnoses; the discussions were rich with expressions of (dis)regard (some diagnoses were ‘neat’, ‘good’, ‘nice’ or ‘useful’, while others were ‘bad’, ‘useless’ or presented as dangerous or harmful). On closer examination, I became interested in the logic of valorisation, namely, why some diagnoses were considered good and others bad. Analysis resulted in two substantive categories (‘medical accuracy’ and ‘diagnostic consequences’) that structured how the GPs valorised diagnoses. More importantly, they seemed to serve as warrants for diagnostic classification. In the following, I review and discuss the findings.

Results

What was the logic of the GPs’ diagnostic classification of MUS? I will show that concerns with: (i) medical accuracy and (ii) diagnostic consequences were central to their reasoning. Specifically, classifying MUS was about conferring diagnostic categories that provide non-specific symptom description while generating beneficial results (for the patient in particular).

Medical accuracy

We begin with the GPs’ concern with the level of medical accuracy. When discussing MUS, they expressed a preference for diagnoses that were broadly descriptive, stating only what they considered to be obvious features, without implying anything about hidden causes or mechanisms. This preference was evident in how they valorised diagnostic categories in the discussions. For instance, in group C, Richard promoted using neurasthenia (as an alternative to ME) for people who are exhausted or fatigued, because it implies nothing more beyond the fact that being under too much stress makes you asthenic:

Richard: (...) I often use a diagnosis called neurasthenia (P78). [M (moderator): mhm?]. It is, that is, I do not know what the criteria actually are for it, but I think it is such an incredibly good diagnosis, because I think it’s ... I mean, you become asthenic, by too much stress [mhm] [M: Yes]. Yes. (...)

John: And it is certainly old, was used a ton, you know, when we were young, to put it that way—

Richard: Yes, but I think it’s a fantastic (diagnosis), so I use it a whole lot [talking over each other].

The group later disagreed about whether neurasthenia would make patients eligible for various benefits. Richard thought it did, but was unsure. Still, he held it to be a fantastic diagnosis. He did not have a problem saying that a weary, tired or fatigued patient is asthenic, since asthenic

means debility or weakness. It does not imply other causes or mechanisms that Richard cannot find. Even though it was not accurate in any technical sense, it was not lying either. Therefore, he uses it ‘a whole lot’.

Just as general description was good (as with neurasthenia), being overtly specific without evidence to back it up was bad. This was one reason why the GPs disapproved of ME, as this quote from John illustrates:

John: Myalgic encephalopathy?! Then I would give the diagnosis that they have a brain disease, which is either caused by muscle pain or is related to muscle pain. That’s what I think that concept is saying. And I’m not so sure that that diagnosis, that term, is correct, you know?

To John, the name ME implies brain disease, which he thinks is incorrect, a view explicitly shared by others in the group. Therefore, John thinks it is a bad diagnosis. If he could not avoid it completely, he much preferred the term chronic fatigue syndrome (CFS) because he would have ‘an easier time giving that diagnosis’. Just as Richard liked how neurasthenia gave a general description without making promises he could not keep, John disliked ME for its namesake’s implied cause and nature; it ‘rubs’ him ‘the wrong way’, as John put it. John’s preference for CFS over ME shows how the important distinction often regarded diagnosis names rather than diagnosis codes (CFS and ME are both ordered under the code A04).

As mentioned, MUS are conditions for which medical examination does not unilaterally indicate what category to confer among the candidates in the ICPC-2. Talking about MUS thus generated discussions about diagnosis substitution, that is, about the pros and cons of various diagnostic categories. The next example shows how a preference for general description structured these discussions. Fibromyalgia and ME were referred to as diagnoses to avoid. Therefore, I wanted to have them discuss what their options were. We have already seen Richard talk about neurasthenia as an alternative to ME, and in the following, group A discusses their alternatives to using fibromyalgia and ME:

M: (...) I’m thinking back to these diagnoses that should be avoided. And then I’m thinking that, if there are some diagnoses you’d want to avoid, you can give others instead, you’re all saying, in a way? What types of diagnoses are there that you can give, which in a way work? (...)

Michelle: Joint pain in multiple joints, for instance? Could be one (alternative to fibromyalgia)? [M: Yes?] Descriptive and nice [M: yeah] [yes, mhm]. Doesn’t say more than what you sign off on.

Michael: I often use stress reaction (P02) [M: huh?] [Yes, mhm].

Michelle: Situation P02, or?

Kimberly: P04 (‘Feeling/behaving irritable/angry’)?

Michael: P02!

Michelle: Yes [mhm], it’s P02, certainly, yes [yes, mhm]. Our friend in need.

I asked them a hypothetical question, to which Michelle suggested joint pain in multiple joints, because it is descriptive, but not too specific (‘Doesn’t say more than what you sign off on’). Michael, however, shifted from the hypothetical to the actual, saying that he uses P02 a lot, which Michelle approved of. Immediately after Michelle’s last comment above, Jennifer continued:

Jennifer: It’s like ... Symptom diagnoses. Descriptive diagnoses [M: mhm].

Lisa: But those (symptom diagnoses) are the ones the Norwegian Labour and Welfare Administration (NAV) wants us to use less often.

- Jennifer: Yes, they want that?
 Lisa: Yes, because they of course want to cut back (on the use of symptom diagnoses).
 Jennifer: Right, that you don't specify it on a sort of very ... firmly cemented, but that it's a little more fluid [ingressive yes] [M: mhm].
 Lisa: Weariness, tiredness [mhm], A04 [yes, mhm, yes].
 Jennifer: And that one has been used much more now, in recent years [M: m?] [mhm] [Michelle: yes] [yes] [M: m] [ingressive yes].
 M: And then it's as an alternative [yes] to, for example, ME [mhm] or fibromyalgia [mhm, yes].
 Lisa: Because then you're describing more the symptoms [M: mhm] [mhm, yes], which is what the patient experiences [yes, ingressive yes, mhm].

Jennifer pointed out that joint pain in multiple joints and P02 are symptom diagnoses, and not disease diagnoses, to which Lisa emphasised that that was the point; it avoids committing to more than a plain description of the problem. Lisa also brought up A04 'weakness/tiredness general'. For our purposes, the interesting thing is how their preference for general symptom description structured the discussion about classifying MUS.

The last example in this section shows how preference for low specificity was connected to the task of diagnosing without biomedical evidence. However, ideally, they much preferred diagnoses that are specific, as illustrated in the following excerpt from group B. David had made a distinction between appropriate and inappropriate diagnoses, and I asked him to elaborate:

- M: (...) you said something a moment ago, that with uncertain illness, there is sort of a distinction between appropriate and inappropriate diagnoses. [David: Eh, yes?] Eh, what is an appropriate and what is an inappropriate diagnosis?
 David: Well, I mean, it is a bit back to what [Christopher] says, you know. That is, the diagnoses that actually are approved, which is palatable for NAV, and for that matter, for us medical doctors as well [chuckles]. There are, of course, some that sound better than others [chuckles], and that ... yes? That sounds better, for sick leave, and at least for extended sick leave.
 M: Oh yeah? Tell me about that.
 David: Examples of it?
 M: Yes
 David: ... MS (multiple sclerosis)!
 M: MS is good? [Laughter] [Yes]
 David: Lung cancer
 M: Yes? [Mhm, mhm]

According to David, some diagnoses sound better and are more palatable to welfare bureaucrats and GPs. This made the group laugh a bit, probably because it felt strange to discuss MS and lung cancer in positive terms. Immediately after the last remark above, Matthew suggested another diagnosis:

- Matthew: Back pain (L02) ... [Matthew chuckles] [slightly chuckling]
 Amanda: But isn't that a symptom diagnosis? [Yes]
 Christopher: Are there objective signs, [Amanda: No, there's no -] or just subjective?
 Amanda: Yes [mhm].
 M: Yes, because that makes a difference?
 Amanda: Mhm [mhm] mhm.

David: Yes, it does. [M: Yeah]. We probably have an easier time, or have less of a guilty conscience for granting sick leave for a patient with a bad case of MS, than one with mere back pain, you know. Or exhaustion, for example [mhm, mhm]. We probably do.

Matthew suggested back pain, but according to the group, that was missing David's point. The important distinction was between symptom diagnoses and disease diagnoses, and the ICPC-2 classifies (unspecified) back pain (L02) as a symptom diagnosis. Amanda and Christopher showed that they got David's point by asking whether L02 featured any objective signs of disease. Having signs makes a difference; not only do some diagnoses sound better than others, but using good-sounding ones in medical reports feels better.

Ideally, then, the GPs preferred specific diagnoses based on biomedical evidence (signs of disease) that determine the nature and causes of health conditions. The best diagnoses (e.g. lung cancer or 'a bad case of MS') are 'more palatable' and give GPs 'less of a guilty conscience' when issuing sick notes. However, with 'non-ideal' conditions like MUS, such diagnoses were considered irrelevant; there is no biomedical evidence to obtain. Diagnostic specificity is thereby discounted. Conferring diagnoses considered overtly specific (such as ME) even involves the risk of being implicated in a lie. For classifying MUS, therefore, a good diagnosis (like neurasthenia and A04) describes the apparent (i.e. the patient's symptoms) in rather general terms, and does not imply or specify any underlying cause of the health condition.

Diagnostic consequences

The GPs' second concern regarded the consequences of diagnosis. During discussions, the GPs voiced expectations about the clinical, economic, social and psychological consequences of using various diagnostic categories for patients presenting with MUS. These expectations seemed important and relevant to the GPs' diagnostic classification: a good diagnosis should generate good, or at least avoid harmful, outcomes. This utilitarian diagnostic orientation has already been hinted at above (a good diagnosis is approved by NAV), and in the following we shall elaborate this further.

For instance, group A discussed ME as terminal to patients' chances of recovery. ME was portrayed as a sinkhole, in which patients could get stuck. After having discussed some types of patients associated with MUS, I wanted them to reflect on the possible application of fibromyalgia or ME. Michael said ME is something he tries to 'avoid saying that it is, but that it sometimes ends up being called anyway'. This made me curious and so I asked why he wanted to avoid calling 'it' ME:

M: Okay, and can I ask why you try to avoid calling it that?

Michael: Because – and here it would of course be my experience, my little bubble where I sit [M: Sure, sure] – if it first ends up being called that, then that's it, there's no hope [mhm].

Kimberly: Strongly agree [M: Okay]. (...) No, then you won't get them out again, because then they've gotten onto a track that they ... You don't come out of it (unclear). (...) So I try never to mention the diagnosis [slightly chuckling], or suggest it to anyone [M: mhm].

Michael and Kimberly invoked the idea of a dangerous word, whose mere utterance could cause irrevocable harm. If it sticks, the patient is lost. I wanted them to explicate how or in what way the ME diagnosis meant that the GP was unable to get the patient back into the working life:

- M: Eh, okay, so they get diagnosed with ME [Michael: m] [Kimberly: mhm]. But why doesn't it work out, getting back to work, if it so happens that they have been given that diagnosis?
- Jennifer: [Jennifer exhales deeply and chuckles]
- Michael: Well, it cements it. That is, it has a lot to do with expectations [M: mhm] [mhm]. I mean, they've actually felt inadequate (...), and then they get a confirmation, which gives them the security, that they ... that everyone needs [M: mhm]. Like, 'Yes! That's it, now I don't have to be so anxious about what it is'. And then, that becomes so important [ingressive yes] [M: mhm], because not having had that security has been so stressful, so unpleasant [Yes]. So that, it's like the kickboard, the lifebuoy, that you firmly cling on to [yes, mhm] when the boat has sunk [ingressive yes, mhm].

According to Michael and Kimberly, ME is harmful because patients might respond to it in a harmful way. It should therefore not be used. Regardless of whether this is true, it clearly illustrates a concern for the consequences of conferring diagnoses to patients. If you are not careful, the patient might end up caught in 'an ME mire', as Michael put it. The GPs expressed concern for the social meaning diagnoses have, and the outcomes they can bring about by virtue of that meaning. Michael and Kimberly were essentially concerned with the looping effects (Hacking 1995) of ME. They were *anticipating* patients' likely responses to diagnoses they might confer. Other people's responses were anticipated too. For instance, Linda told group B she uses A04 ('weakness/tiredness') because it is acceptable to insurance companies: 'It's a very nice diagnosis (A04), because you don't get a very sort of like mental diagnosis, which you must justify towards an insurance company later [mhm]'.

Other consequences of using ME as a diagnosis were discussed. For instance, Angela explained to group C that using it makes her feel uncomfortable. Richard had previously remarked something similar, and so I tried to make them elaborate. Angela put it like this:

- Angela: I feel that one, in a way, makes a full stop, when one gives – no, if I make that diagnosis. So then, 'Goodness, we're done then, so there's nothing more ... [M: mhm], in a way. And that ... I think it's so vague [M: mhm?]. And then, I think it's a little bit tough to make a full stop [M: Yes]. That we won't examine any further [M: mhm]. Perhaps there's something else that I haven't seen? But when I've said that 'No, this here is ME' [M: mhm]. Very well, yes, but then we can't do anymore.

To Angela, ME means giving up. It is a vague conclusion to what is possibly an unfinished inquiry, and so using it feels hard. Thomas did not agree with the ME is full stop metaphor. He explained his opinion as follows: 'I don't think it's such a frightening diagnosis, because I think that it's ... like putting a paragraph. And then you move on'. He said that although some of his ME patients would never return to working life (which was Michael's and Kimberly's concern), others had and would. Therefore, to Thomas, ME is not a full stop but rather a paragraph, a break from one part to another. The interesting point is not whether the ME diagnosis is a full stop or a paragraph, but rather that these were meaningful terms in which diagnostic classification could be discussed. The metaphors express divergent expectations regarding the consequences of using ME, and (consequently) diverging preferences regarding its use.

Group A ascribed the 'full stop' to fibromyalgia, but regarded it as a positive feature (the only positive feature ascribed to fibromyalgia); it could help bring what was surely a fruitless investigation to an end. In the following, Kimberly had told the group of a patient she struggled to help, and for whom the fibromyalgia diagnosis became something to work with. It

made the patient accept that while she would be in chronic pain, it would not kill her. Consequently, Kimberly did not have to examine her any further. In the following, Michelle and Lisa commented on that story:

- Michelle: But it's actually a good point that it might perhaps be a useful diagnosis in order to end inquiries [Kimberly: yes, for example!] [Mhm] [Kimberly: Yes!]. To get away from that there, every other month you come and tell me anew [mhm] that 'It still hurts here and here [yes] and here and here [yes] and could it be ...?'
(...)
- Lisa: And that's where fibromyalgia is an okay diagnosis [Michelle: Yes], if one in a way can settle with it [yeah, mhm].

In group C, Angela said ME was terminal to further inquiry. In the excerpt above, group A described this quality in fibromyalgia as 'useful'; it could provide an exit, a way to round off fruitless investigations.

As with the preference for general symptom description, the concern with diagnostic consequences of diagnosis structured discussions about diagnosis substitution. For instance, group B discussed alternatives to fibromyalgia. Christopher had characterised fibromyalgia as a 'looked at askance kind of diagnosis', and I asked what the alternatives were to making such a diagnosis. Three musculoskeletal diagnoses were suggested as viable options (L18 'muscle pain', L19 'muscle symptom/complaint' and L29 'symptom/complaint musculoskeletal other'). With those three suggestions, however, the preference for general description came into conflict with their concern for consequences, which the group had to negotiate. I asked the following question:

- M: So then one can – [talking over each other, chuckling]. So then you can avoid the diagnosis (fibromyalgia), if you wish, in a way?
- Christopher: Yes, but then of course it becomes [Jessica: No!] a symptom diagnosis, that [Jessica: Because then it's not approved by NAV] ... maybe is a little bit more difficult to get a sick note issued than with a regular disease diagnosis [mhm].
- M: Okay [mhm].
- Jason: But fibromyalgia is a [Amanda: Is a –] symptom diagnosis [Amanda: symptom diagnosis], in itself, so –
- Christopher: Yes, but it is a diagnosis [mhm] [yes, yes] [talking over each other]. It is a sickness [mhm, yes] [Jason: yes] [mhm].
- Jessica: And I think it's right to use it, if the person is fully examined (...) often by a rheumatologist [M: m], and that is what we get, as a diagnosis [M: mhm] [mhm, yes]. So in relation with NAV, I certainly use [M: mhm] –
- Christopher: Have you yourself given that diagnosis?
- Jessica: No ... I have not.
- Christopher: No.
- Melissa: But surely it's – if you're on sick leave for over a year and need further (sick leave) – then surely it's easier to get work assessment allowance or other benefits if you have the fibromyalgia diagnosis [mhm, mhm], and not just muscle syndrome [mhm] [Jessica: yes], muscle skeletal [mhm]?
- Jessica: Exactly, then it is slightly more verified [Melissa: Yes] in that respect, I think, then [mhm, mhm].

The suggested alternatives were symptom diagnoses, and therefore possibly less acceptable to NAV. This was a concern. Jessica was opposed to substitution; she thought using fibromyalgia

was 'right', especially if the patient has been examined by a rheumatologist. Melissa also argued for using fibromyalgia, but note that her comment (at the very end) is not about whether it is the correct diagnosis, but whether it is better or worse at getting the patient certain benefits, which is the point Christopher (and Jessica) made a bit earlier. Discussions about pros and cons were structured by their concern with consequences of diagnosis.

Diagnosing by anticipation

Diagnoses have various consequences (cf. Jutel 2010). The reviewed data suggests that when diagnosing MUS, such consequences become relevant diagnostic criteria. This was evident in the GPs' talk, which was littered with reference to consequences ('easier to get work assessment allowance'; 'more difficult to get a sick note issued'; 'a useful diagnosis in order to end inquiries'; 'it cements it'; 'if it first ends up being called that, (...) there's no hope' etc.). We can thus infer that a good diagnosis for MUS is one that is expected to generate acceptable consequences.

Importantly, diagnoses have consequences because people respond to them. To expect a consequence of diagnosing is to anticipate the response of social actors. For instance, when Michael said ME 'cements' patients in their current state, he was talking about how (he thinks) patients will respond to the meaning ME conveys. Diagnosing MUS meant anticipating the responses of generalised others (Mead 1934), such as patients, bureaucrats or insurance sellers, to this or that diagnosis. In other words, the GPs' logic involves diagnosing by anticipation.

Discussion and concluding remarks

Despite being described as 'illness that cannot be diagnosed' (Jutel 2010: 230), or 'symptoms that cannot be classified' (Kornelsen *et al.* 2016: 367), MUS clearly can be diagnosed in the bureaucratic sense of diagnosis as classification that has been missing from sociological view. For MUS as for 'subjective complaints', the ICPC-2 is full of candidate diagnoses (cf. Armstrong 2011). The reviewed analysis reconstructs the logic underlying GPs' diagnostic classification in the absence of biomedical evidence and other strong medical warrants for diagnosis. This logic centres on the meaning of diagnostic categories and on anticipating how others will respond to those meanings; classifying MUS meant balancing unwarranted medical accuracy and harmful diagnostic consequences. The goal was finding categories that would yield acceptable results, without making a liar of the GP in the process.

The discourse of diagnosis as pattern recognition (or construction or interpretation) takes for granted a causal relationship between colligation and classification where the former dictates the latter. The reviewed findings show that this should not be so readily assumed. The GPs' talk made the distinction between colligation and classification relevant; what they, broadly speaking, identified as the patients' problems (being fatigued, in pain or overburdened) was insufficient in determining what diagnostic category to confer. Instead of following colligation as a matter of course, classification was a separate sphere of decision-making. In ambiguous cases such as MUS, GPs that (come to) believe there are no disease entities or specific conditions to find will pragmatically reorient the aims of the diagnostic process. The resulting (partial) disjoining of classification from colligation can thus be interpreted as an adaptive response (Elster 1985) to the task of fitting complex conditions within the discrete niches of a formal diagnostic framework.

In both formal and common sense terms, diagnoses are expected to express a doctor's professional opinion about health conditions, following a (thorough) clinical examination. This diagnostic norm is the basis of state mandated divisions of labour between doctors and bureaucrats, divisions that constitute jurisdictional fault lines between the systems of health care and

social security, in Norway as in most Western countries. It follows from the norm that the anticipated responses of generalised others should not be a basis for diagnostic classification. If GPs confer diagnoses with a view to securing specific outcomes from social services, they are effectively resisting state imposed limits on their professional powers. From the perspective of public policy, diagnosing by anticipation is problematic.

The diagnostic logic could be otherwise. The GPs could disregard anticipated consequences (to the possible detriment of patients' medical, social or financial wellbeing), disregard professional ideals and confer more obviously medically unwarranted diagnoses (e.g. 'a bad case of MS', to their patients' financial benefit or psychosocial detriment), or refuse to make any diagnosis at all in the absence of strong medical evidence. Whichever, they must choose, and the GPs in this study prioritised a balance between patient advocacy and upholding professional ideals, sometimes emphasising the former, sometimes the latter (similar priorities indicated in Mik-Meyer 2014).

Bearings on sociological research

The findings have several bearings on sociological theorising about diagnosing and diagnoses. First, though it is known that diagnoses have various consequences (cf. Jutel 2010), the role of these consequences in diagnostic decision-making has not been properly accounted for in the literature. Within the GPs' logic of diagnosis, the anticipated consequences of conferring diagnostic categories become relevant diagnostic criteria; peoples' likely responses were diagnostic warrants. The concept of diagnosing by anticipation thus integrates the consequences of diagnosing into the very process of diagnostic classification.

Second, the element of anticipation gives the GPs' diagnostic logic a pronounced social character: to confer diagnostic categories depending on how you expect others to respond is an essentially social action in Weber's (1978) terms. Others have emphasised the social role of doctor-patient negotiations (cf. Gill *et al.* 2010). However, the GPs' diagnostic logic included a view to actors outside the clinical setting, meaning that their diagnostic approach was social across institutional contexts. Anticipating generalised others' responses enable GPs (more or less knowingly) to transcend imposed limits to their professional power and interfere in decision-making in social spheres beyond their jurisdiction. The concept of diagnosing by anticipation thus accentuates the power of diagnostic classification; diagnoses are a means of influence across social systems. The exercise of this influence should be investigated further.

Third, the GPs' diagnostic logic calls for a distinction regarding diagnostic categories. On the one hand, diagnoses are answers to the question, 'What is the patient suffering from?' On the other, they are bureaucratic instruments. The GPs' diagnostic logic emphasised the latter distinction; the conferred diagnoses were tools – means towards various ends – that get the job done. In other words, the GPs adopted a pragmatic attitude emphasising the future consequences rather than the present veracity of diagnostic categories. Consequently, treatment and diagnosis seemed to converge. This distinction, between diagnostic categories as answers to queries and as bureaucratic instruments, can help make sense of diagnostic practices in existing and future research.

Fourth, interpreting diagnoses as tools requires explicit consideration of the ends for which the tool is a means. However, the purpose of classification is often taken for granted. For instance, Jutel (2011: 192) has claimed that 'Ultimately, classification is effective when it is both precise and accurate', where precision 'measures how predictably different classifiers will arrive at the same classificatory outcome' and accuracy 'describes the closeness of a category to its true state, or its individual nature'. Against this account, I argue that effective classification depends on the purpose of the classifier. As the findings in this study show, imprecise and inaccurate classification can be effective; the GPs were (eventually) not looking for precise

or accurate classification, but rather for diagnostic categories that worked, i.e. that help their patients without discrediting themselves. For their purposes, it was effective.

Fifth and final, the GPs' diagnostic logic depicts diagnosing as a process of continuously searching for suitable non-specific diagnostic categories and being reflexive about the meaning a diagnosis will invoke in others. However, the process can become habitual over time (though never fully automated), solidified as employable diagnostic strategies. For instance, when Richard said he uses neurasthenia 'a whole lot', he seemed to be talking about a habit. The findings therefore suggest that diagnosing involves anticipating the responses of others or employing diagnostic strategies that (seem to) get the job done. Studies using video vignettes (Maeland *et al.* 2012) show that GPs use different diagnoses for identical cases of MUS (just as variation in practice is 'uncovered by virtually all studies of clinical behaviour', Dowie 1988: 2), but tells us nothing regarding the reasons for doing so. The findings presented here suggests that variation in practice (partly) expresses the multiple diagnostic strategies GPs employ, all of which can get the job done.

Limitations and relevance

The author both moderated the focus groups and performed the analysis. To limit the presence of researcher bias and unwarranted interpretations, the analysis was presented to GPs at two Nordic research conferences. On both occasions, they found the data recognisable and the conclusions credible. Additionally, I have presented and discussed raw data and preliminary analyses with peers and colleagues on multiple occasions. Despite those efforts, I cannot know if the participants 'truly' held (and hold) the opinions they voiced, nor if what they said exactly matches what they 'actually' do. Instead, I use their talk to uncover some shared beliefs that are available to them as members of a therapeutic culture. These beliefs are part of the 'toolkit' (Swidler 2001) of general practice, and the GPs I interviewed used them to respond to my questions. Even if they do not personally hold the opinions they voiced, they displayed some forms of thinking and reasoning about diagnosis that are part of their professional repertoire. Sharing a repertoire does not imply being of like minds, and indeed the data is full of differences of opinion. However, the findings speak to shared forms of reasoning that were available to them in the interview setting, that seemed relevant when discussing their diagnostic work, and are likely to affect clinical decision-making.

Despite focusing on MUS, the findings have a wider relevance. The demand that health conditions must be diagnosed within the ICPC-2 constitutes an imposed standard that 'will produce work-arounds' (Bowker and Star 2000: 159). We should thus expect similar conduct in similar problem situations (i.e. whenever one must choose between a standardised set of diagnoses without the support of biomedical evidence). As mentioned this is commonplace in primary care, where subjective complaints abound. It is also routine in psychiatric medicine, and an interview study with American psychiatrists (Whooley 2010) indicates the presence of diagnosing by anticipation, as illustrated in the following excerpt:

I want to tell you that we all fudge. In order to meet insurance requirements we all fudge, we distort the diagnoses. Very often we use a diagnosis that will be acceptable. . . So everybody has a major depressive illness. In order to deal with insurance requirements, you have to distort it . . . I mean, I wouldn't lie, but I would stretch the diagnosis. Definitely (in Whooley 2010: 460).

Moreover, concerns about people's responses to conferred diagnoses are likely to be found with diagnoses associated with stigma (as indicated in Rafalovich 2005). We can speculate that

similar diagnostic approaches abound within the hospital sector in cases where, despite having biomedical evidence, colligation does not point unanimously to one diagnosis (cf. Nettleton, Kitzinger, and Kitzinger 2014). However, the question of relevance should be determined empirically.

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Notes

- 1 Thanks to my anonymous reviewer for this example
- 2 There are also various process codes, see WONCA International Classification Committee (1998). See Armstrong (2011) for a history of the ICPC-2's development.

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Article 2

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RESEARCH ARTICLE

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How general practitioners understand and handle medically unexplained symptoms: a focus group study

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Abstract

Background: Medically unexplained symptoms (MUS) are a common yet challenging encounter in primary care. The aim of this study was to explore how general practitioners (GPs) understand and handle MUS.

Methods: Three focus group interviews were conducted with a total of 23 GPs. Participants with varied clinical experience were purposively recruited. The data were analysed thematically, using the concept of framing as an analytical lens.

Results: The GPs alternated between a biomedical frame, centred on disease, and a biopsychosocial frame, centred on the sick person. Each frame shaped the GPs' understanding and handling of MUS. The biomedical frame emphasised the lack of objective evidence, problematized subjective patient testimony, and manifested feelings of uncertainty, doubt and powerlessness. This in turn complicated patient handling. In contrast, the biopsychosocial frame emphasised clinical experience, turned patient testimony into a valuable source of information, and manifested feelings of confidence and competence. This in turn made them feel empowered. The GPs with the least experience relied more on the biomedical frame, whereas their more seasoned seniors relied mostly on the biopsychosocial frame.

Conclusion: The biopsychosocial frame helps GPs to understand and handle MUS better than the biomedical frame does. Medical students should spend more time learning biopsychosocial medicine, and to integrate the clinical knowledge of their peers with their own.

Keywords: Medically unexplained symptoms, Primary care, Clinical knowledge and experience, Medical models, Framing

Background

Medically unexplained symptoms (MUS) is an umbrella term used to refer to various symptoms that 'have no identified organic basis' [1], and 'for which no adequate medical explanation can be found after a proper medical examination' [2]. As such, MUS force general practitioners (GPs) to base clinical judgements on something other than biomedical evidence [3]. Cases involving MUS are said to 'test the credibility of the doctor (...) for his or her inability to label the patient's complaint' [4], and it is well documented that MUS can be a challenge to both patient and doctor [5–7]. Those difficulties notwithstanding, MUS are among the largest categories

of complaints in primary health care [8, 9]. In a recent Danish study, almost one in three patients belonged to this category [10]. Consequently, GPs need to understand and handle these patients' complaints. Yet, not enough is known about how GPs actually do this. In this article, we therefore explore GPs' approaches to understanding and handling MUS.

We use the concept of *frame* to explore GPs' approaches to MUS. Frames are shared ways of 'organising experience' [11, 12]. Each complaint can be interpreted under different framings, and each frame indicates different approaches to patient management. Studies suggest that whereas patients expect or demand that GPs employ a biomedical frame, GPs prefer a biopsychosocial frame [13–17]. This is perhaps not surprising, as the biopsychosocial model is at home in primary health care. Yet other studies suggest the opposite [18, 19];

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patients want support and compassion, but GPs provide somatic screening and intervention. Either way, the literature indicates a *tension* between a biomedical frame centred on disease and a biopsychosocial frame centred on the sick person [20]. This tension is heightened by health insurance policies and welfare bureaucracies that favour biomedicine [21, 22]. Little is known about how GPs negotiate those tensions, or how choice of frame affects patient management. This paper therefore explores how medical frames organise GPs' understanding of MUS, and how this enables (or disables) patient management. To that end, we conducted focus group interviews with GPs about MUS.

Methods

Design, setting and participants

Three focus group (FG) interviews were conducted in Norway in the first quarter of 2015. The number of groups was considered appropriate for an explorative study. Recruitment took advantage of established groups in the continuing medical education program (see Table 1 for group characteristics). In Norway, there is a five-year specialization program to become a specialist GP, which includes regular group supervision. The groups were informed about the study beforehand, and none refused to participate. We purposively sampled groups with varied experience [23], in terms of years and place of practice. FG1 mainly included non-specialists in training, most of whom work in suburbs around Oslo; FG2 was a mixture of doctors in training and experienced specialists in general practice, most of whom work in rural areas in the east of Norway; FG3 included experienced specialists, most of whom work in Oslo. The interviews were audio recorded and lasted for 90–120 min.

FGs are 'artificially set up situations' [24], 'created and managed by the researcher' [25], where participants and researchers *co-construct* [26] the data. It is therefore important to clarify researcher contributions to the data [27, 28]. EBR is a sociologist, KIR is a medical doctor trained in occupational medicine. EBR moderated the three interviews, KIR assisted. The semi-structured interview guide centred on experience with MUS and patient management (see Additional file 1). We asked about their experience with MUS, about what they

considered typical features of patients with MUS, about what one should or should not do, and why. Moreover, we asked about the distinction between diseases and non-diseases, and about what diagnoses they used and why. We treated 'MUS' mainly as *placeholder* for conditions for which there are no biomedical evidence, meaning that apart from that criterion, we did not specify what conditions to discuss: we wanted them to decide. However, we did ask specific questions about sick listing, and in doing so, we implicitly excluded retired patients with MUS or patients with MUS who were already on permanent disability benefits.

FGs are good for producing concentrated amounts of data about issues for which it would be difficult to gather large sets of observations [25]. Additionally, by having groups of GPs engage each other in debate, FG methodology allowed us to use their experiences and perspectives as tools for exploration; they could give informed responses and rebuttals in ways we could not. Allowing participants' responses to each other to drive the interviews was also a fruitful way of exploring those aspects we did not know in advance to look for.

Ethics, consent and permissions

The Norwegian Social Science Data Services approved the study (project number 41259). All participants gave written consent to participating, and for using the data in publications. Participants were also given the option to check the data used for publication.

Analysis

EBR transcribed in NVivo, drawing on Barbour's [29] annotation style. Italic font indicates emphasis; added information is in parentheses; brackets are used to describe events instead of representing them verbatim (typically non-lexical utterances, e.g. '[mhm]'); three stops indicate pauses in speaking ('...') or breaks in quotation ('(...)'). All quoted excerpts were translated by EBR.

Our disciplinary backgrounds allowed us to combine methodological skill with analytical sensitivity informed by clinical experience. Although sense making was an analytical interest from the outset, our interest specifically in clinical experience and medical frames grew out of interpretative engagement with the data and the literature. After initial analysis and coding done separately by EBR and KIR, we discussed and decided on a strategy for further analysis. EBR analysed the data thematically, broadly in line with Braun and Clarke [30], combining *descriptive* and *in vivo* coding styles [31]. The final analysis made sense of the various ways the GPs understood and handled MUS in our data. The two main themes are presented as medical frames in the following section.

Table 1 Focus group composition and participant characteristics

	Experience (yrs.)			Specialist (yrs.)			Age (yrs.)			Gender	
	<5	5–10	10>	Not	<5	5>	<40	40–50	50>	F	M
FG1	7	1	1	8	–	1	6	3	–	4	5
FG2	1	3	5	2	2	5	1	3	5	4	5
FG3	–	3	2	–	3	2	–	5	–	4	1

Results

When discussing MUS, our participants alternated between 1) a biomedical frame, centred on disease, and 2) a biopsychosocial frame, centred on the sick person. Each frame accentuated different aspects of MUS. In the following, we describe how each frame organises GPs' understanding of MUS, and how this affects them, and their approach to handling patients.

MUS in the biomedical frame

The biomedical frame accentuated what is missing in MUS (objective signs of disease), and problems thought to flow from this absence. Consider excerpt A from FG1:

GP1

[T]here are rarely any specific issues with subjective *complaints*. That's definitely what I find the most difficult [mhm]. What the patient says and feels, that's what you have to deal with. And it's very difficult to assess, say, pain, objectively. Or to assess ... sadness, objectively [yes], anxiety, worries. So really, we're in a situation where we have to *listen* to the patient, and perhaps sick list based on that. And, when the law says that (...) we have the *opportunity* to sick list, even when we cannot *point* to anything *specific*. Then we have no choice but to trust the patient. And, of course, in principle, the patient decides what he or she wants to *say*. And then that can be entirely correct, or it could be entirely wrong [in-breath yes]. But often it's somewhere in between. Those are the difficult sick listing cases, definitely [mhm]

GP2

I think it's difficult too, with regards to the legislature. Because it clearly *states* that there should be a 'disease, injury or defect' (a legislative paraphrase) [mhm]. Usually, it's more of a borderline issue [mhm] (...).

GP3

And some of those sick notes are usually not the ones that last two- or three days. It's the ones that are a bit longer that are difficult, when it comes to unclear symptom constellations, or how to put it? I think *that's* where you're *dependent* on what the patient *says* (...).

GP2

There are many difficulties with the whole issue of fatigue. Examined, and yet we can't find anything, and then there are often a lot of burdens in their lives, which leads to the fatigue. And what are we to *do* about it [mhm]. Because, to sick list them ... I mean, there's no *disease* [mhm]. The way I see it.

GP3

Mhm. Tremendously difficult. (FG1).

The excerpt exhibits what was typical and related features of the biomedical framing of MUS. First, the focus throughout is on *the lack of objective evidence*. Thus, according to the GPs, 'there are rarely any specific issues' with MUS, GPs 'can't find anything', possibly because 'there's no disease' to be found (all from excerpt A). Some also pointed to the lack of scientific knowledge and explanation. For instance, one regretted not having 'an explanation for these conditions (MUS) in medical science' (FG2). When employing the biomedical frame, GPs thus understood and defined MUS negatively, in contrast with "normal" conditions for which evidence is obtainable and medical science has explanations on offer.

A second feature, and related to the former, is the strong emphasis on *subjective testimony as a problem*. Without objective evidence, GPs 'have no choice but to trust the patient' (GP1 excerpt A), i.e. they are '*dependent* on what the patient *says*' (GP3 excerpt A). Having to trust the patient was unpopular, as it involved the risk of being misinformed or even deceived. Patient testimony was thus framed as unreliable: it could be 'entirely correct, or it could be entirely wrong' (GP1 excerpt A). In other words, subjective testimony was considered a problematic source of knowledge about patients' conditions. Health insurance policy stipulates that impairment should have disease as its primary cause. Without evidence, the plausible presence of disease must be determined based on testimony. In the biomedical frame, sick listing thus becomes a problem of trust, and this is why some GPs felt it difficult to act responsibly as gatekeepers (see excerpt A).

Third, related to both lacking evidence and the low epistemic value attributed to testimony were frequent references to *negative feelings*, such as uncertainty and doubt. Some physicians were afraid that the patient might have a serious undetected problem, as expressed by a participant in FG2: 'Perhaps there's something else that I haven't seen?' Others emphasised how inability to obtain evidence spawned feelings of uncertainty, doubt and powerlessness. Consider excerpt B:

(...) we start to doubt how sick the patient is. Because we can't quite objectively *grab a hold* of these things. We can't do any blood tests, we can't scan them or anything. And then we begin to doubt a little. (FG2).

The GP explicitly ties his doubt to the inability to 'objectively grab a hold' of MUS. It is because he 'can't do any blood tests' or the likes that he begins 'to doubt how sick the patient is'. It is noteworthy that lack of evidence results in doubts in patients rather than doubt in medical knowledge. Some voiced suspicion of malingering. For instance, a participant in FG3 talked about two cases concerning young men with back pains. She 'couldn't find anything wrong' with their backs and concluded

that they were unhappy with their jobs and wanted sick notes for their 'supposed back pains'. Some also complained about feeling powerless. Consider excerpt C:

I can urge, or give medical *counsel*, and I can *suggest* that we try and up the workload in accordance with what is considered medically appropriate. But, in the end, when she says 'No, I actually *cannot* work more (...) I have no choice but to *trust* the patient, and I really feel forced into doing what she wants [in-breath yes, mhm]. (FG1).

We emphasise that GPs *feel* powerless; their powers are no more restricted here than they are with biologically verifiable diseases like hyperthyroidism (legally, GPs cannot *make* patients do anything – they must counsel). But with MUS, GPs *feel* inhibited. Note also that the participant believes the patient to be healthier than the patient does. The GP's problem, then, is the lack of authoritative warrants. Without evidence to back him, he feels that he cannot (or should not) force or sway the patient.

The biomedical frame thus accentuated the lack of objective evidence, the problem of trust and subjective testimony, and various troubling emotions. For those reasons, the frame also brought up frequent references to how MUS made GPs' work difficult. Because the symptoms are 'difficult to assess', sick listing becomes difficult ('what are we to do about it?'), elevating the risk of going into what one GP called 'a stalemate', i.e. an unfruitful therapeutic situation (FG1).

MUS in the biopsychosocial frame

In contrast to the biomedical frame, the biopsychosocial frame accentuated what is present, and opportunities that flow from this presence. Thus, when talking about MUS in the biopsychosocial frame, the GPs emphasised understanding, confidence and competence. Consider excerpt D:

A *nice* aspect of being a GP is getting to know people over time. And I'm thinking of my patient list a bit like my flock. I'm looking out for them, over time, to get the most out of it. They're going to be as comfortable as possible, so they can go to work, make money, pay taxes. And that means that you get to know people, and you can tell 'Will it pay off to invest in a small sick note? Be a little proactive about it [mhm]?' So that they'll return to work *quicker*? Almost like a preventive measure [mhm]. And I do have quite a few 'good girls' and a few 'good boys', who will at times stretch the rubber band a bit too far [M: mhm]. And then, some people need a little sick leave. So you've got to be watchful (...). (FG3).

Excerpt D exhibits several prominent accents of the biopsychosocial frame. First, the participant expresses an

understanding of the condition of patients he characterises as 'good girls' and 'good boys' – Norwegian slang for dutiful persons who tend to exert themselves too far. He also explains the condition by way of metaphor, saying such patients 'will at times stretch the rubber band a bit too far' – i.e. the body's ability to recuperate (elasticity), is lost. In other words, he (feels that he) knows what is troubling his patient. Other patient types were suggested, such as 'the double-labouring woman', 'between 37 and 43 years old, with three kids (...) and a job in the care services', whose conditions were understandable to the participants: 'It's in the *entire* system, the *entire* body, and the burden becomes *too heavy*' (FG2). This was typical of the biopsychosocial frame: MUS were discussed in terms of patient types the participants understood and could accept.

Second, because the participant in excerpt D feels confident that he understands, he also seems *confident about how to handle* these patients. He 'can tell' when a brief sick leave 'will pay off', and so he is 'watchful'. In other words, he (believes that he) knows what to do. As a result, he does not seem worried about sick listing patients with MUS. In his experience with these patients, using sick notes for the present condition can work 'like a preventive measure' for a later longer, and possibly irreversible illness trajectory. Understanding MUS in terms of patient types thus seems clinically efficacious. The contrast with the biomedical framing of MUS in this regard is striking.

Third, the participant in excerpt D ties his understanding with his *clinical experience*: it is because he gets 'to know people over time' that he 'can tell' what is wrong. This, we suggest, is a seminal effect of the biopsychosocial frame: it invites GPs to draw on their clinical experience to make sense of MUS. It is not simply that GPs come to trust what their patients say. By drawing on their extensive clinical experience, GPs can acquire a holistic understanding of the sick person, enabling them to act with confidence. Note that 'understanding' does not imply veracity – the GP could have the wrong idea. What is implied is rather that the patient's complaint is rendered meaningful in a clinically helpful way. Moreover, because GPs get 'to know people over time', trust is not (as much of) an issue. The credibility of patients' suffering is not called into question. Consider excerpt E:

GP1

You have to *see* them over *time*, you have to get to *know* people, so you can *sense*-, or *form* a picture, over time. Is it *real*? Do they *have* these troubles, these impairments they claim to have? That you don't have instruments to measure. And I'm thinking *this* is where being a doctor is *exciting* [Yes]! This is where the art of medicine comes

in! And where people knowledge comes in! Whereas with these other conditions, if a leg is *broken* or you've *seen* a heart attack on EKG. *Alright* then (inaudible, chuckles) that's technique. But its not much of an *art of medicine*. (...).

GP2

I think that when you *know* the patient, like (GP1) says, over a quite *extended* period of time, I think most of us would agree that ... the suffering is *there*. I think one *feels* that quite well, that there is no *doubt* that these patients suffer, and are *sick*. (FG2).

The emphasis on clinical experience ('people knowledge') and 'the art of medicine' was at times coupled with a distancing from scientific medicine and medical training, as in excerpt F:

(...) I feel that, in the course of an ordinary day, I can see *rather a lot* of patients, without having to use what I learnt in medical school, like *academic* or *scientific* (training). It's more like ... 'yes, mhm, yes I understand, mhm' (pretending to answer a patient). I mean, *that's* what we spend our time doing. (FG1).

Thus, in the biopsychosocial frame, MUS concerns what they do know, instead of what they do not. Rather than worrying about the lack of objective signs of disease and evidence based treatment, talking about MUS in the biopsychosocial frame meant relying on clinical experience (with individual patients and patient types), informal explanatory models and interpretation. In the biopsychosocial frame, MUS thus become (more) tangible.

Differences between groups

The use of frames differed across the focus groups. The group with specialists in training (FG1) relied heavily (though not entirely) on the biomedical frame. In contrast, the group of experienced specialists (FG3) relied almost exclusively on the biopsychosocial frame for discussing MUS. FG2, the group with the most variation in clinical experience, slightly emphasised the biopsychosocial frame. Similarly, outspoken preference for biomarkers ('the more objective (...) the more we like it') was frequently expressed in FG1 (the juniors), less frequently in FG2 (mixed group), and not once in FG3 (the seniors). Moreover, expressions of insecurity and frustration regarding patient management was frequently expressed in FG1, in contrast to FG3, whose members seemed confident about themselves and their own judgement. When the seniors in FG3 and FG2 voiced their frustration, it typically concerned bureaucrats and consulting physicians who did not accept the GPs' clinical judgement and instead instigated 'the burden of evidence' on them.

Discussion

Our analysis has shown how two medical frames shaped GPs' understanding of MUS, and how this affected them and their approach to handling patients. Biomedical framing emphasised what is missing (objective evidence), made what is present (patient testimony) problematic, and manifested feelings of uncertainty, doubt and powerlessness. By comparison, biopsychosocial framing seemed to lessen and even solve some of those problems. In particular, it made the conditions understandable and turned patient testimony into a valuable source of information, which in turn made GPs more comfortable and confident. A main reason for these differences, we suggest, is that whereas the biomedical frame invites GPs to draw on formal and scientific knowledge (of little use with MUS), the biopsychosocial frame invites GPs to draw on their clinical experience to make sense of their patients' problems. This enables them to make clinically efficacious distinctions between patients with MUS that give direction to clinical judgement.

In terms of patient handling, biomedical framing centred on what the patient has (disease or not). Since this is precisely what cannot be biomedically determined, handling (such as sick listing) became problematic. In contrast, biopsychosocial framing centred on how to improve the patient's condition. For instance, the GPs suggested that short-term sick listing can alleviate stress and prevent long-term absence from work, and that being compassionate and supportive can help patients cope with their situation. Paraphrasing Stone [32], the biomedical frame thus manifested "the botanist", bent on scientific classification, whereas the biopsychosocial frame manifested "the gardener", bent on nurturing and making things "grow". In terms of handling MUS, the latter mode currently seems more appropriate and effective.

Finally, the GPs with the most experience tended mostly to employ the biopsychosocial frame, whereas those with the least experience tended to rely more on the biomedical frame.

Choosing medical frames

The biopsychosocial model is at home in primary health care, and seems better suited for handling MUS. So why was biomedical framing a prominent feature in the FGs? In short, because framing is not simply a matter of personal choice. For one, GPs' framing practices are subject to external pressure: there is a strong institutional emphasis on the biomedical model of disease. Formally speaking, health related benefits are contingent on a biomedical account [21, 22]. When trying to secure disability pension for patients whom they consider sufficiently impaired, GPs therefore bear 'a burden of evidence', as one participant put it (FG2). Moreover, there is

a strong cultural preference for clear-cut biomedical diseases and diagnoses in medicine [33–35]. As one participant put it, “The more objective the findings, the more we like it, because that means we can verify it [mhm]. What we *don't* like are conditions where you have *zero* objective findings (...)” (FG1). GPs are thus part of a culture that values objective evidence and unambiguous disease (and this preference is not restricted to medicine [36]). There is thus an impetus towards a biomedical framing of MUS. As one participant said, ‘we have to try to *create* this “cause effect” model that we should feel makes sense *ourselves*, that the patient should feel makes sense and that NAV (the national insurance bureaucracy) should feel makes sense’ (FG2). For these reasons, framing is not simply a matter of choice.

Situating our findings

Our study is small, and the findings cannot be generalized to all GPs. However, although few studies have explored the effect of medical frames, our findings and their theoretical underpinnings are supported by – and shed light on tensions within – existing research literature.

First, regarding the negative effects of biomedical framing of MUS, studies typically report that GPs experience negative emotions when working with MUS, such as uncertainty, fear, frustration and powerlessness [2, 3, 37–41]. Yet few studies attempt to understand the cause of the negative emotions on a deeper level. We suggest viewing GPs’ emotions as frame related, as expressions of whether or not a frame promotes action and understanding. On examining the data presented in these studies, this interpretation makes sense. For instance, a doctor in one study by Warner et al. said MUS are challenging because ‘it doesn’t fit the medical mould (...)’ [38]. Our finding that GPs’ biomedical framing makes subjective testimony problematic could also help explain why patients are reported to feel distrusted and misunderstood, and that they must struggle to be recognised as legitimate sufferers [1, 16, 42–45]. Although others have pointed to the lack of fit between biomedicine and MUS [46, 47], we have not found studies that show *how* biomedical framing makes MUS problematic. Our findings thus help tie frequently reported problems of MUS to the biomedical model of disease: it is against such a background that trust in patient testimony, and lacking objective evidence and scientific explanations, become problematic.

Second, our finding regarding the positive effects of biopsychosocial framing also finds support in the literature. Although rarely highlighted, several studies reporting negative emotions also show examples of GPs feeling confident about their ability to understand and handle MUS. And typically, this is when they depart from a

biomedical frame. For instance, Wileman et al. [39] reports that despite the GPs’ negative feelings, they ‘felt that showing an empathy with the patient, and taking an interest in them (...), enabled the patient to gain personal trust in the doctor’. Moreover, the GPs ‘felt they had the opportunity to ‘know’ such patients better (than other doctors), and build a relationship upon which successful management could be based’ [39]. GPs are also typically reported to explain MUS by considering the sick person in his or her psychosocial context [2, 3, 37, 39, 40, 48–50]. While the link between this understanding and a form of biopsychosocial framing is rarely explicated, it is certainly indicated. Moreover, studies of sick listing MUS in primary care indicate the need to assess patients’ complaints holistically, and emphasise the importance of trust and knowing the patient over time [49, 51, 52]. Finally, studies into occupational medicine support our claim that the epistemic valuation of patient testimony is frame related [12, 22]. In particular, Dodier’s description of the “clinical frame” and the “solicitude frame” resemble our description of biomedical and biopsychosocial frames, respectively: in the latter, ‘the patient’s complaints have the status of an ‘unconditional force’ and their legitimacy is not therefore called into question’ [12].

The work of Mik-Meyer [3, 49] approximates ours. She too finds that ‘biomedical classification and diagnostic tools (...) were replaced with trust and confidence when doctors were working with patients with MUS’ [3]. Yet Mik-Meyer claims that ‘MUS create an important, new role for doctors’, in which they ‘are encouraged to make judgements on the basis on something other than purely objective medical findings (...)’ [3]. We think that lacking objective evidence is an inherent part of clinical work. Instead of a new role, we suggest, what is required is the role belonging to what Jewson called “Bedside Medicine” [53], centred on the ‘total psychosomatic disturbance’ of the sick person. In other words, what is needed is a proper ‘general physician’ [54] (coupled, of course, with proper scientific research into the nature and causes of MUS).

Third, regarding our finding that the junior GPs relied the most on biomedical framing and expressed more insecurity and frustration than the seniors, the literature indicates that this is not coincidental. Studies suggest that understanding and handling MUS is more problematic for inexperienced GPs [41, 50, 55, 56]. Some indicate that ‘physicians who are in practice longer experience less stress from uncertainty than those in practice for shorter periods of time’ [57, 58]. Others report that junior GPs feel unsure of themselves specifically because of their lack of training and experience with MUS [41, 55], and are reported to be *less strict* gatekeepers than their experienced peers [59]. One possible reason for these findings is a

selection mechanism, whereby those who are “biomedically minded” and insecure change job, whereas those who are biopsychosocially minded and comfortable stay. An alternative and likely complementary reason is that since biopsychosocial framing invites GPs to draw on their experience, there is a reciprocal relationship, wherein experience supports the frame, and the frame supports the use and generation of relevant experience. In other words, *biopsychosocial practice builds confidence*. More research is needed, and in that regard we note that experience is not limited to number of years – the type of experience (e.g. feeling that you succeed) likely matters most.

Conclusion

We suggest that biopsychosocial framing, combined with clinical experience, enables GPs to understand and handle MUS better than biomedical framing does. However, that does not necessarily imply that biopsychosocially minded GPs benefit patients and society. Although similarities between MUS have been found [54], it remains a differentiated patient group, and there are few widely acknowledged efficacy studies (even the cautious indications of PACE are now in question, see [60]). Studies indicate that many (but not all) patients want more support, compassion and understanding [18, 19], and for GPs to be attentive to their personal circumstance [61]. (Note that there is no contradiction between these wishes and believing that one’s condition is rooted in an undetected somatic pathogen.) This supports the notion that biopsychosocial framing benefits patients as well as doctors. Moreover, fewer rounds of diagnostic screening and referral would save time and costs, which could benefit other patients. But there are also possible problems: biopsychosocial framing likely increases the tendency to medicalise ordinary troubles [62–64], and there is ample room for implicit bias [65, 66] in the clinical judgement of practitioners who are overly confident in their “people knowledge”. Clearly, more research is needed.

Strengths and limitations

The strength of qualitative studies, such as focus-group interviews, is their ability to provide experience-based knowledge and insight, rather than a quantitative ranking of importance or the proportional distribution of opinions [25, 67]. Including doctors with different lengths of experience, specialists as well as physicians in training and doctors of both genders, ensures a diversity in experience, although we cannot draw robust conclusions. The inter-disciplinary collaboration between a sociologist (EBR) and a medical doctor (KIR) has potentiated critical reflection when interpreting the data. This can result in a more nuanced and balanced discussion, but in some cases also lead to less clear-cut conclusions

than if only one perspective had prevailed. External validity or transferability can be assessed in relation to how the data are discussed [27]. As we show, our results are in line with previous research in this field. Moreover, we have presented our findings at medical and sociological conferences, and our conclusions were recognizable and credible to these different groups.

Implications

If biopsychosocial thinking and clinical experience are central to GPs’ understanding and handling of MUS, than this should be reflected in research, teaching and practice. What is needed is an emphasis on the role of *clinical knowledge* [68, 69]. Clinical knowledge emerges in the course of practice, i.e. the daily chore of interpreting and interacting with patients, and applying general concepts to individual persons [68, 70, 71]. It is thus local, hermeneutic and experience based; its genesis bottom-up, contrasting top-down scientific and evidence-based knowledge. Such knowledge is the core of clinical reasoning and judgement [69, 71–73]. Yet not enough is known about its content and consequences [68, 74–76]. Thus, experienced-based ways of knowing must be studied further, so that they may be shared and scrutinised for the betterment of patients and practitioners [68]. In line with this, medical students should spend more time learning to think biopsychosocially, and to integrate the clinical knowledge of their peers and seniors with their own. There is no denying the success of the biomedical model, but its uses are limited: quality primary care is impossible without acknowledging that personality and circumstance are major constituents of patients’ health [77, 78].

Additional files

Additional file 1: Translated interview guide. English translation of the semi-structured interview guide. (DOCX 13 kb)

Additional file 2: The OPR reports. (ZIP 65 kb)

Abbreviations

FG: focus group; GP: general practitioner; MUS: medically unexplained symptoms

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Availability of data and materials

The dataset will be made available from the corresponding author on reasonable request.

The OPR reports are included as ‘Additional file 2’.

Authors’ contributions

Both authors contributed to the overall focus of the manuscript, based on discussion and preliminary analysis of the data. EBR is responsible for the research design, moderated the focus groups, transcribed and translated the data, performed the final analysis and wrote the majority of the manuscript. KIR assisted in the focus groups, and commented on the analysis and writing. Both authors read and approved the final manuscript.

Ethics approval and consent to participate

Norway has a single centralised official data protection service (the Norwegian Social Science Data Service) that is responsible for granting permits to research projects that are not covered by the Health Research Act. The Norwegian Social Science Data Services approved the study (project number 41259). Informed consent to participate was elicited in writing. Participants were given the option to check the data used for publication.

Competing interests

The authors declare they have no competing interests.

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