Surgical Consultations for Chronic Low Back: A Mixed Methods Study

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Declaration of originality

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Ross Poyton

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Abstract

Background: Chronic low back pain (CLBP) is a leading cause of disability worldwide and is recognised as a complex multidimensional disorder. Despite evidence-based guidelines making recommendations on the clinical assessment and management of CLBP, the gap between guidelines and clinical practice is well documented. This research aims to close the gap by analysing the interaction between patients' with CLBP and consultants managing these patients. This study also captures the subjective experience of both participants (patients/consultants).

Methods: Mixed qualitative methods were employed in this PhD thesis. Conversation Analysis (Chapter 3) was used to analyse the communication practices in the patient-clinician initial encounter for patients who presented with CLBP. The perceptions of patients' (Chapter 4) and the neurosurgery consultants (Chapter 5) were gathered through interviews and evaluated using reflexive thematic analysis. These data were triangulated to provide deeper understanding, and to provide insight into management gaps.

Results: The Conversation Analysis study (Chapter 3) highlighted the interactional difficulties consultants face when explaining symptoms in non-surgical cases of CLBP in contrast to surgical cases. The patient experience study (Chapter 4) demonstrated that patient's experiences were related to whether they were deemed to be a surgical or non-surgical case. Themes such as hope, understanding their problem and feeling listened to influenced patient experience and were reduced in non-surgical cases. In chapter 5, the consultants highlighted the challenges of managing non-surgical cases and attributed this to their lack of training in a BPS model of care, unrealistic patient expectations and inappropriate referrals to a surgical service.

Conclusion: CLBP is a complex multidimensional problem. This study illustrates challenges faced in consultations for CLBP for both consultants and patients alike and highlights that current practices and pathways can increase the burden of CLBP rather than reduce it, suggestions are made on how future work can address these issues.

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Presentations

Oral presentation

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Abbreviations

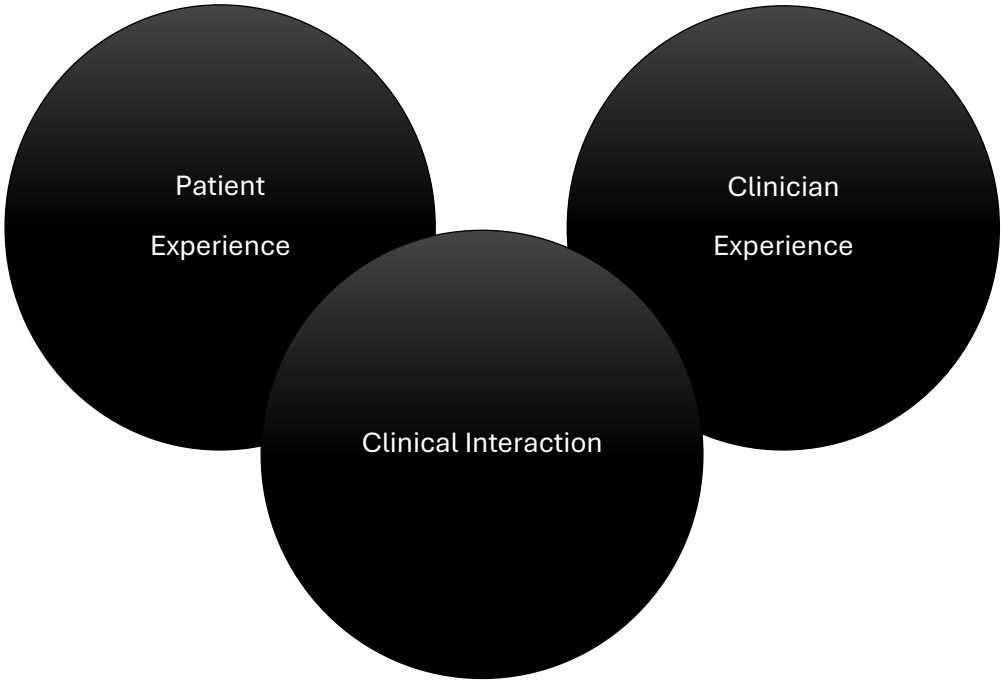
CLBP	Chronic low back pain
LBP	Low back pain
NICE	National Institute for Health and Care Excellence
PCC	Patient Centred Care
SDM	Shared Decision Making
BPS	Biopsychosocial
CA	Conversation Analysis
TA	Thematic Analysis
GT	Grounded Theory
IPA	Interpretive Phenomenological Analysis
DA	Discourse Analysis
HADS	Hospital Anxiety Scale
ODI	Oswestry Disability Index
VAS	Visual Analogue Scale
CARM	Conversational Analytic Role Play Method
MRI	Magnetic Resonance Imaging

Chapter 1: Introduction

1.1 Purpose and Scope of the study

This study sought to investigate the initial consultation of patients visiting a consultant neurosurgeon with chronic lower back pain (CLBP) with / without leg pain from both the surgeon and the patient's perspective. A mixed methods approach was employed to examine patients' and consultants' experiences, complemented with observations derived from their consultation interaction. The scope of this study was to examine multiple patients and consultants within a single secondary care neurosurgery unit.

Figure 1: The three areas this thesis seeks to explore.



1.2 Background

1.2.1 Burden of low back pain

Low back pain (LBP) is an extremely common symptom in people around the world and occurs in all ages from the young to the elderly (Hartvigsen et al., 2018). LBP is now the number one cause of disability worldwide with a point prevalence of 7.3%, which means that around 540 million people are affected at any one time (Arora et al., 2016). Disability from LBP is highest amongst working age groups worldwide (Arora et al., 2016) and whilst economic costs vary between countries the financial burden of LBP is projected to increase further in coming decades (Foster et al., 2018; Hartvigsen et al., 2018). Health care systems frequently increase rather than reduce this burden (Buchbinder et al., 2018; Foster et al., 2018; Hartvigsen et al., 2018) due to potentially unnecessary increased elective surgery rates (e.g. disc replacements) (Lewis & O'Sullivan, 2018) and passive treatments with little evidence base such as facet joint injections (NICE, 2016). The global challenge of CLBP is to prevent the use of non-evidenced, costly, and sometimes harmful practices whilst ensuring access to effective and affordable treatment for all (Buchbinder et al., 2018).

1.2.2 Low Back Pain

LBP is considered a symptom and not a disease. It can result from several different unknown or known abnormalities or diseases (Hartvigsen et al., 2018), and was defined by Dionne et al. (2008) as pain being located typically between the lower rib margins and the buttock creases. Most episodes of LBP are short lived and have a natural history of resolution, but recurrent episodes are common, and CLBP is increasingly being considered a long-term chronic condition (Hartvigsen et al., 2018). CLBP has been defined as pain persisting longer than 3 months in duration but may fluctuate in pain intensity (NICE, 2016).

For a very small percentage (1-2%) of the LBP population serious causes or significant pathology exist, such as malignancy, fracture, infection, or inflammatory disorders which is the cause of their pain and this can require specific urgent medical management targeting the cause (Hartvigsen et al., 2018). For many people (around 90%) presenting with LBP the specific structural cause cannot be identified and those individuals can be classified as having non-specific low back pain (Foster et al., 2018; Hartvigsen et al., 2018; Maher et al., 2017; NICE, 2016). The causes behind non-specific LBP are often complex, multifactorial with multidimensional drivers of the pain disorder requiring a biopsychosocial (BPS) treatment approach to address the problem (Kent et al., 2023). LBP is not a homogenous group and subgroups exist. In an attempt to tackle the global burden of LBP (Hoy et al., 2014) researchers and clinicians have attempted to classify patients into subgroups with matched treatment pathways, this is known as stratified care (George et al., 2021; Hall et al., 2021; NICE, 2021; Sowden et al., 2018). Despite the introduction of this model of care the current burden of LBP continues to grow globally (Foster et al., 2018; Hartvigsen et al., 2018)

1.2.3 LBP and referred leg pain.

CLBP patients commonly present with concurrent referred pain in one or both legs and some of these patients present with associated neurological symptoms in the leg (Deyo & Mirza, 2016; Hartvigsen et al., 2018). These CLBP patients with leg pain account for up to two thirds of CLBP patients presenting in a primary and secondary care settings (Costa et al., 2013; Yaver, 2005).

Patients that have the leg pain associated with their low back pain are often described as having either radicular pain, radiculopathy, or features of both (Hartvigsen et al., 2018).

Radicular pain occurs when there is nerve root involvement and is diagnosed clinically based upon pain distribution in the leg, and positive clinical findings such as neural provocation tests (Khorami et al., 2021). Radiculopathy is characterised by all or some of the following, the absence of a reflex, presence of weakness or loss of sensation at an associated nerve root level which may co-exist with radicular pain (Deyo & Mirza, 2016; Hartvigsen et al., 2018). Despite recommendations to cease use of the term "sciatica" due to its differing interpretation by both patients and clinicians alike, radicular pain is often termed sciatica (Kizaki et al., 2020; Konstantinou & Dunn, 2008; Lin et al., 2014). In summary, a patient may present with back and leg pain that potentially may or may not have some associated neurological symptoms. This highlights the complexity around patients presenting with back and leg pain.

Historically, CLBP has been treated through the lens of a medical model where pain has been attributed to a structural cause. In the last three decades there has been a shift towards a broader multidimensional biopsychosocial approach (Foster et al., 2018; Lewis & O'Sullivan, 2018; NICE, 2016). CLBP patients with associated leg pain, are often thought to have a structural / anatomical cause of their pain in the form of disc herniation (Awad & Moskovich, 2006; Deyo & Mirza, 2016; Hartvigsen et al., 2018). It remains a common belief that a structural cause for back and leg pain (disc herniation) can be identified on relevant imaging, with treatment targeted at this structure with a view to ameliorating symptoms as per the traditional medical model approach (Awad & Moskovich, 2006; Liu et al., 2023; NICE, 2016). However, research has found that a structural cause of low back and leg pain is often unidentifiable and remains a subject of controversy (Foster et al., 2018; Greenough, 2017; Hartvigsen et al., 2018; Knezevic et al., 2021) with many structural abnormalities including disc herniations being present on a pain-free population (Brinjikji et al., 2015; Kaito & Yamato, 2022).

As a result of the ongoing complexity of patients presenting with CLBP with associated leg pain, clinical guidelines / pathways have been developed around the world to help clinicians enhance care and service provision, some examples are listed below.

- NICE guidance: Low back pain and sciatica in over 16s: assessment and management https://www.nice.org.uk/guidance/ng59 (2016).
- National Low back pain and Radicular Pain Pathway available at http://www.ukssb.com (2017).
- Recommendations for Diagnosis and Treatment of Lumbosacral Radicular Pain: A Systematic Review of Clinical Practice Guidelines https://doi.org/10.3390/jcm10112482 (2021)

The consensus of these guidelines are that i) serious pathology should be excluded in the diagnosis at the assessment, ii) that a risk assessment tool in the form of a research underpinned patient questionnaire such as "Start Back" (Foster et al., 2014) should be used at the first point of contact with a healthcare practitioner. Such screening questionnaires seek to identify patients at risk of developing CLBP with /without leg pain and identifying subgroups which help the provision of stratified care, iii) to work within a BPS framework, iv) to only consider invasive surgical treatments when non-surgical methods have failed and v) to work within a model of patient centred care or PCC (Greenough, 2017; NICE, 2016, 2021). These pathways of care are intended to de-medicalise LBP, reduce ongoing pain and disability whilst improving the patient experience (Greenough, 2017). As a result of attempts to improve the patient experience, the National Low Back Pain and Radicular Pain Pathway lists essential skills that are required in the assessment and management of both radicular pain and radiculopathy. These skills are as follows, the ability to communicate the diagnosis / prognosis of the problem, the ability to work within a shared decision-making (SDM) framework, communicate effectively with patients, and to involve them in decisions about

their care, and be able to manage patients' expectations. All these skills are key components of PCC (Grover et al., 2022).

However, despite the many international clinical guidelines with similar recommendations for the management of LBP, the gap between evidence and what is undertaken in clinical practice is well documented (Foster et al., 2018). There has been an increased awareness in clinicians of the BPS model of LBP, with enhanced understanding of the prognostic significance of psycho-social factors in individual patients (Buchbinder et al., 2018; Foster et al., 2018). Despite this increased awareness, evidence suggests that clinicians often default to managing patients within a biomedical framework (Buchbinder et al., 2018).

With referrals for spinal surgery increasing every year to both orthopaedic and neurosurgeons (Greenough, 2017), this suggests that patients are still being viewed through the lens of the biomedical model. In our clinical experience, many of these patients seek the opinion of a neurosurgeon with a view to a surgical opinion, especially after a period of non-resolution of their symptoms.

Research has found patients frequently attend these consultations expecting a diagnosis, information on prognosis and treatment plans often involving surgery (Braeuninger-Weimer et al., 2019). With conversion rates to surgery varying between 20-75% (Burn & Beeson, 2014; Murphy et al., 2022; Napier et al., 2013) a large percentage of patients are not given the surgery they expected from the consultation creating dissatisfaction with care provision (Lewis & O'Sullivan, 2018). With guidelines and suggested treatment pathways for this subgroup of patients directing clinicians to work within a model of PCC, with shared decision making (SDM) throughout the patients journey (Greenough, 2017; NICE, 2016, 2021; Ryan et al., 2020), clinicians require a valid working knowledge of PCC and all its components (Lin et al., 2020)

1.3 Patient Centred Care (PCC)

PCC was first described by Enid Balint (1969) in her "The possibilities of patient centred medicine" paper. It advocated that doctors in general practice should not only try to discover local illness / illnesses but examine the person as a whole and make an "overall diagnosis". It also suggested the patient should be understood as a unique human being. Seminal research undertaken by Byrne and long (1977), analysed audio recordings of over 2500 general practice consultations. They reported a dominance of doctor-centred behaviour which omitted any of the psycho-social components of a patient's experience of their symptoms. This research went on to provide the foundation from which many other models of PCC were developed.

Later work by Stewart (1995) and Stewart (1996) encouraged clinicians to move away from the traditional bio-medical assessment of patients to a more individualised, holistic PCC approach. Stewarts works went on to examine the effect of physician-patient communication on health outcomes demonstrating a correlation between effective communication and improved patient health outcomes. As the body of evidence grew, Kinmonth et al. (1998), undertook the first randomised controlled trial to examine PCC. They looked at the impact of clinician training in PCC on current wellbeing and future disease risk in people with diabetes, and concluded patients seen by trained clinicians reported better clinician communication, better wellbeing, and better satisfaction one year post consultation. More recently, the importance of PCC was illustrated by an umbrella review (Grover et al., 2022) "defining and implementing patient centred care" that identified 2371 publications, including 10 systematic reviews, which demonstrates how extensive research into this area has become and how integral it is to patient care and its quality.

As the clinical and research healthcare community strive for improved quality of health care, PCC has taken centre stage in the discussions on health care quality and how to improve it (Epstein & Street, 2011; Grover et al., 2022). Across Western medicine, particularly in the US and UK, health care institutions such as the NHS, research departments, health care insurance companies have all examined PCC and have included it within healthcare quality policy, to the point whereby it is often described as being at the heart or core of good quality patient care (Epstein & Street, 2011; Frith et al., 2019; Grover et al., 2022; H.C.P.C, 2023; NICE, 2021).

PCC is also informed by an ethical dimension. The ethical principle of autonomy as described by Beauchamp and Childress (1979) in their book, *Principles of Medical Ethics* and refers to self-rule as a condition of self-governance not controlled or interfered with by others or limited by lack of understanding to prevent a meaningful choice. Further moral implications of PCC have developed, such as to have respect for patients and for them to be seen as a unique individual with an obligation to care for them on their terms (Epstein & Street, 2011). PCC as a concept integrates patients' beliefs, values and preferences into decision making and treatment planning in a way that respects patient's autonomy and self-determination and is appropriate and meaningful (Grover et al., 2022).

There is still, however, a lack of consensus on what PCC precisely means and how it can be reliably measured (Epstein & Street, 2011; Grover et al., 2022; Langberg et al., 2019; Mead & Bower, 2000; Stewart, 1995). Mead and Bower (2000), initially reviewed the literature and concluded there was no clearly agreed definition of PCC but identified five distinct dimensions of PCC as listed below.

1) The BPS perspective – consideration of all social and psychological factors.

2) The “patient as person”- understanding what the illness means to each individual patient.
3) Sharing power and responsibility – awareness of the patient perspective, shared decision making.
4) The therapeutic alliance – enhancing the bond between patient and clinician whilst developing common therapeutic goals.
5) The “doctor as a person” – awareness of the influence of personal qualities / subjectivity of the doctor on the practise of medicine.

More recently, Langberg et al. (2019) examined the literature to see if the definition of PCC had changed over the past 20 years. They concluded that a clear definition had yet to be decided upon and that an additional 6th dimension “co-ordinated care” appeared to be present within the literature to better represent the complexity of the current healthcare system. Furthermore, the aforementioned review by Grover et al. (2022), reinforced the above findings and again reported no agreed global definition for PCC, despite a clear need for one. However, they also reported that multiple systematic reviews had identified 10 elements of PCC that appear to be relatively consistent, as shown below Table 1, which probably highlights the complexity of PCC and current understanding.

Table 1: Ten commonly reported elements of PCC

Patient individuality	Empowerment
Provider training	Respect
Empathy	Shared decision making
Biopsychosocial care	Communication
Implementation through behaviour change	Healthcare system

Initially, there were concerns that PCC (focusing on individual needs) maybe at odds with evidence-based medicine (treating a population) and early research looking at PCC and outcomes lacked evidence to support its efficacy (Epstein & Street, 2011; Mead & Bower, 2002). However, a growing body of evidence suggests that what is deemed valuable to the patient is an important part of evidence-based practice (Epstein & Street, 2011; Galasiński et al., 2023). A systematic review by Langberg et al. (2019), reported that greater adherence to treatment is found when PCC is undertaken in consultations, resulting in better outcomes in multiple different clinical settings. Additionally, Park et al. (2018) and Epstein et al. (2010), found PCC helped increase patient satisfaction and experiences, and reduced hospital admissions / readmissions and length of hospital stay.

1.3.1 Patient involvement

Recently Street (2023), reported that PCC often manifests itself in the communicative and relational elements of the medical encounter. Therefore, patient involvement is often an integral feature of PCC. To ensure a patient centred approach, the clinician should be providing multiple opportunities for the patient to actively participate in the consultation, to be able to ask questions and to check the patients understanding of their condition, especially in complex conditions such as CLBP (Epstein & Street, 2011; Langberg et al., 2019; Street, 2022). However, the extent to which a patient centred approach has eradicated the asymmetry that can exist between doctor and patent remains a moot point. The doctor's knowledge and expertise can all to easily be used to gain control of the encounter thus creating a barrier to PCC (Galasiński et al., 2023; Grover et al., 2022; Street, 2023). That is to say, whilst a shift in perspective regarding the professional-patient relationship may have occurred; this may not be reflected at the level of practice.

The differences of knowledge and power that exist between the patient and clinician relationship are widely reported within various healthcare settings and patient populations (Myalgic Encephalomyelitis, CLBP chronic pain and post operatively appointments) and have been described as a form of epistemic injustice (Blease et al., 2017; Buchman et al., 2017; Costa et al., 2022; Sutton et al., 2022). This remains a significant barrier to both PCC and particularly the key dimension of SDM. Epistemic injustice is often used to describe how differences in knowledge and power between, for example a doctor and a patient, often creates injustice for the party (typically the patient) who is lacking in specialised medical knowledge. That is to say, the patient's views and experiences can be subverted in favour of medical opinion, presenting a real challenge to PCC. In some instances, epistemic injustice may manifest itself as a subconscious reaction to signals of social / educational status, background, accent, race, or sexuality (Galasiński et al., 2023; Street, 2023).

It has been reported that epistemic injustice in healthcare normally occurs in two ways. Firstly, evidence-based medicine prioritises evidence from quantitative trials firmly in a positivist mindset and often risks overlooking the relevance of patients' stories and experiences (Galasiński et al., 2023). This can be problematic as contextual factors are often not considered or minimised such as the lived experience and determinants of healthcare. Secondly, as a result of the inherent power imbalance between clinicians and patients, clinicians manage and control the encounter, focus the direction and scope of communication and control turns of talk. Consequently, clinicians can consciously or subconsciously reject patients' claims in favour of their own medical agenda (Buchman et al., 2017; Epstein & Street, 2011; Galasiński et al., 2023; Wolf, 2021).

Training physicians to be more mindful, informative, and empathic, transforms their role from one characterized by authority, to one that has the goals of partnership, solidarity, empathy, and collaboration with the patient (Epstein & Street, 2011; Grover et al., 2022) can be challenging as strong societal beliefs remain favouring clinician dominance in the encounter (Street, 2023).

1.3.2 Shared Decision Making (SDM)

In this study patients are ultimately seeking a neurosurgical opinion regarding their CLBP and a decision at the end of the consultation will need to be made on a treatment pathway in the majority of cases. SDM is best suited to situations where a clear need for a decision must be made and there is equipoise between treatment options (Elwyn et al., 2000). Not only is SDM at the centre of PCC, it is arguably one of, if not the most, important dimensions (Waddell et al., 2021).

Despite the "noise" and strong advocation around SDM there is little evidence that it is being successfully implemented, with a gap between theory and clinical practice with multiple models of SDM (Bomhof-Roordink et al., 2019; Galasiński et al., 2023; Grover et al., 2022; Waddell et al., 2021). One of the most prominent models of SDM was described by Elwyn et al. (2012) who described three steps to SDM: i) choice talk, iii) option talk and iii) decision talk. Choice talk involves making sure the patient is aware of the options available, option talk is providing more detail on the options initially discussed, and decision talk refers to considering preferences and deciding what to do for the best.

The underpinning premise of SDM is that there are equitable contributions from both the patient and clinician (Waddell et al., 2023). However, research has shown that patient contributions and actions are dependent on the actions of the clinicians. Therefore, patients

need to be actively encouraged and empowered to contribute to SDM (Bomhof-Roordink et al., 2019; Galasiński et al., 2023; Grover et al., 2022; Street, 2023).

Barriers to SDM have been reported from both clinicians' and patients' perspectives. Clinicians often report time, patient willingness to participate and perceived lack of benefit as barriers. Whilst patients report lack of knowledge, power, trust in the clinician, lack of permission, wanting to be good patients and allowing clinicians their status as experts, as barriers (Galasiński et al., 2023; Perez Jolles et al., 2019; Street, 2023; Waddell et al., 2021). Therefore, it remains very important that not only the patient but also the clinician is empowered to provide PCC (Grover et al., 2022; Street, 2023).

1.3.3 Measuring PCC

Measuring PCC historically and currently remains challenging due to the inevitable difficulties of measuring such a complex relationship process (Epstein & Street, 2011; Mead & Bower, 2000; Santana et al., 2019). Different methods have been used from observer-based ratings, coding, rating scales, patient satisfaction questionnaires, qualitative interviews etc in an attempt to capture PCC, but none have provided a "gold standard" and a need for PCC quality indicators remains (Mead & Bower, 2000, 2002; Santana et al., 2019).

Further complexity to measuring PCC can occur when its delivery is at odds with the clinical outcome. For example, the clinical scenario can be presented whereby the clinician patient interaction has been patient centred and of "high" quality, yet the illness or condition deteriorates. In this case PCC may have been achieved if the patient felt understood, motivated for change, had developed trust with the clinician despite the potential for deterioration in the health outcome / condition, with some metrics of PCC being influenced by this health outcome (Epstein & Street, 2011).

Lastly, it is commonly assumed that the patient is the best judge of whether a consultation is patient centred. However, what patients want and what they need are two different things and measuring patient satisfaction can often be a misleading measure of PCC (Epstein & Street, 2011; Mead & Bower, 2000; Santana et al., 2019). We also know that patient and clinician perceptions of a clinical encounter can differ (Epstein, 2006). The aim of this study is to try to address this with investigations of the experiences of these consultations from both clinicians' and patients' perspectives and gauge these perceptions against the backdrop of actual interaction behaviours within the consultation.

1.4 Thesis outline for chapters 2-6

1.4.1 Chapter 2: Methods

Chapter 2 provides information regarding the background, selection and justification of the methods chosen to undertake this mixed methods study. It will provide a detailed account of the ethical considerations, procedures and processes undertaken. It will also describe training and the measures taken by the author to provide a high methodological quality and robustness.

1.4.2 Chapter 3: A study examining how neurosurgeons consulting CLBP patients explain the patients' symptoms: a conversation analysis (CA) approach

In Chapter 3 Patient-clinician interaction is explored via audio recordings of 26 initial consultations of patients attending a secondary care neurosurgical unit for the first time. CA is used to describe these interactions from a qualitative observational perspective. This chapter provides interactional evidence as to how clinical practice is undertaken, delivered,

and received within this clinical setting. The data presented in this chapter will provide further insights into challenges of the delivery of PCC for this group of patients.

1.4.3 Chapter 4: Patients' experiences of attending a neurosurgery consultation for the CLBP with / without leg pain: a qualitative study

Chapter 4 presents qualitative data exploring patients' stories of attending their initial consultation at a secondary care neurosurgery unit. It explores and seeks to understand the nuances of the patient experience within this clinic setting.

1.4.4 Chapter 5: Consultants' experiences of managing CLBP patients with / without leg pain within a neurosurgery department: a qualitative study

Chapter 5 presents further qualitative data exploring the experiences of neurosurgery consultants managing patients within a neurosurgery secondary care setting. It attempts to delve into their experiences in order to provide deeper knowledge and insight, providing a picture of these consultations from the perspective of the consultant.

1.4.5 Chapter 6: Discussion

Chapter 6 will bring together chapters 3-5 summarising the findings and attempting to triangulate the data across both the experiences and interactions seen. It will discuss the overall conclusions and impact the data may have on improving service provision within this clinical setting. It will lastly discuss the limitations of the study and also highlight areas for future research that have been identified.

1.5 Summary

As a result of the data collected the study aims to reduce a research void in patients with CLBP, with and without leg pain, attending a neurosurgery consultation for the first time. It will help inform clinicians and researchers of what constitutes a positive or negative experience from a patient perspective and how these experiences could be addressed in the future. Secondly, the study of the patient – clinician interaction will inform the patterns of interactional behaviour that can occur at these consultations again providing potential scope for reinforcement or improvement. Lastly an insight into the experiences of the clinicians themselves will identify difficulties they may experience managing this clinical population. These data will inform us of different clinician communication practice, adherence to PCC and help identify areas of future research and training. Little data is currently available that document the experiences of patients and consultants at these consultations or studies the interaction between the two parties.

1.6 Overall aims of thesis

1. To study and gain a greater understanding of patients' experiences attending a consultation for back and leg pain with a neurosurgery consultant.
2. To study (using conversation analysis) the interaction between a patient and neurosurgery consultant during the initial encounter for low back and leg pain.
3. To study and gain greater understanding of neurosurgery consultants' experiences of the initial consultation with patients attending for back and leg pain.

Chapter 2 Methodology

2.1 Introduction

This chapter aims to briefly introduce qualitative research and why it was chosen for this study. As this study examines data from interviews and naturally occurring data from consultations, the different types of qualitative research methodologies and methods are discussed. This chapter highlights the differences between methodologies used to look at thematic patterns generated from the interview data and the justification of the chosen method for this study. It then continues to discuss and justify the methodology chosen for the naturally occurring data examined from the consultations.

2.2 What is Qualitative Research

Many comparisons have been made between quantitative and qualitative research (Jackson et al., 2007; Silverman, 2014). Quantitative research will assess a research problem through the lens of experimental or survey design procedures, sometimes involving statistics. The focus is very much on quantifying an issue using numerical data to identify broad patterns in social phenomena to generalise among different populations. Alternatively qualitative research is typically focused on smaller groups of participants with the aim of capturing the participant's own understandings, richly textured experiences and meaning attributions in relation to a particular issue (Aspers & Corte, 2019; Jackson et al., 2007). These interpretive qualitative approaches are nuanced, rich in detail and discussion are also called "thick descriptive" as a result (Jackson et al., 2007; Tracy, 2010; Ward, 2019). This leads researchers to the question on whether a quantitative or qualitative approach should be used and if so what method should be employed (Fischer & Guzel, 2023; Silverman, 2014).

The question of what is qualitative research and its definition continues to be debated (Aspers & Corte, 2019; Chesebro & Borisoff, 2007; Fischer & Guzel, 2023; Jackson et al., 2007; Small, 2021) with it being argued that as there is no clear single thing to define in qualitative research it therefore cannot be defined (Scalcău, 2021; Small, 2021). However, whilst many different genres and methods of qualitative research exist (Fischer & Guzel, 2023), each approach does share common characteristics as described by Silverman (2014). These include: i) Research often begins with a few individuals that are chosen because of their convenience or interest. ii) Hypotheses are evolving and are often generated from the data collected rather than stated at the outset. iii) There is no agreed way to analyse the data. Multiple research models exists (nautralism / constructionism) and the different ways to analyse data can sometimes conflict (e.g. ground theory vs discourse analysis). iv) Where numbers are used these are usually in the form of simple tabulations and do not lead to statistical correlations or tests. Therefore, dependent on the research question being asked and what you are trying to examine will help decide what method you are going to employ (Fischer & Guzel, 2023; Scalcău, 2021; Silverman, 2014). In the case of this thesis, qualitative research was chosen as the "best fit" when looking at the aims of the study as seen in chapter 1. The methods employed were reflexive Thematic Analysis (TA) and Conversation Analysis (CA). These methods and the justification of their selection are discussed below.

2.3 Thematic Analysis (TA)

2.3.1 What is TA and how does it compare to other methods?

Due to the similarities between different methodologies such as Grounded Theory (GT), Interpretive Phenomenological Analysis (IPA), Discourse Analysis (DA) and TA there is

often much to consider when deciding what qualitative analytical methodology or method to choose (Braun & Clarke, 2021a). Within qualitative research, there is rarely one ideal methodology or method for a research project, especially when interested in exploring patterned and across case meaning (Braun & Clarke, 2021a; Fischer & Guzel, 2023). Employing TA as the best method for this study required a deep understanding of this methodological approach and an understanding of the differences between TA and some of the other methodologies (Braun & Clarke, 2021a).

TA was initially hardly recognised, rarely acknowledged, yet widely used particularly in psychology literature (Braun & Clarke, 2006; Byrne, 2022). Following the seminal paper of Braun and Clarke (2006) there was a significant increase in the interest of TA (Byrne, 2022). As a result, TA is now a widely cited method for analysing qualitative data (Braun & Clarke, 2019; Campbell et al., 2021). TA is described as a flexible and powerful method of systematically generating high level qualitative research by identifying, analysing and reporting patterns (themes) across a data set (Braun & Clarke, 2006, 2022; Clarke & Braun, 2017; Saunders et al., 2023). TA is unique in that it does not come with a predetermined theoretical framework (Clarke & Braun, 2017; Trainor & Bundon, 2021) and as a result can be applied across a range of research paradigms (Braun & Clarke, 2022; Clarke & Braun, 2017; Nowell et al., 2017). How this process is undertaken is described below section 2.3.4.

When comparing TA and IPA similarities are seen in the fact that they are both phenomenological approaches that are attempting to understand how humans interpret and make sense of the world (Braun & Clarke, 2021a). However, there are important differences, IPA has a dual analytic focus on thematic orientation across cases plus an interest and focus of the unique details of each individual case and as a result IPA focuses on detailed analysis of each case before developing themes across cases (Braun & Clarke, 2021a, 2022). This differs from TA (in particular reflexive TA) where codes are taken from all of the data set

and themes are then developed rather than looking at the unique details of each account (Braun & Clarke, 2021a). In this regard TA was considered a more relevant and applicable approach, than IPA, for the purpose of this study for the following reasons i) the sample size being larger than 10 with the aim to capture diversity within the patient participant group, ii) the analytical focus is on identifying themes across the data set rather than individual cases and iii) for the research to have clear implications for practice which requires organising the analysis into shared themes (Braun & Clarke, 2021a).

Another similar qualitative approach is Grounded Theory (GT). Attempting to compare TA with GT does come with challenges due to the different versions of GT (Braun & Clarke, 2021a; Charmaz & Thornberg, 2021; Konecki, 2018). Early GT work was broad in scope and with what would be considered large sample sizes, with concurrent processes of data collection and analysis, which differs from the post data collection analysis as seen in TA (Braun & Clarke, 2021a). GT normally involves line by line coding and often a constant comparative analysis where data can be segmented and compared against other data, in what is a systematised technique specifically associated with GT (Charmaz & Thornberg, 2021). Coding is approached differently in TA with not all data (lines) requiring codes, data is not needed to be segmented and coding detail is applied to address the aims and purpose of the research (Braun & Clarke, 2021a). The analytical output from GT is often that relationships between categories are fully explained and as a result a theory of the phenomenon under investigation, grounded in the data is formulated. Since the aim is not to produce a theoretical claim regarding patients' and consultants' experiences, TA was adopted for the following reasons i) the aim of the research analysis is to identify patterns in the data with a description and interpretation rather than to develop a "grounded theory" from the data set and ii) data collection was independent from the analytical development (Braun & Clarke, 2021a, 2022).

DA has been the defining approach of critical qualitative research for long time and can be understood as focusing on "language practice" (Braun & Clarke, 2021a). Specific approaches to DA vary widely from looking at discursive patterns to the microdetails of language practice as in CA (Braun & Clarke, 2021a). TA does not provide a detailed, in-depth analysis of language practice that some DA approaches offer, in particular CA. However, TA can offer something similar to pattern based discursive approaches such as interpretative repertoire analysis (Braun & Clarke, 2021a). As a result of examining the goals of the research project it was obvious that the study was interested not only in patterns emerging from across the data, but the affects / fine details of the language within the consultations. Therefore, it was deemed appropriate to undertake a mixed methods study using TA and CA within this broader study. Further details on the different types of TA, why reflexive TA was chosen for this study and how it was undertaken is detailed below. Further details on the use of CA as a methodology in this study will be presented in section 2.4.

2.3.2 Types of TA

Following the seminal paper on TA by Braun and Clarke (2006) a number of misconceptions and confusions subsequently arose (Braun & Clarke, 2021b). As a result of this a "rebrand" of TA was undertaken to help resolve these issues and the term "reflexive thematic analysis" was used (Braun & Clarke, 2019; Byrne, 2022). Different types of TA are recognised but are generally categorised into 3 broad types i) Coding reliability approaches, ii) Reflexive approaches and iii) Codebook approaches (Braun & Clarke, 2021a, 2022). Coding reliability approaches use a structured practice around a codebook or coding frame and typically require multiple coders working independently applying the coding frame to the data. (Braun & Clarke, 2021a, 2022; Byrne, 2022). Themes tend to be developed very early in the analytical

process and can be hypothesised based on theory prior to data collection with evidence gathered to support those theories (Braun & Clarke, 2022; Byrne, 2022). Reflexive approaches such as reflexive TA in comparison to coding reliability approaches involve later theme development, with considerable work from the researcher developing themes from the codes (Braun & Clarke, 2021a). Multiple researchers can be involved when used in a reflexive manner to achieve richer interpretations of meaning rather than a consensus of meaning (Byrne, 2022). The coding process is unstructured and organic with themes generated through data engagement mediated by the researcher's values, skills, experiences, and training (Braun & Clarke, 2019, 2021a, 2022). This reflexive approach involves six recursive phases (Braun & Clarke, 2021a, 2022) and are discussed in detail below in section 2.3.5. Lastly, codebook approaches combine the qualitative research values of reflexive TA with the more structured approach to coding, early theme development and concept of themes as topic summaries as seen as characteristics of coding reliability (Braun & Clarke, 2021a; Byrne, 2022). Often this approach is used for pragmatic reasons such a team coding with each member coding different parts of the data set allowing for delivery of the analysis at a fixed time or predetermined need (Braun & Clarke, 2021a).

2.3.3 Why use reflexive TA in this study.

Following an assessment of the merits and pitfalls of similar methodologies (IPA, GT, DA), TA offered the tools to meet the particular analytical requirements of this study. More specifically reflexive TA offered much more for the following reasons i) Coding could be undertaken by the principal researcher (RP) and not by multiple independently working coders, ii) there was no established codebook or coding framework, iii) coding was undertaken with the principal researcher reflecting on his assumptions and how this affected

his coding, with continual questioning and querying of the interpretation of the data, iv) a data driven approach was adopted where codes where reflective of the data and free from pre-conceived theory (Byrne, 2022), v) when additional members of the research team were involved discussing coding a reflexive and collaborative coding approach was used to deepen the interpretation of the data.

2.3.4 Undertaking reflexive TA

Reflexive TA was used to analyse data in this study on two different data sets i) semi structured interview data from patient participants n =26 (as seen in chapter 4) and ii) semi structured interview data from consultant participants n =6 (as seen in Chapter 5). The interview data for both sets of participants were collected and audio recorded by the principal researcher (RP) and transcribed verbatim by an external transcription agency.

Following this the analytic process was initially and primarily undertaken by RP the principal researcher who discussed findings with members of the research team from phase 2 onwards and followed the six-phase process described by Braun and Clarke (2022) as shown below. An example of the coding process phase 2 is shown below (Table 2). This was an inductive approach and themes were allowed to emerge from the data as part of the reflexive process. Phases 5 & 6 took place with discussions within the larger research team to provide further robustness to the process. Any difference in interpretation were resolved through these discussions. Checking of the data set with research participants (both patient and consultant) was not undertaken to validate the interview transcripts due to limited funding and time constraints.

Prior to familiarisation the principal researcher (RP) engaged in a process of reflexivity looking at how personal biases such as age, gender and ethnicity may influence the research process. There was an acknowledgement that many years of working as a physiotherapist

assessing and treating CLBP patients was a potential bias as the type of patients participating in the study were similar to those seen regularly in clinics by RP and this had the potential to influence the interpretation.

2.2.5 Six phase process of reflexive TA

Phase 1: **Data set familiarisation.** Immersion in the data set that involved repeatedly reading the transcripts and listening to the audio data whilst making brief notes. This phase was undertaken by RP whereby he listened back to all the audio recordings with the transcripts present to "actively listen" to the data. Once all the recordings had been listened too, the process was repeated, and some notes were made throughout the process regarding initial thoughts and feeling of the data.

Phase 2: **Data coding.** The data was systematically worked through to identify segments potentially interesting/meaningful for the research question. This phase aims at capturing single meanings or concepts. This phase was again undertaken by RP and discussed with members of the team where preliminary brief codes were added to the comments box of the transcribed interviews on a word document. After further familiarisation and repeated iteration documented on a spreadsheet, some codes were discarded and other were identified as potentially theme generating.

Table 2: Examples of coding from patient interview data

Quote	Coding
(Pat) In my experience I like people to be straight forward with me. If it's gonna mess up my life I would like to know. I don't like to be given surprises and stuff	Describing happy with direct communication style
(Pat) It was good enough. I liked it from his point of view. He was straight forward to me. That, that's what I liked the most.	Being satisfied with information given and communication style

Phase 3: **Initial theme generation.** In this phase shared patterned meaning across the dataset was identified. Complying clusters of codes which might provide meaningful "answers" to the research question were generated. This was performed by RP and discussed with members of the research team once all the transcripts had been coded, they started to identify relationships between the different codes and constructed potential sub themes and early themes on a spreadsheet.

Phase 4: **Theme development and review.** Provisional themes were assessed by going back to the full dataset checking they make sense in relation to both coded extracts and the full dataset. Do themes highlight the most important patterns or most compelling stories? This phase was undertaken by both RP and IC. This collaborative work involved sense checking the initial theme generation and discussing interpretations at a deeper level. Themes were reviewed to identify the "quality" of the theme and if it related to the research question and whether there was enough meaningful data to support the theme.

Phase 5: **Theme refining, defining and naming.** This phase ensured that each theme is clearly demarcated and built around a strong core concept. Confirming each theme fits into the overall story regarding the data. This stage was predominantly undertaken by the principal researcher and presented to the research team consisting of Professor Alison McGregor, Dr Ged Murtagh and Dr Ian Cowell all of whom have significant experience and publications in health-related qualitative research. Themes, sub themes and the supporting multiple data extracts were presented for further discussion, interpretation, and reflection to provide a compelling analysis of each theme.

Phase 6: **Writing up.** This phase seeks to present a coherent story about the dataset that addresses the research question. This stage was undertaken by the principal researcher and reviewed by all members of the research tea for discussion (from Braun and Clarke (2022).

2.4 Conversation Analysis (CA)

2.4.1 What is CA?

CA is a method for investigating how social action is achieved through the medium of naturally occurring talk interaction (Antaki, 2008; Peräkylä, 2004). Its roots lie in the work of Erving Goffman who originated the idea of social interaction (society as the interaction order) as a research topic in its own right (Sidnell & Stivers, 2013). Another major influence is the work of Harold Garfinkel (Ethnomethodology - the study of member's methods for producing social order) who focused on practical sense making procedures members of society deploy to conduct and manage their everyday affairs (Peräkylä, 2004; Sidnell & Stivers, 2013; Ten Have, 2007). Harvey Sacks (the originator of Conversation Analysis – CA) draws on both influences and develops the idea of social action as grounded in the specifics of ordinary interaction (Heritage et al., 2001). Sacks made a radical shift from the "coding and counting" approach to examining interactions (Peräkylä, 2004). He started to study, in real time, the naturally occurring sequencing of actions, rules, structure and patterns of interaction, and the very mechanics of interaction itself (Peräkylä, 2004; Silverman, 2014). His studies focused on specific observable interaction and practitioners continuing in this tradition have now established a significant corpus of knowledge about the organisation of ordinary and institutional talk (Peräkylä, 2004)

This body of theoretical knowledge has led to 3 key fundamental assumptions for CA as described by Peräkylä (2004). i) *Talk is Action*: In CA talk is considered and understood as a vehicle of human action e.g. opening and closing conversations, telling / receiving news, assessments in ways recipients agree or disagree. ii) *The action is structurally organised:* In the CA view actions are thoroughly structured and organised. In pursuing goals people have to orient themselves to the rules and structures to make their goals / actions possible. iii) *Talk creates and maintains intersubjective reality:* CA offers a rigorous tool for studying meaning

and experience in an empirical way. Talk and interaction are studied in a way where intersubjective understanding is created and maintained e.g. as a current speaker answers a question, it shows they understood the preceding turn from the other speaker (Peräkylä, 2004; Silverman, 2014)

Therefore, CA involves in the study of the everyday "ordinary" conversations that occur between friends and family without any specific institutional goals or tasks, it has further developed into an investigation of a wide range of structures and practice in institutional talk including healthcare settings (Antaki, 2008; Drew et al., 2001; Peräkylä, 2004). In particular relevance to this study it has been established that using CA as method allows us to i) identify patterns of health behaviour, which health care practitioners might take into account in their interactions with patients, ii) provide implications for future communication training, iii) identify interactional strategies which may develop patient involvement and decisions about their health care and iv) explore the association between certain interactional styles and certain outcomes (Drew et al., 2001)

2.4.2 Data collection

CA seeks to capture (either through audio or video recordings) naturally occurring interactions within the setting under study (Peräkylä, 2004). In this study, examination of the interactions between Neurosurgery Consultants and Patients with CLBP needed be collected so therefore the data collection took place within their natural institutional settings of the Neurosurgery Outpatients Department of Queens Hospital, Romford and Brentwood Community Hospital. A total of 26 consultations were recorded.

Once the research site was established, how the recordings of the interaction were undertaken needed to be clarified. After initial viewings of the research site and observing the consultants in clinic, it was noticed that they often moved back and forth between adjoining rooms for the

subjective and physical examination and also between rooms for different patients. Therefore, despite some researchers suggesting video recordings should be used whenever possible to capture non-verbal aspects of face to face interaction (Peräkylä, 2004) this was not feasible and audio recordings were undertaken to capture the interaction (specific details of the recorder are provided in Chapter 3). There are also suggestions that the presence of a video camera might affect communication practice (Parry et al., 2016).

In preparation for a robust analysis principal researcher RP underwent extensive training in CA at Loughborough University which is listed below section 2.4.5. Once all the recordings were completed each interview was transcribed verbatim into a word document and repeatedly listened to by principal researcher RP. At this stage initial observations were made regarding the organisation of actions being undertaken e.g. how the Consultation was structured around initial greetings, history taking etc. This phase aims at uncovering the organisational features of the consultations (Peräkylä, 2004). These initial features were then discussed within the research team (RP, AM GM, IC) at initial data sessions.

Following the initial exploration and initial data sessions, identification of phenomena to be examined was undertaken. In this study the phenomena identified and of particular interest was, "giving a diagnosis and explanation of the patients pain" which was explored and explained in detail in Chapter 3. Practically, this meant collecting all the instances of these phenomena from the data set and transcribing them using a specific " Micro analytical" technique unique to CA developed by Gail Jefferson (Peräkylä, 2004; Sidnell & Stivers, 2013) . This unique transcription technique is a time-consuming laborious task that involves using symbols to present a wide range of vocal and interactional phenomena such as overlapping speech, silences, amplitude, pitch variation as seen below, table 3 (Peräkylä, 2004; Sidnell & Stivers, 2013; Silverman, 2014)

Table 3: Common transcription conventions (adapted from Ten Have (2007) and Sidnell and Stivers (2013).

Sequencing	
[no] [yes]	Square brackets would indicate a point of overlap between 2 different speakers, the left bracket where overlap begins and the right where it finishes
=	Equal signs occur at the end of one line and beginning of another to indicate there is no pause. This can occur by the same speaker or between speakers
Timed Intervals	
(0.5)	Numbers in parentheses indicate silence, represented in tenths of a second, here the example indicate 0.5 seconds of silence
(.)	A dot in parentheses indicate a micropause hearable but difficult to measure as less than 0.2 of a second
Characteristics of speech production	
No::::::	Colons indicate prolonged or stretched sounds, the more colons the more stretched the sound
word	Underscoring indicates some form of stress
Ma-	A dash after a word or part of a word indicates a cut off
↑ ↓	The up and down arrows mark sharper rises and falls in pitch
?	Indicates a rising intonation
WORD	Louder talk maybe indicated with upper case
hhh	Indicates aspiration
.hhh	Indicates inspiration
> <	Indicates the talk is rushed or speeding up
º sorry	The degree sign indicates the talk following it is markedly softer or quieter

Below is an example of a short extract transcribed using Jeffersonian technique.

Extract A

7	Con)	Erm (0.2) I've been asked to see you by Dr. @@@@@.
8	(Pat)	Yes.
9	(Con)	About your back and [leg pain]
10	(Pat)	[yep yes]
11		We will go through a few questions (0.2)
12		I'll then examine your back and legs and then we'll go
13		through your scans
14	(Pat)	OK.
15	(Con)	And then the main decision we need to make today(.) is a
16		simple one
17		Is:: surgery likely to help [you]
18		[ok]
19		As a surgeon we'll make that [decision between us]
20	(Pat)	[Brilliant Thank you]

Once these collections of the given phenomena were all transcribed, they were examined extensively initially by RP using the audio recordings and detailed transcripts and then verified by IC. This examination looked at some of the key concepts in the organisation of talk in interaction to establish variation in the different phenomena (detailed in chapter 3) as described by Peräkylä (2004). In order to analyse in detail we need to understand some of the main key concepts in the organisation of talk in interaction and they are i) turn taking, ii) sequence organisation, iii) turn design and iv) repair (Hoey & Kendrick, 2017; Sacks et al., 1974).

Turn taking: One of the obvious things about conversation is that it involves participants of the conversation taking turns (Sidnell & Stivers, 2013). Turn taking procedures address problems such as "who speaks next" or "when do they start to speak" (Hoey & Kendrick, 2017). As a turn approaches a place whereby it could be complete, participants can use techniques to allocate the turn to others or others can self-select its now there turn to speak (Hoey & Kendrick, 2017; Sidnell & Stivers, 2013; Ten Have, 2007).

Sequence Organisation: This refers to how successive turns link up to form organised actions and are often described in terms of *adjacency pairs*. These are utterances between two participants for example, participant A will ask the first part pair in the form of a question or invitation and then participant B will make a relevant response in the form of an answer or acceptance in the second part pair (Hoey & Kendrick, 2017). Sequence organization is the mechanism by which the participants show to one another their understanding of each other's turn and this allows researchers to be able to analyse their course of the interaction (Ten Have, 2007). Below are some examples taken from this study.

A greeting sequence

3 (Con) Hello, hi. " Mr @@@@@", one of the Neurosurgeons.

4 (Pat) Hiya, nice to meet you.

A closing sequence

338 (Con) That's your lot.

339 (Pat) OK. Thank you very much.

Each of these are adjacently paired, sequentially organised and perform social actions.

Turn design: The concept of turn design is fundamental to CA's method (Drew et al., 2001). It refers to how speakers formulate their turn of talk to produce a social action e.g. asking or answering a question (Hoey & Kendrick, 2017). This topic is huge within CA (Heritage & Maynard, 2006) and full detail is beyond the scope of this thesis, but, an example of turn

design that has been demonstrated in use within in a medical setting is that clinicians shape questions that favour a best case scenario or no problem response from the patient (Heritage & Maynard, 2006). For example in Clark and Hudak (2011) surgeons use preannouncements such as "*ill tell you what my observation is*" to project upcoming news that surgery will not be offered and this preannouncement also allows for space for the news to be delivered.

Repair: There is ample evidence that when people talk together they frequently encounter problems from hearing the speaker, speaking the right word/s and understanding what is being said (Sidnell & Stivers, 2013). In CA, repair is referred to as a set of practices in conversation that act as the treatment of a trouble source in talk in interaction (Sidnell & Stivers, 2013). A repair sequence starts with a repairable item or trouble source, followed by a repair initiation and then a repair solution (Hoey & Kendrick, 2017) . If a repair is initiated by the speaker of the trouble item, it is called a self-repair; while if it is taken by the recipient, it is called an other-initiated repair (Hoey & Kendrick, 2017; Ten Have, 2007). The repair is the key method for interactants to pursue mutual understanding in talk (Sidnell & Stivers, 2013). Below are two examples of repair, one self-person repair and one other person repair.

Self-person repair

205	*Consultant*	*that I don't think(.) me cutting that disc-*
206	*Consultant*	*-that little disc out*

Here the consultant self-repairs to emphasise the size of the disc in question as a potential reason it isn't surgical target.

Other person repair

22	*Ava*	*I will give you a call tomorrow when I get in*
23		*(0,5)*
24	*Bee*	*Wha:t*
25	*Ava*	*I give yih call tomorrow*

Taken from (Sidnell & Stivers, 2013). Here Ava recognises Bee hasn't heard what she was saying so initiates a repair through repetition of the first portion of her talk.

Through understanding the key concepts of how CA works, it was possible to examine the collections of data looking to identify different designs in utterances for the same sorts of actions i.e. explaining a patient's symptoms. As CA is a naturalistic, descriptive approach much of the research effort is invested in determining the variation of the phenomena (Drew et al., 2001). Once this was done the principal researcher (RP) discussed with the research team how the variation in the phenomena could be accounted for i.e. the explanation of symptoms for CLBP when there is and isn't a surgical target and this is presented in Chapter 3.

2.4.3 Justification of using CA in this study

Firstly, CA analyses naturally occurring talk allowing the neuro-surgical consultations to be studied within their natural clinical setting in an authentic way. This will allow a unique insight into how these consultations are structured and how social action is achieved within the consultations. Secondly, CA looks at interaction as *sequential and procedural*, implying that any action in talk is related with each other but not an individual act. This allows us to look at the way interaction takes place from a speaker and recipients' perspective. With strong evidence and policy suggesting clinicians should implement PCC as discussed in chapter 1, examining this would add great research value to help inform current interactions within this clinical setting.

2.4.4 Reflexivity Statement

The principal researcher and thesis author (RP) is an experienced male physiotherapist who worked in the NHS and private practice during the study's duration. He has a clinical and research interest in the management of CLBP from a BPS perspective. It is acknowledged

that his position, and multiple experiences initially as a clinician but more recently as a cancer patient, may have consciously or sub-consciously had an influence on the findings and interpretation of the data and these are discussed below.

Firstly, RP's interest in this research area arose from managing patients with CLBP for several years. The service RP practiced in frequently saw patients who had seen a neurosurgical consultant and who reported a negative experience. RP drew upon these experiences in the design of the research in this thesis and specifically on the insights of these patients to formulate the semi-structured questions used in the patient experience interviews. This may have led the interviews and biased the data interpretation. Similarly, the consultant semi-structured interviews drew on this experience and likewise may have influenced interpretation although through discussion with the supervisor team sought to challenge and minimize these influences.

Lastly, RP was diagnosed with Cancer during this project and as a result underwent an interruption of studies, during this time RP attended and experienced many health care interactions from a patient's perspective. These experiences not only changed RP as a person but facilitated RP's mind to seeing things from both a patient perspective as well as a clinical perspective which enriched the insights into the data collected.

2.4.5 Training undertaken for CA

Loughborough University PgC in Conversation Analysis

Studying Discourse, conversation and interaction: Dr Carly Butler and Professor Paul Drew 10th -12th October 2014.

Understanding Communication in Interaction: Professor Sue Wilkinson and Dr Alexa Hepburn 24th -26th October 2014

Methods in Interaction Research: Dr Alexa Hepburn and Professor Elizabeth Stokoe 21st-23rd November 2014

Communication Practices in Institutional Settings: Professor Paul Drew 5th -6th December 2014

Consolidation workshop: Professor Paul Drew and Dr Alexa Hepburn 7th December 2014

Additional training

CARM Training for Professional & Workplace Communication Encounters: Elizabeth Stokoe 21st-22nd January, 2015, Loughborough University.

Introduction to Qualitative Interviewing: Dr Sophie Sarre and Dr Carrie Dunn 2nd June 2014, Surrey University

Chapter 3: A study examining how neurosurgeons consulting CLBP patients explain the patients' symptoms: a conversation analysis (CA) approach

3.1 Introduction

Since the early 1980s scholars of Conversation Analysis (CA) have studied the medical encounter as an arena of naturally occurring interactions or data (Maynard & Heritage, 2005). As described in Chapter 2, conversation analysts have specifically studied the doctor patient relationship as a co-construction or collaboration that evolves on its own terms, in real time (Maynard & Heritage, 2005). The fundamental CA concepts, (previously described) such as turn taking, sequence organisation, turn design and repair that feature in ordinary interaction, have also been identified within the medical encounter and a large array of studies have examined this (Clark & Hudak, 2011; Drew et al., 2001; Goodwin & Heritage, 1990; Heritage & Maynard, 2006; Maynard & Frankel, 2006; Maynard & Heritage, 2005; Peräkylä, 2006; Sidnell & Stivers, 2013; Ten Have, 2007). Two conclusions have been reported regarding the application of these CA concepts to the medical interview i) interactional practices found in everyday life are transferred to the consultation room and ii) the organisation of interaction remains geared towards mutual understanding of each other i.e. the repair features happen similarly in naturally occurring talk in both environments, everyday life and clinical settings (Maynard & Heritage, 2005).

CA studies of the doctor-patient encounter have identified interactional features such as clinician account formulation (Parry, 2009), patient resistance (Ijäs-Kallio et al., 2010; Stivers, 2005b; Stivers & Timmermans, 2020) associated with different actions such as how doctors explain a diagnosis (Perakyla, 1998; Stivers, 2005a), treatment recommendations (Peräkylä, 2006; Stivers, 2006), and shared decision making (Clark & Hudak, 2011; Land et

al., 2017). The application of the findings from these studies is key to specifying different aspects of PCC.

For example, in Chapter 1 we have seen a strong movement towards PCC with more value placed on shared decision making (SDM) as a core element of PCC. The growing evidence base around PCC has informed clinical guidelines and required medical professionals to evolve their communication practices, which has seen a movement away from a paternalistic medical model and an increase in patient empowerment and involvement (Stivers & Timmermans, 2020). The early studies on doctor-patient interaction by Byrne and long (1977) confirmed a doctor centred approach with minimal patient participation. Findings such as these provided support for earlier sociological models in which the medical profession assumes dominant control over the encounter (Freidson, 1970).

The subsequent introduction of PCC, aimed at reducing professional dominance, encourages clinicians to invite patients to ask questions, raise their concerns, address bio-psychosocial issues and build therapeutic alliance (Mead & Bower, 2000). Nevertheless, the authority and expertise of the doctor is something that patients naturally orient to within the encounter (Heath, 1990; Perakyla, 1998) despite this movement towards patient empowerment. In particular, treatment recommendation and diagnoses are considered within the doctors' domain of expertise due to the 'special knowledge' they possess (Perakyla, 1998; Stivers, 2006; Stivers & Timmermans, 2020). This suggests that the paternalistic and hierarchical position of doctors may be difficult to deconstruct despite best efforts to move towards PCC. Patients' orientation to doctors as 'technical experts' can be a real factor in shaping the interaction. With regard to the present study, neurosurgery consultants can been seen as gatekeepers to surgery, and when given an appointment for a surgical consultation patients may anticipate an obvious 'primary treatment' of surgery (Hudak et al., 2013; Land et al.,

2017). However, not all patients will be offered surgery (Hudak et al., 2013), which can create an interactional "tug of war" between surgeon and patient.

Previous work by Clark and Hudak (2011) has examined 121 consultations of 14 different orthopaedic surgeons' consultations with patients presenting with a variety of orthopaedic conditions (spine, knee, shoulder pain). Their findings revealed surgical cases were generally straight forward and simple with a stand-alone primary treatment option recommended. However, in non-surgical cases they reported more challenges in the form of longer appointments, complex justified treatment recommendations in the form of multiple options and patient resistance. This study provides important analytical direction with regards to the research question of this study, which is to extend the application of CA research in clinical settings to the context of neurosurgery consultations with CLBP patients.

Consultations with patients, normally go through phases such as history taking, physical examination, diagnosis, treatment recommendations (Clark & Hudak, 2011). Whilst these phases of the appointment have revealed many interesting interactional features in these data, such as opening sequences of the consultation, the focus of this study is around how neurosurgery consultants "explain the patients' symptoms to them" and how this is received by the patients (all presenting with CLBP). The "explaining" phase of the consultation illustrated some of the most interesting and pertinent findings once the analysis was completed. The common interactional features observed from this phase will be presented from within the data set (n=26) in extracts 1-5. The study ends by showing two examples (extract 6-7) of the closing of the patient consultation following the receiving of an explanation of their symptoms and treatment recommendation in order to provide some insight into how these consultations often close.

3.2 Methods

3.2.1 Setting and participants

The research setting for this study was at two different sites within the Neurosurgery Department at Barking, Havering, and Redbridge Hospital's University Trust, Queens Hospital, Romford and Brentwood Community Hospital. As described in Chapter 2, twenty-six patients and eight consultants were recruited (characteristics described below) for the study and all twenty-six consultations were audio recorded. In order to familiarise themselves with the research environment principal researcher RP attended some neurosurgery clinics to establish the best way to collect the data via audio recordings.

3.2.2 Ethics and Local Research and Development Approval

The study was granted ethical approval on the 16.10.14 by NRES Committee East of England – Cambridge South, REC reference number: 14/EE/1198 (appendix A)

The study was given local research and development approval on the 06.11.14 by Barking Havering and Redbridge University Hospitals NHS Trust research and development department, Reference Number: R&D 1113 (appendix B)

3.2.3. Patient participant recruitment

Patient participants were identified via two different pathways.

1. Firstly, through the community-based specialist Clinical Assessment Treatment Service clinicians, physiotherapists and specialist GPs, who regularly identify and refer participants into the neurosurgical department for lumbar surgical procedures. These services are based within North East London Foundation Trust (NELFT). All

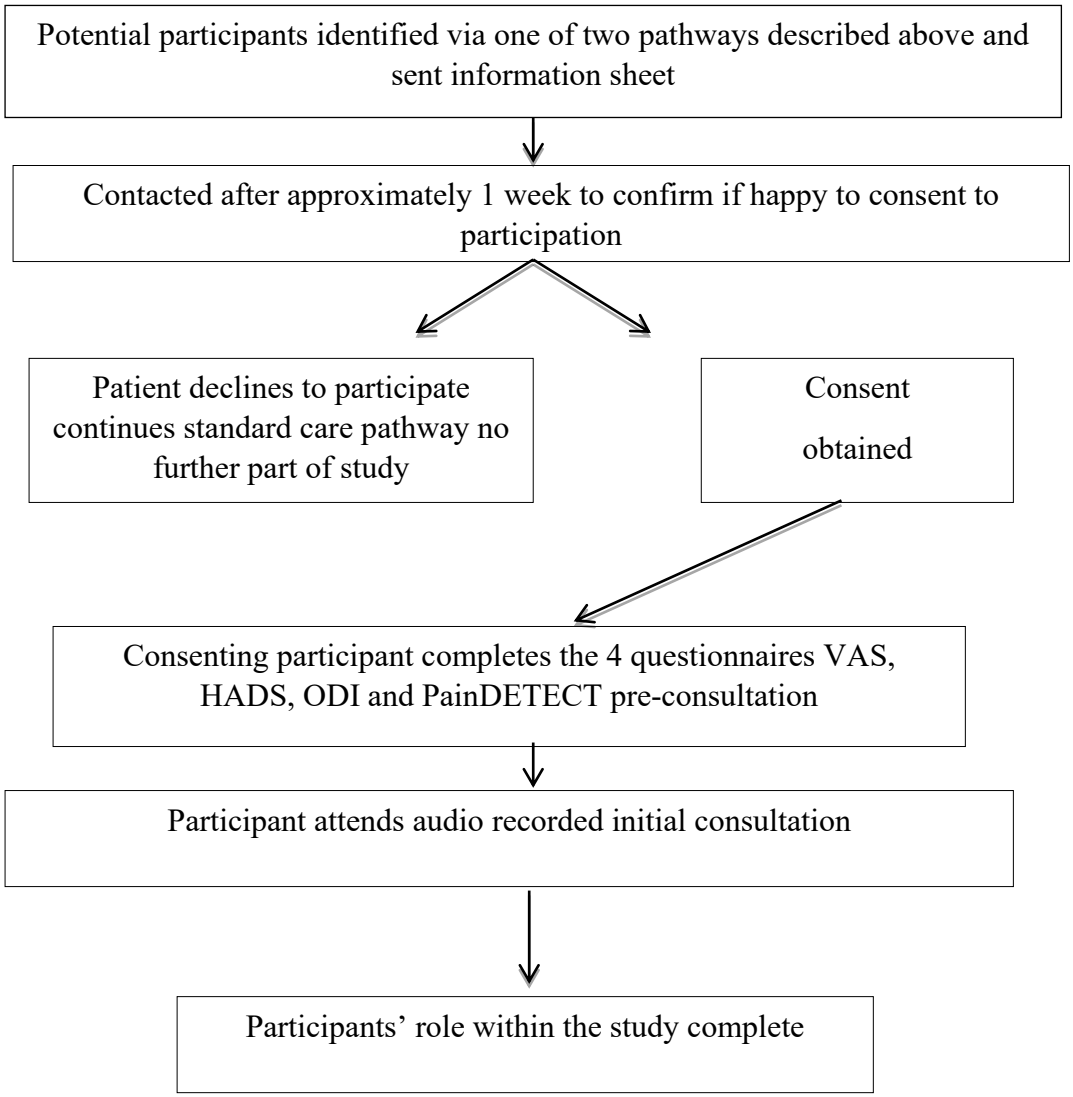
the potential participants deemed suitable candidates, that met the inclusion criteria for the study (table 4), were given a study information sheet (appendix C) by the member of the care team that referred had them for a surgical opinion. They were contacted one week later by the principal researcher RP inviting them to participate in the study and if in agreement a consent form was sent and completed (appendix D).

2. Secondly, participants were identified via the Neurosurgery Department at Queen's Hospital part of Barking, Havering, and Redbridge Hospital's University Trust via a triage method whereby all referrals from General Practitioners, physiotherapists and nurses were screened by the team for their appropriateness for a surgical opinion. At this stage all those referrals deemed suitable candidates for the study, that met the inclusion criteria, were sent the same information sheet by the principal researcher RP (appendix C) and contacted one week after receiving them by RP inviting them to participate. If they agreed to participate a subsequent consent form (appendix D) was sent and completed.

Table 4: Inclusion & exclusion criteria for patient participants

INCLUSION CRITERIA
Eligible patient participants will be 18 years of age or older.
Agreeing to visit a neurosurgeon to consult on their ongoing back and leg pain.
Had undertaken an MRI prior to attending as per service guidelines.
The participants must be able to speak / understand English.
EXCLUSION CRITERA
Participants aged under 18 or over 70 years of age.
Undergone previous lumbar spine surgery.
Unable to fully understand the English language.

Figure 2: Data Collection Method



3.2.4 Baseline Data

Prior to attending the consultation, once participants had read the information sheet and completed the consent form, baseline data was collected in terms of age, gender, levels of disability (Oswestry Disability Index), anxiety & depression (Hospital And Depression Scale), pain levels (Visual Analogue Scale) and neuropathic pain (PainDETECT), as seen in table 5 (Fairbank & Pynsent, 2000; Freynhagen et al., 2006; Snaith & Zigmond, 1986). These

questionnaires were undertaken to provide context to the patient group participating in the study. The validity and reliability of these questionnaires are discussed in more detail below.

Table 5: Patient Participant characteristics

Patient	Age	Gender	ODI	Anxiety	Depression	VAS	Pain Detect
1	36	M	64	10	8	10	33
2	39	F	22	9	7	1	5
3	55	F	20	15	12	4	8
4	61	M	20	15	9	4	15
5	42	M	50	15	8	5	18
6	41	M	46	15	10	6	7
7	40	M	64	16	15	8	21
8	37	F	58	12	10	7	20
9	43	M	10	8	11	2	7
10	60	F	44	0	5	6	18
11	65	M	28	8	12	9	17
12	41	F	50	13	13	8	7
13	59	M	58	7	6	7.5	16
14	48	F	40	10	13	5	10
15	33	M	54	9	9	7	19
16	46	M	62	16	11	7	2
17	47	F	30	12	1	8	6
18	42	M	66	16	12	6	20
19	42	F	38	9	4	9	22
20	55	M	14	9	8	8	0
21	43	M	60	17	13	7	21
22	53	F	32	14	6	5	12
23	55	F	38	7	8	5.5	3
24	63	F	66	11	7	7	19
25	41	M	20	8	5	3	0
26	29	M	22	6	7	8.5	1
27	47	M	26	6	11	2	6
28	61	M	28	3	4	2	6
Mean	47.2	M17/F 11	40.3	10.6	8.75	6	12.1

3.2.4.1 Oswestry Disability Index (ODI) Version 1.0

The ODI has become the most commonly recommended condition specific measure of disability for spinal disorders (Fairbank & Pynsent, 2000). The normative mean score for ODI is reported to be 10.19 and any score above 12 is considered a cut off for LBP with and without disability (Tonosu et al., 2012).

3.2.4.2 Hospital Anxiety and Depression Score (HADS) (Snaith & Zigmond, 1986)

The validity of the HADS is well established. Berwick (2002), found the HADS to perform well in assessing severity of anxiety disorders in both somatic, psychiatric, primary care patients as well as the general population. A score of 8-10 suggests mild symptoms, scores of above 10-14 suggest moderate symptoms.

3.2.4.3 PainDETECT (Freynhagen et al., 2006)(A neuropathic pain scale)

Neuropathic pain is a possible cause for ongoing leg pain outcomes. The PainDETECT questionnaire is a reliable screening tool for neuropathic pain with high sensitivity, specificity, and positive predictive accuracy (85%, 80% and 83% respectively). Scores of less than 12 suggest neuropathic pain unlikely, whilst score greater than 19 suggest neuropathic component likely.

3.2.4.4 Visual Analogue scale (VAS)

The VAS is a simple, valid and reliable measure of pain when using a numerical rating scale (0-10) with 10 being worst pain possible and has been used in many studies with surgical patients (Begum & Hossain, 2019)

3.2.5 Consultant Participant recruitment

The consultants participating in the study were from the Neurosurgical Department at Queen's Hospital, part of the Barking, Havering, and Redbridge Hospital's University Trust. Within this trust, all patients seeking a surgical opinion for CLBP would be seen by the Neurosurgery Department, unlike many other NHS hospital trusts where orthopaedic surgeons would generally see patients with CLBP. At the time of recruitment, the department had twelve Neurosurgeon Consultants, eight that regularly engaged in seeing patients for

surgical consultations with CLBP. All eight consultants agreed to participate in the study and their characteristics are seen below (table 6).

Consultants were initially contacted via email to be asked if they would be happy to participate in the study. Following their interest in participating, they were then sent a specific consultant information sheet (appendix E) and consent form (appendix F) detailing the study and their role within it.

Table 6: Consultant Participant Characteristics

Age	Gender	Years of experience	Years as a consultant
48	Male	22	12
65	Male	41	22
52	Male	27	16
53	Male	30	17
63	Male	43	32
54	Male	26	15
46	Male	25	11
54	Male	31	18

3.2.6 Data Collection / Storage

All paper records containing consent forms, confidential data were kept in locked storage in an NHS department. All audio data collected were recorded on a Zoom 5HDN recorder. This data was then imported to Cubase LE 5, a software programme for audio file management. All electronic files were password protected and all records of confidential data kept on an NHS password protected computer, password protected external hard drive or password

protected college computer.

3.3 Results

All data was analysed using CA (See Chapter 2, section 2.4.2 for a detailed description of this method)

3.3.1 Structure of appointment

The structure of the consultation was the same for each appointment (n-26) irrespective of the location or consultant undertaking the appointment. Each consultation could be seen as consisting of four main phases:

1. History taking
2. Physical examination
3. Explanation of symptoms using the MRI results
4. Treatment recommendations

With regards to the provision of context for the extracts presented, it is worth reminding ourselves that in phases 1 and 2 the consultants have already established for each patient the area of pain (i.e. localised back pain or back and leg pain), the patient's reported severity of their symptoms and the affect it is reported to be having on the patient's life. Additionally, the consultants as standard practice would have viewed the MRI scans and associated reports prior to the patient entering the room so when viewing the scans in phase 3 they already have a clear understanding of the scan findings.

Following close inspection of each phase in each consultation, one phase increasingly became the focus of attention, it was the location where interactional challenges was most

evident. This was phase 3, “explanation of symptoms using the MRI results”. Although these interactional challenges are predominantly demonstrated in phase 3, we also observed some at the end of phase 4, (See extracts 6 and 7), from closing sequences at the end of the appointment, after treatment recommendations have been made. These examples have been included to highlight some of the important interactional features that are apparent as the consultations came to a close.

Table 7: List of extracts

Extract number	Description
1.	Explanation of symptoms via MRI: Surgical target present
2	Explanation of symptoms via MRI: No surgical target
3	Explanation of symptoms via MRI: No surgical target
4	Consultant accounting for pain: Non-surgical case
5	Consultant accounting for pain: Non-surgical case
6	Patient reopening closing: Non-surgical case
7	Patient reopening closing: Non-surgical case

3.3.2 Encouraging patient agreement.

In extracts 1-3 we see examples of how consultants work towards “**Encouraging patient agreement**”. Extract 1 is from a case where the surgeon identifies a clear surgical target and extracts 2 and 3 are from cases where there is no obvious surgical target. Extract 1,2 and 3 are from phase 3 where the consultant has just started to explain the symptoms using the MRI scan.

Extract 1 Explanation of symptoms via MRI: Surgical target present

175 (Con) this one is darker has lost a bit of height .hh and
176 so:me↑ of it's content has leaked [out]=

177 (Pat) [right]

178 (Con) =do you see that?

179 (Pat) [yes I can see it]

180 (Con) [so this is the leak] of that (.) sort of soft jelly
181 material that's [come out]=

182 (Pat) [right ok]

183 (Con) =and if we look at that in profile section (.) at that
184 level(.)that's the leaked↑ material do you see=

185 (Pat) Ah-right

186 (Con) =left sided↑ pressing on your nerve that is (.) causing
187 you left sided leg pain .hh s:o the <u>good</u> news is(.)
188 your scans match your [symptoms]=

189 (Pat) [Mm-mm]

190 (Con) =so therefore (.) surgery is <u>more</u> likely to help you than
191 if they didn't.

192 (Pat) right ok

Descriptive features of extract 1.

In extract 1 (Patient 10) the consultant is describing an abnormality on the MRI scan, which is clear, obvious and definite in lines 175, *176, 180, 183*. He follows up these descriptions with the questions *do you see that?* line 178 and *do you see* end of line 184 inviting the patient to respond and this is illustrated in the grammatical form of these questions. The is significant for two reasons, firstly, these questions have been described as polar questions designed to produce either a 'yes' or 'no' as an answer, inviting agreement or disagreement (Pomerantz, 1988).When these questions are affirmatively framed as in this case there is a default preference for a yes answer to seek affiliation (Peräkylä, 2006; Sacks et al., 1974). Secondly, question-answer sequences like these are almost entirely under the consultants' control but remain co-constructive because although they constrain the patients answer they do not determine it. In this case the consultant is suggesting the patient can also see the abnormality on the scan seeking a yes answer. Nevertheless, patients typically orient to the asymmetry in knowledge (Perakyla, 1998) between their perspective and the clinician's medical authority another factor which can heavily influence a 'yes' response. In lines 186 we see the consultant attributing the scan findings as the cause of the pain *pressing on the nerve that is causing your left sided leg pain* but follows this up with what has been referred to as a "Brightside" formulation (Clark & Hudak, 2011; Holt, 1993; Land et al., 2017) in the fact its *good news* lines 187 and again in line 190 *therefore surgery is more likely to help you than if they didn't*. These Brightside formulations are positive utterances that place emphasis on something being good or minimally bad about the patients case / scan result (Clark & Hudak, 2011). This Brightside formulation in lines 188 *your scans match your [symptoms]* also contains a logical inference, these are turns that have been constructed to logically imply forthcoming recommendations, they are often seen in the delivery of bad news (Maynard, 1992). However, these Brightside formulations, with

the logical inference, convey the fact that surgery is a treatment option which will likely help the patient's problem. Throughout the sequence the patient responds with quite strong acknowledgment tokens in line 179 *yes I can see it*, 182 *right ok*, 185 *Ah right* and 192 *right ok*. Acknowledgement tokens have been described in three broad classes i) silence, ii) minimal or iii) extended response whereby indicative of agreement or disagreement (Peräkylä, 2006) These acknowledgement tokens would be class iii, where there is agreement indicated verbally (Peräkylä, 2006). Within this extract there is very little signs of significant interactional trouble.

Extract 2: Explanation of symptoms via MRI: No surgical target

375	(Con)	*So normal disc normal disc normal disc normal disc*
376		*you can see that disc is slightly [more]*
377	(Pat)	*[Yeah]*
378	(Con)	*Err, darker*
379	(Pat)	*Yeah.*
380	(Con)	*so this has got a slight spondylosis [in it]*
381	(Pat)	*[Right]*
382	(Con)	*We call it spondylosis [that just means]-*
383	(Pat)	*[crumbling degeneration]*
384	(Con)	*that just means degeneration absolutely*
385		*It's a fancy name for wear and tear and this one's got a*
386		*bit wear and tear this one's got a bit of wear and tear*
387		*the lower↑(.) three discs and I'll show you on this*

388 model(.) so these lower three discs(.) this is the view
389 we looking at are (.) worn out

390 (Pat) Right.

391 (Con) The rest are alright.

392 (Pat) Yeah.

393 (Con) .hhh and al::so a little bit of this disc (0.2) a tiny
394 amount-

395 (Pat) -has come off-

396 (Con) -has leaked out.

397 (Pat) Yeah.

398 (Con) and this is (0.2) absolutely a very small amount=

399 (Pat) =Right=

400 (Con) =It's sort of one millimetre of disc coming out about
401 that much.

402 (Pat) Yeah.

Descriptive features of extract 2

In extract 2 (patient 7) the consultant works much harder to encourage patient agreement. He describes the MRI findings with a Brightside formulation (Clark & Hudak, 2011; Holt, 1993) in a different way to extract 1. In this extract the consultant minimises the scan findings with a careful choice of words. The consultant's choice of words appears to be an attempt to

downgrade any negative implication of the findings presenting them in a positive way. In lines 376 and 380 we see the use of the words *slightly darker* and *slight spondylosis* in order to emphasise that the pathoanatomical changes are only minimally different from the other areas of the spine. The consultant follows this up in line 382 with *this just means* again using minimising language to again downgrade the MRI findings. At this point we see an overlapping turn line 383 from the patient where he attempts to upgrade the negative implication of the scan findings with *crumbling degeneration* indicating some resistance to how the surgeon has presented the findings. Patient resistance can take many forms such as presenting their symptoms, recalling past experiences, using information from previous appointments, be implicit or explicit (Ijäs-Kallio et al., 2010; Peräkylä, 2002). After this resistance the consultant aligns with the patient's evaluation in his turn in line 384 *that just means degeneration absolutely* regarding the degeneration but notice this is a partial affiliation with the patient's view as the surgeon avoids the use of the word *crumbling.* Lines 393, we see the consultant continuing the use of minimising descriptors by *little bit of this disc (0.2) a tiny amount* but also combines these with marked stress on the words *little* and *tiny*. In these consultations treatment recommendations follow the explanation of symptoms, therefore the marked stress maybe hearable as projecting a problem with the upcoming treatment recommendations of no surgery as seen in orthopaedics cases (Clark & Hudak, 2011). At the end of line 394 the consultant is cut off by the patient to suggest part of his disc has *come off* in line 395 in what appears to be another form of implicit resistance (Ijäs-Kallio et al., 2010). The consultant orients to this as a trouble source and initiates another person repair as a method to pursue mutual understanding, see Chapter 2, by cutting off the patient and downgrading the significance of the pathology through his lexical choice (Heritage, 2004) to has *leaked out* in lines 396. At the end of the extract, we see further evidence of the Brightside formulation (Holt, 1993), minimising through lexical

choice (Heritage, 2004) and marked stress (Clark & Hudak, 2011) in line 398 *absolutely a very small amount* and minimising again in line 398 *It's sort of one millimetre of disc coming out*. In comparison to extract 1 there is significantly more interactional work being undertaken by the consultant to encourage patient agreement but also more signs of patient resistance.

In extract 3 we see another case of the consultant minimising the scan findings using Brightside formulations (Holt, 1993) but also the ruling out of the primary treatment option (surgery). The ruling out of a primary treatment option has been reported as a technique, found in multiple studies, used by doctors to move towards the commitment point (when action is decided upon) of a consultation (Land et al., 2017). The primary treatment if often the one that is expected by the patient and maybe preferred.

Extract 3: Explanation of symptoms via MRI: No surgical target

186	(Con)	*You can see that's da::rk (.) It's lost it's, e*
187		*brightness so .hhh it's less hy-hydrated it's worn out*
188		*(.)and a little↑ bit of the content of that disc that*
189		*little bit has leaked out do you see↑*
190	(Pat)	*Yeah.*
191	(Con)	*So:: to put it in context that(0.2) le::ak↑ is probably*
192		*about five percent of the total volume of that disc .hhh*
193		*and it's far away from all? the nerves(.) so the nerves*
194		*are coming down here (.) you can see them*
194	(Pat)	*Mm-mm.*
195	(Con)	*And the disc↑ is about(.) a million miles away from all*
196		*those- this in real-real time and we can check that using*

the , erm(0.2) using the axial cuts .hhh we can see all
your nerves here do you see little dots [here]=

(Pat) *[Yeah]*

(Con) *=these are little nerves swimming in this bag and when we come to the area where the disc is prolapsed you can just [see there]*

(Husband) *[Oh ok]*

(Pat) *right*

(Con) *[It's tiny=]*

(Husband) *[Mm-mm]*

(Con) *=Your nerves are all free of it (0.2) .hhh so that's good news in the sense(.) that I don't think(.) me cutting that disc- -that little disc out would significantly help you in terms of your(.) back pain, which is: (0.2) eight out of ten .hhh and I don't think↑ that is significantly contributing to your leg pain(.) although I completely believe you have pain.*

(Pat) *right*

Descriptive features of Extract 3

In extract 3 (patient 8) we see some features that were observed in extract 2. Again, to **encourage patient agreement** Brightside formulations (Holt, 1993) are seen through minimising scan findings in lines 188-89 where we see the consultant again emphasising the insignificant size of the disc prolapse through lexical choice (Heritage, 2004) *a little↑ bit of the content of that disc that little bit has leaked out* this

minimisation is repeated in a similar fashion in line 205 with *It's tiny* and again in line 209 *that little disc*. We also see further evidence of marked stress (Clark & Hudak, 2011) similar to that seen in extract 2 in line 189 with emphasis on *little*, line 193 *far way* line 195 *million miles away* line 205 *its tiny* and line 207 *free of it*. Here the consultant is emphasising the small size of the prolapse and distance between the disc prolapse and nerve endings. Again, this indicates an attempt to create a connection between these findings and the future element of talk of no offer of surgery. A further utterance with marked stress was again combined as part of the Brightside formulation in line 207-208 *so that's good news in the sense*. Similar to extract 1 examples of the consultant using Yes/No questions (Pomerantz, 1988) are seen in in lines 189 *do you see* 194 *you can see them* and 202 *see there,* again as these are affirmative questions that are yes preference questions (Peräkylä, 2006) in what appears to be the consultants attempt get the patient aligned to their evaluation, similar to the action undertaken by the consultant in extract 1. In lines 207-210 we see a different feature from extract 2 with the consultant explicitly ruling out the primary treatment of surgery *I don't think(.) me cutting that disc- -that little disc out would significantly help you.* Surgery is often the preferred treatment in surgical consultations by the patient (Land et al., 2017)

The consultant anticipates this as a potential source of trouble as in line 209 he initiates as self-person repair, a practice of recognising a trouble source in talk in interaction and acting to pursue mutual understanding, as described in Chapter 2, in the form of *me cutting that disc- -that little disc*. The inclusion of the remark *that little disc* in the self-repair could be considered a self-qualification, this when the turn is cut off to insert a remark or word, the function of this is considered to be when the speaker is pre-empting potential problems before they are spoken as seen in the work of Clark and Hudak (2011). The patients' utterances throughout this sequence are no more than a combination of minimal

acknowledgment tokens, class ii, (Peräkylä, 2006) and could be a form of passive or tacit resistance as the patient has not committed clearly to agreement to the consultants' turns. Alternatively, they may be holding out for further information (Land et al., 2017; Perakyla, 1998).

The extract culminates in line 212-213 with the consultant making an explicit attempt to legitimise the patient's pain (Stortenbeker et al., 2020) through *although I completely believe you have pain* which maybe be seen as an attempt to forward off any future issues with the patient feeling they are not being believed. It has been shown that by not legitimising a patient's symptoms it can arouse patient defensiveness and hopelessness (Pomerantz, 1986)

3.3.3 Consultant Accounts

In extracts 4-5 (Patients 7 and 8) we see examples of the action of accounts being undertaken by consultants in cases where there was no offer of surgery. In contrast, accounts were not formulated in cases where surgery was offered. Accounts could be given for different reasons. Firstly, they may be given as part of PCC and SDM informing patients of the rationale of future treatment proposals (Parry, 2009) or they may be given when there is a need to express some kind of justification, reasoning or explanation (Perakyla, 1998). Doctors often formulate accounts around diagnosis and treatment recommendations given when some form of resistance has been shown by the patient (Maynard, 2004; Parry, 2009; Peräkylä, 2006). The accounts shown were given to provide the patients with an alternative / non-surgical explanation of their pain. These accounts always occurred in phase 3 of the consultation and would occur after the consultant's initial description of the MRI findings as discussed in extracts 2-3.

Extract 4: Consultant Accounting for pain: Non-surgical case

449 (Con) *Now::(0.6) there are two questions Wh- why this is*
450 *happened(.)and that (1.6) mor-mor-more than likely is*
451 *related to an abnormal response to the pain pathways .hhh*
452 *I've seen (0,4) lots of people with this amount of disc*
453 *prolapse=*

454 (Pat) *=Yeah=*

455 (Con) *=and (0.2) they're not (0.4) suffering as much as you are*
456 *Its terrible that you're suffering this much and as I*
457 *said I <u>believe</u> you.*

458 (Pat) *Mmm.*

459 (Con) *But (0.2) <u>normally</u> this small [disc]=*

460 (Pat) *[Yeah]*

461 (Con) *=Doesn't ca::use(0.2) by the- this huge amount of (0.2)*
462 *pain problems.*

463 (Pat) *<no pain right>*

464 (Con) *and the reason you have that is probably related to (1.2)*
465 *first of all the (0.2) trauma that you went through for*
466 *the (0.4) err accident=*

467 (Pat) *=Yeah=*

468 (Con) *=second for the-(0.4) also the medications you are on a*
469 *lot of the medications the morphine and the Tramadol .hhh*
470 *are very (0.8) high err powerful erm*

471 *(1.4)*

472 *(Pat)* *yeah*

473 *(Con)* *sort of (0.2) narcotic medications*

474 *(Pat)* *mmmh*

475 *(Con)* *your body can develop an abnormal reaction to them and in*
476 *fact they can make -there's a known (0.4) erm (0.2) known*
477 *err erm err erm er a- we know from er the psychology of*
478 *pain and the response of body to pain.*

479 *(Pat)* *yeah m*

480 *(Con)* *that you can develop hypersensitivity to pain.*
481 *(Pat)* *mmmh*

Descriptive features of extract 4

In extract 4 lines 449-453 we see the turn starting with the consultant giving alternative evidence as to why the patient has ongoing pain that is not arising from the disc. This turn is punctuated with pauses, stretch sounds, word repeats known as hesitation markers (Boonsuk et al., 2019). These hesitation markers whilst part of ordinary conversation are signals that speakers are under the construction of an utterance and potentially show difficulty in speech planning and execution (Boonsuk et al., 2019; Ten Have, 2007). In line 449 the consultant starts with a stretch on *now::* followed by a pause (0.6) followed by a self-person repair, a practice of recognising a trouble source in talk in interaction and acting to pursue mutual understanding, as described in Chapter 2, on the *Wh-why this is happened*. This is immediately followed by a pause of (1.6) seconds and the multiple word repetition within the

self-person repair in lines 450 *(1.6) mor-mor-more than likely*. These are all hesitation markers and trouble conventions (Boonsuk et al., 2019) that suggest the consultant is struggling to formulate his future speech indicating he is uncertain of what to say (Stivers, 2004), this potentially undermines his medical authority. The consultant then attempts to re-establish his medical authority (lines 451-452) by drawing on his previous experiences (Perakyla, 1998; Peräkylä, 2006) *I've seen (0,4) lots of people with this amount of disc prolapse*. This is met by a type ii acknowledgment token from the patient in the form of *yeah* to suggest the patient requires more information or does not agree (Peräkylä, 2006). The consultant then goes onto sympathise with the patient and explicitly legitimise their pain in line 456-457 with marked stress on the word believe *'Its terrible that you're suffering this much and as I said I believe you'* again this maybe an attempt to pre-empt and reduce any potential future problems with the upcoming offer of no surgery and also legitimise the patient's symptoms. The patient responds with a weak acknowledgment token in line 458 *mmm*. The consultant follows this turn by again alluding to his medical authority and past experiences in lines 459 and 461 by suggesting this scan does not explain the patient's symptoms. In this sequence we again see marked stress around *normally* line 459 and stretch around *doesn't ca::use* line 461 followed by a self-repair *doesn't ca::use(0.2) by the- this huge amount of pain problems* in what again is an action of logical inference, turns that have been constructed to logically imply forthcoming recommendations (Maynard, 1992), by the consultant to create connections between what is found on the scan and pre-empting future problems around no offer of surgery. The consultant then spends the rest of the sequence 464-480 accounting for the patient's symptom. This account is again full of signs of uncertainty i.e. long pauses are present in lines 464 (1.2), 470 (0.8) and 471 (1.4). Hesitation markers are present in lines 466 err and 470 *erm* prior to the long pause of 1.4 seconds in line 471. Line 476 implies the consultant is

attempting to give himself time to formulate his turn by starting with a self-repair (Hoey & Kendrick, 2017) *they can make-theres a known* which is followed by hesitation and multiple word repetition *known (0.4) erm (0.2) known err erm err erm er* this would again suggest significant trouble (Boonsuk et al., 2019) in formulating his turn of speech, in this case for further explanation of the patient's symptoms. The consultant finishes the sequence (lines 480) concluding that the patient's pain maybe coming from *hypersensitivity* to pain with marked stress around this point. Throughout this sequence the patient's contribution is to only provide weak acknowledgment tokens, (type ii) as described above and again in lines 467 *yeah,* 472 *yeah,* 474 *mmh,* 479 *yeah m* and 481 *mmh.* These repeated weak acknowledgement tokens (type ii) being used as continuers are often signs of withholding acceptance and can be seen as passive resistance from the patient (Clark & Hudak, 2011) despite the significant interactional work being undertaken by the consultant. This is again similar to extract two and three but in contrast to extract one, the surgical case, where stronger acknowledgement more explicit tokens of agreement (type iii) are used by the patient.

Extract 5 Consultant Accounting for pain: Non-surgical case

204	(Con)	*s::o (1.2) i don't think me tackling this little disc*
205		*would make any difference to your overall (1.0) pain*
206	(Pat)	*right*
207	(Con)	*The other side of the (0.2) coin is(.) that I don't think*
208		*this is specifically(.)contributing to the degree of pain*
209		*which you are suffering and I know that(.) because when I*
210		*was examining your back (.) literally I was* touching *this*
211		*bit of your skin (0.2) so I was-(0.2) very- I put my*

thumb here where your skin and muscle is and I simply
pressed it. hhh now <u>that</u> in <u>no way</u> can <u>cause</u> any pressure
from that [disc]=

(Pat) *[right]*

(Con) *=It's a million miles away so me <u>touching</u> your skin and*
nerves ah- th-the-that muscle here would not change that-
(1.0) that disc ↑ what that implies is that your muscle,
skin and (0.2) subcutaneous fat <u>all</u> the
structures around there have become .hh very
hypersensitive to pain so you are guarding you're
standing [stiff]=

(Pat) *[yeah]*

(Con) *=you are- you are- you're just waiting for- for pain .hh*
and often when that's the case me operating on you (.)
would make you worse rather than better-

(Pat) *-right so what I, what do I do about it*

Lines omitted

(Con) *S::o it is a <u>very very</u> (.) common problem and it's (.)*
one that generally surgery has <u>very little</u> role to play
unless (.) there is (0.4) a surgical target .hhh the
reason you're with me in a surg-surgical erm consult is
because there is a <u>tiny</u> disc prolapse and if you had
no↑(.) back pain, a little bit of leg pain(0.2) that was
associated with that (0.2) disc pressing the nerve I
would be talking about surgery-

(Pat) *-So where is this <u>pain</u> coming from then why am I getting*

287 (.) so much pain

Descriptive features of extract 5

In extract 5 we see the consultant start the sequence lines 204-205 attempting to assert his medical authority by justifying that no surgery is required *s::o (1.2) i don't think me tackling this little disc would make any difference to your overall (1.0) pain*. By using *I don't think me tackling* it would appear to be a mitigating tactic whereby the consultant is incorporating inexplicit references to the evidence preparing for a no surgery offer and this action has be shown in previous studies (Perakyla, 1998; Peräkylä, 2006). He also performs this turn with some hesitation seen by the stretch on *s::o* and the long pauses of (1.2) and (1.0) seconds again suggesting some difficulty formulating his speech (Boonsuk et al., 2019). The patient accepts this with an acknowledgement token in *right* line 206. The consultant then precedes with a long turn, lines 207-226, in which he accounts for what is causing the patient's pain. Within this long turn the consultant again tries to assert his medical authority on many occasions with terms, that are at times accompanied by marked stress, such as *I don't think this is specifically contributing* line 207-208, *I know that because* lines 209, *now that in no way can cause* line 213, *it's a million miles away* line 216, *would not change that* 217, *what that implies* lines 218, *you are guarding* 221 and ends the turn with *when that's the case me operating on you (.) would make you worse rather than better* 226. The interactional work seen in this turn is an attempt by the consultant to show his medical authority whilst also explicating the evidence of the diagnosis as described by Perakyla (1998); Peräkylä (2006). The action at the end of the turn 226 is to rule out the primary treatment of surgery (Land et al., 2017) as seen in extract 3.This may be in order to pre-empt forthcoming problems with the offer of no surgery. This turn does also appear to be

troublesome in parts where the consultant has combinations of self-repair (Hoey & Kendrick, 2017) and hesitation around explaining the cause of the pain and explicating the evidence as seen in lines 210-211. *I was touching this bit of your skin (0.2) so I was- (0.2) very- I put my thumb here where your skin and muscle is and I simply pressed it. Hhh*, again in lines 216-217 *so me touching your skin and nerves ah- th-the-that muscle here would not change that-(1.0) that disc* and lastly in line 224 *you are- you are- you're just waiting for- for pain .hh..* The action trying to be provided by the consultant is to explain there is no clear surgical target and the patient's pain remains due to guarding and sensitivity. In the consultant's account he is trying to offer an alternative explanation of the patient's symptoms however, due to the hesitation markers (pauses, word repetitions) and self-repair it may indicate the consultant is struggling to formulate his utterance and / or he is anticipating future trouble from his explanation. Throughout this turn the patients only contribution is overlapping acknowledgement tokens lines 215 *right* and 223 *yeah* until the end of the sequence. Here at the end of the sequence the patient interrupts and cuts short the consultant's turn (line 227) and poses the question *right so what I, what do I do about it.* By the patient interrupting and asking the question, the patient has asserted themselves as an active participant in the conversation in order to negotiate what constitutes an acceptable treatment plan and this can be seen as a form of active resistance (Land et al., 2017; Stivers, 2006),

The second part of extract 5 shows that despite earlier attempts to account and explain the patient's pain and establish medical authority, we again see the consultant continuing to justify why the primary treatment (surgery) is not indicated lines 278-285. Throughout this turn the consultant using marked stress in a further attempt to connect what he is uttering with the fact no offer of surgery will be forthcoming in an attempt to seek alignment with the patient *S::o it is a very very (.) common problem* line 278 and *surgery has very*

little role to play unless (.) there is (0.4) a surgical target line 280. As seen earlier in the extract the patient again cuts short the consultant's turn to ask the question in line 286 *So where is this pain coming from then why am I getting (.) so much pain*. Despite the consultant's significant interactional work in earlier attempts to explain the pain (lines 218-222) this question from the patient would imply further active resistance to previous explanations given and a definite detachment from the MRI findings described by the consultant (Perakyla, 1998; Peräkylä, 2006). This would appear to create a void, an obstacle to shared decision making between the consultant and patient.

3.3.4 Patient resistance

In extracts 6 and 7 (patients 7 and 8) we see the closing of the appointments after the four phases of the appointment have been completed and these are both over 20 minutes into their respective appointments. Both extracts 6 and 7 are from the patients seen in extract 2 and 3 (**encouraging patient agreement)** and extracts 4 and 5 (**consultant accounts).** They highlight how consultants attempt to close appointments in patients with high levels of disability and pain that are not offered surgery and the interactional work and trouble that occurs especially in the form of **patient resistance.**

Extract 6 Patient reopening closing: Non-surgical case

532 (Con) °alright then

533 (Pat) >Right, I'm just scared that's gonna damage it and then
534 I'm gonna end up having an operation [anyway]<=

535 (Con) [Yeah]

536 (Pat) =And then I'm gonna have to go through [both procedures]=

537 (Con) [Yeah yeah]

538 (Pat) =Do you understand what I'm saying<

539 (Con) I know where you're coming from and I, I think (0.2) if
540 it was a clear cut one nerve=

541 (Pat) =Yeah=

542 (Con) =One area (0.6) one problem, then cer- I would have
543 pushed you towards surgery because you are suffering a
544 lot but (0.2) that you know that ner::ve only↑(0.2)
545 touches this area of your- affects this area of you- your
546 leg It does- -doesn't- -it's not responsible for-

547 (Pat) -that's what I mean, I've had the pins and needles in my
548 [feet]=

549 (Con) [Yeah]

550 (Pat) =From day one

551 (Con) yeah, yeah, yeah

552 (Pat) So so it's that what's caused↑(.) my pins and needles=

553 (Con) =That mi::ght be the cause of the pins and needles=

554 (Pat) =right OK
555 (1.6)
556 So, so so what's the cause of the pain though↓
557 <That's what I mean- [That's] what I don't understand>

558 (Con) [Yeah]

Lines omitted as patient goes onto to describe his leg pain

570 (Pat) =But that's it and then literally(.) it got so bad
571 in(0.4)I can't remember in January-

572 (Con) - January yeah,. I, I, I don't know what is causing
573 that pain.

Descriptive features of extract 6

In extract 6 we see the consultant's attempt to close the appointment after concluding his treatment recommendation (sending the patient for an injection at the pain clinic) with a quiet *°alright then* line 532. Alright is often used to commence a closing down sequence as it is conveying no further action will be offered and therefore the patient must decide whether to accept the outcome or press for an alternative (Collins et al., 1997; Raymond & Zimmerman, 2016). However, rather than agreeing to close the turn and effectively end the appointment the patient reopens the sequence in lines 533-538 in a form of active resistance (Stivers, 2005b) by not accepting the closing down from the consultant (Raymond & Zimmerman, 2016). The patient starts his turn with speaking at speed to indicate an element of stress and reports that he is fearful of the treatment recommendation line 533 *im just scared thats gonna damage it* which he follows with concern that he will end up having surgery anyway line 534 *I'm gonna end up having an operation anyway*. This occurs despite all the consultant's earlier work shown in extracts 2 and 4 whereby he has worked to **encourage patient agreement** and offered **accounts** as to why surgery is not indicated. This type of active resistance shown by the patient is known as fear-based resistance and has been shown in other areas of healthcare (Stivers, 2006; Stivers & Timmermans, 2020). The consultant's response to this is weak overlapping acknowledgement tokens in line 535 *yeah*

and line 537 *yeah yeah*. The patient's turn ends at line 538 with a Yes / no question (Maynard, 2004) *do you understand what I'm saying* asserting some control over the situation a reverse of what was seen in the earlier extracts. The consultant responds in his turn lines 539-546 by initially agreeing with the patient line 539 *I know where you're coming from* in an attempt to seek alignment and reduce trouble. This is followed up with an attempt to establish medical authority through a reformulated justification to not offer surgery as the primary treatment in lines 539-543 *if it was one clear nerve, one area, one problem, then cer-I would have pushed you towards surgery* this is subsequently followed up by the surgeon legitimising (Stortenbeker et al., 2020) the patient's symptoms in line 543 *because you are suffering a lot*. However, in the last three lines of the turn lines 544-546 the consultant's response is full of trouble conventions in the form of multiple self-person repairs and word repetition *That nerve only touches this area of your- affects this area of you- your leg It does- -doesn't- -it's not responsible for-*. This turn is ended by the patient interrupting in line 547 reformulating a description of his symptoms and ends his turn by asking the question line 552 *so is that what caused my pins and needles* another form of active resistance (Land et al., 2017; Stivers & Timmermans, 2020). The consultant responds to this in line 553 with a *that mi::ght be the cause* indicating some uncertainty through the choice of using *might* and the stretch convention that accompanies this. The patient appears to accept this with an immediate *right ok* line 554, but what follows is a long pause (1.6) line 555 indicating further trouble and the patient fills this space with another question / show of active resistance by asking *whats the cause of the pain though* in line 556. This is followed by a stressed *that's what I don't understand* line 557. The patient then goes onto to describe the pain in the omitted lines and his turn comes to an end whilst recalling a particularly bad episode providing his own account in lines 570-571 which is another form of resistance described by Ijäs-Kallio et

al. (2010) when a patients draws on previous negative experiences to highlight ongoing symptoms. At this point the consultant interrupts him line 572 and with word repetition declares *i,i,i don't know whats causing that pain* This uncertainty of diagnosis now undermines the doctors expertise (Perakyla, 1998)

Extract 7 Patient reopening closing: Non-surgical case

320	(Con)	*I will write a letter to your GP. I will include(0.2)*
321		*Mr. @@@@@@and erm the letters get about a week(.) before*
322		*they get to your GP so make an appointment in that time*
323		*and see them alright↑*
324	(Pat)	*°ok*
325	(Husband)	*yeah and they will refer her to a Pain Management Clinic*
326		*o::r (0.2)whatever-*
327	(Con)	*-whatever they feel fit (0.2) alright=*
328	(Pat)	*-=<They're just useless up there. this is what I dont-*
329		*I've been up there s::o many times and just feel like no-*
330		*one wants to help>*
331		*(patient crying as talking)*
332	(Con)	*Mm-mm*
333	(Pat)	*no-one wants to do anything they think you're lying↑ -*
334	(Con)	*-well may- may- maybe the letter would- would- would-*
335		*would(1.0) make things happen (0.6) a bit, bit more- but*
336		*we'll (0.2) leave it up to them-*
337	(Pat)	*-oh well, I'll just have to carry on, won't I↑*

338 (2.0)

339 (Husband) Mmm. Oki::e-coki::e.

340 (Con) °alright

341 (Pat) Yeah.

342 (Husband) ok

Descriptive features of extract 7

Extract 7 starts with the consultant attempting to close the appointment down lines 320-323 by referring the patient back to their GP for onward management and finishing with an *alright*↑ with a rising intonation that is preference for agreement to close (Raymond & Zimmerman, 2016). The patient responds to this with a weak acknowledgement token (Peräkylä, 2006) with a very quiet *°ok* line 324. As a result, in line 325 the husband of the patient looks to offer support and to clarify what the future management for his wife will be *'and they will refer her to a Pain Management Clinic'*. This is followed by stretch on the *o::r* some hesitation (0.2) *whatever-* at which point the consultant cuts him off line 327 and passes responsibility to the GP with *whatever they feel fit*. The consultant then attempts to close the appointment down again with another *alright*. However, the patient quickly responds to this with a quick turn of talk and audible upset / crying in lines 328-330 reopening the sequence and showing active resistance (Stivers, 2005b). In this turn the patient shows resistance through drawing on her previous negative experiences, for which she has the epistemic rights, (Stivers, 2006; Stivers & Timmermans, 2020) *they're just useless up there* and *I've been up there s::o many times.*

The patient then ends the turn line 329-330 with a marked stress *just feel like no-one wants to help* which is clear active resistance to the treatment recommendation the consultant has made (Land et al., 2017). The consultant responds with a weak acknowledgment token line 332 *mm-mm* and as a result further disaffiliation is provided by the patient in the form of feeling not being helped line 333 *no-one wants to do anything* suggestive that the patients symptoms are not medically legitimate, *they think you're lying*↑. At this point the consultant cuts off the patient and attempts to topic shift back to the letter not addressing any of the patients concerns. Topic shifts are often non problematic when signalled by a pre topic shift component such as a response to the previous turn prior to the shift, in the case of abrupt topic shifts with no pre topic shift component present, as in this case, they are considered an action to move away from the prior topic (Drew, 1997). In this case the consultant is trying to move away from the patient's apparent disaffiliation with the appointment outcome. However, this turn is full of trouble conventions in lines 334-336 with multiple word repetitions, self-repairs and silence pauses *-well may- may- maybe the letter would- would- would- would (1.0) make things happen (0.6) a bit, bit more- but we'll (0.2)* and before the consultant is cut off by the patient his turn concludes with him passing responsibility to the GP *but we'll (0.2) leave it up to them-* again trying to close the appointment down. At this point the patient interrupts him and reopens the sequence line 337 *-oh well, I'll just have to carry on, won't i*↑ . What follows this question is a long pause (2.0) in which the consultant does not respond to the patients question and is a sign of trouble line 338. The long silence is then filled by the husband (as seen earlier) line 339 with a weak acknowledgment token *mmm* and stretched *oki::e coki::e.* in what implies he has recognised the significant interactional trouble between the consultant and his wife. The consultant then attempts to close the appointment with a third attempt of *°alright* line 340. This time it is weakly accepted by the patient and

husband lines 341 and 342 with *yeah* and *ok*. This would appear again to show significant disaffiliation between the consultant and patient.

3.4 Discussion

Surgeons, in particular those that treat patients with CLBP, have seen many challenges to their practice in recent times due to the growing evidence around the management of CLBP (Braeuninger-Weimer et al., 2021; Clark & Hudak, 2011; Land et al., 2017) As discussed in Chapter 1, in only 10% of CLBP cases can a structural cause (potential surgical target) of LBP be identified (Foster et al., 2018; Hartvigsen et al., 2018; Maher et al., 2017). Therefore, in many cases the CLBP is often complex with multidimensional factors contributing to the pain disorder requiring a BPS approach to care (Kent et al., 2023). This at times presents a clinical dilemma for surgeons whose primary treatment offering for CLBP patients is surgery, with patients who are referred to see a surgeon often anticipating surgical treatment as a possible outcome from the consultation (Clark & Hudak, 2011). This study has identified clear interactional challenges in the encounters between the consultant and patient dependent on whether they are a candidate for surgery or not.

In the majority of cases where the scan findings correlate with the patient's symptoms and surgery remains a primary treatment option, we see minimal interactional tension. In these cases (for example extract 1) the explanation of the scan findings is a straightforward one with a clear pathology seen on imaging that appears to correlate with the patient's symptoms. These findings echo those of Hudak et al. (2011) who in their study of 121 patients found orthopaedic surgeons had minimal interactional issues in making treatment recommendations with surgical cases. In these cases, the clinical scenario would fit with a traditional medical model with little to no consideration of psychosocial factors, this implies either the consultant

does not feel psychosocial factors are clinically relevant, do not value them as drivers of the disorder or is not trained in a BPS approach. As described previously by Land et al. (2017) the turns of talk are relatively short, direct and the patient is given a strong suggestion that surgery is the primary treatment option. By giving a clear cause of the patients symptoms whilst using the MRI as a tool, the consultants are able to establish an observable and logical inferential link between scan findings and the patients symptoms, as previously described (Perakyla, 1998; Peräkylä, 2006) . By positioning the causes of symptoms whilst concurrently looking at the MRI scan, the consultant minimises the inferential distance between the cause of symptoms and its grounds (Perakyla, 1998). The consultant is therefore explicitly showing the evidence for the cause of the patients' symptoms. This sits clearly within the consultants domain as their area of expertise and medical authority (Perakyla, 1998; Stivers, 2005a; Stivers & Timmermans, 2020) and we have observed that the consultant is confident in his speech with minimal signs of interactional trouble in the forms of hesitation markers, word repeats, repairs or long pauses (Boonsuk et al., 2019). The use of yes polarised questions, employed by the consultant, appear to have a preference for agreement (Seedhouse, 2022), in that they are constructed to seek affiliation from the patients. In these data patients typically respond without hesitation or delay, with a yes response, signalling their affiliation. Therefore, because the consultant's medical authority is well established, the patient's turns of talk throughout these sequences are relatively resistant free and one of general agreement. These interactional features were again similar to those seen by Hudak et al. (2011) in the treatment recommendation phase of orthopaedic consultations.

However, in the majority of cases where the patient had ongoing pain and disability and the scan findings did not correlate with a clear surgical target or clear explanation of the symptoms, as seen in extract 2-7, the interactional features were significantly different. In all

of these cases the consultant attempted to explain the scan findings with the use of the MRI as seen in extracts 2-3, again trying to gain an observable and inferential link between the findings and symptoms present (Perakyla, 1998). This appeared to be the start of additional interactional work that needed to be undertaken by the consultant for a variety of reasons. Firstly, as the consultant was aware there was no surgical target, in an attempt to build future agreement and prepare the patient for a no surgery offer, he shaped his turns by using the minimising Brightside formulations (for example Extract 3 lines 187,202, 206) as described previously (Clark & Hudak, 2011; Holt, 1993; Land et al., 2017) in an attempt to prevent future trouble. These Brightside formulations occurring during phase 3 of the appointments are very similar to the actions described in work of Heritage et al. (2010); Heritage and Stivers (1999). In their study they looked at "online commentary" during phase 2 of consultations, the physical examination in 335 cases. They reported that doctors commented throughout the examination process to how "mild" symptoms presented, used words such as "a little red", ruled out future treatments "you certainly don't need…". All these interactional features are similar to those Brightside formulations seen in this study where the MRI essentially replaces the physical examination. The reported "online commentary" was seen significantly more in mild or no significant problem diagnoses in order to attempt to pre-empt and reduce patient resistance to the diagnostic evaluation and forthcoming treatment recommendation (Heritage & Stivers, 1999). However, as in this study we are looking at phase 3 of consultations explaining the patient's symptoms. Using the Brightside formulation the consultant prepares the patient for a no surgery offer but does not provide an observable and inferential link between the MRI and symptoms production as he does in the surgical case, therefore leaving the patient with some uncertainty regarding what is causing the symptoms. This detachment of the scan findings from the cause of the symptoms creates

uncertainty around prognosis and future treatment options (Perakyla, 1998; Peräkylä, 2006) especially if their expectation was an offer of surgery.

Secondly, in most cases the consultant inexplicitly rules out the primary treatment of surgery (extract 3 line 205-6) by suggesting the pathology present is not suitable or significant enough for surgery. This is in contrast to surgical cases where he inexplicitly suggests surgery is the preferred option and this has been seen in previous surgery consultations (Clark & Hudak, 2011; Land et al., 2017; Peräkylä, 2006) This "ruling out of surgery" again creates some uncertainty around future treatment and as result the consultant attempts to legitimise the patient symptoms in an effort to reduce future trouble .

Further to this additional interactional work, in all the cases where an offer of no surgery was pending, the consultants were aware they had not justified the cause of the patient symptoms and then engaged in long accounts of what the cause of the symptoms were (extracts 4-5). Accounts are often given when there is a need for a reason or explanation especially when adverse behaviour is projected and differences in perspective treatment actions are anticipated and are often used for apologising or justifying (Parry, 2009). Perakyla (1998) also showed that doctors produce accounts when there is diagnostic uncertainty or rejection of diagnostic suggestions and research by Maynard (2004) reports that accounts relating to diagnostic announcements can contribute to reducing patient resistance and building medical authority.

However, in this study as described earlier these accounts proved difficult for the consultants and were punctuated with interactional trouble, long turns, longs pauses, word repetition, and self-repairs (Boonsuk et al., 2019; Seedhouse, 2022; Stivers, 2004). This would imply that the consultants had considerable difficulty formulating an explanation of the patient symptoms when unable to do so with a clear bio-medical explanation as in the surgical cases and implies

an inability to explain the symptoms from a psycho-social perspective. Research undertaken by Monzoni et al. (2011) had similar findings when neurologists had to explain medically unexplained neurology symptoms to patients, they found neurologists engaged in significant accounting activities with marked formulation effort which displayed interactional distress reflecting the degree of delicacy when doctors explain medically unexplained symptoms. Whilst clinicians generally retain medical authority over the interpretation of the patients' diagnosis, symptoms and treatment (Stivers & Timmermans, 2020) in the presence of a troublesome delivery of these interpretations, the consultants' medical authority was weakened allowing for patient resistance to the medical assessment increasing their epistemic stance.

Despite accounts being shown to reduce resistance in other clinical settings such as physiotherapy (Parry, 2009), general practice (Stivers, 2005b) and neurology (Monzoni et al., 2011) this was not the case in this study and is most likely due to the interactional troubles the consultant had delivering the accounts. In this study we see patients expressing resistance following the accounts in both a passive form through weak continuers therefore refusing to commit to the consultants account and in a more explicit active resistance by raising concerns and questions (Land et al., 2017) both these forms of resistance have been shown in primary care by Koenig (2011) and (Stivers, 2005b).

Regardless of all the additional interactional work undertaken by the consultants regarding explaining the non-surgical patients' symptoms using an MRI, use of accounts, Brightside formulations, implicit ruling out of the primary treatment these patients showed significant active resistance at the closing of the consultation (extracts 6 line 554 & extract 7 line 327). The patients repeated reopening of the consultation to ask further questions and raise concerns whilst the consultant is attempting to close it is a clear sign of active resistance (Land et al., 2017). Whilst patients continually challenge consultants into providing further

understanding to the cause of their symptoms, despite the consultants' best efforts to so, and when the consultation culminates in the consultant's *I don't know whats causing that pain* it shows significant undermining of the consultants' medical authority regarding the diagnosis and future treatment prognosis.

3.5 Conclusion

This study shows that when patients attend a neurosurgery consultation for CLBP and they have significant examination findings that correlate with their symptoms (i.e. fit the traditional medical model), consultants manage this patients interactionally with minimal trouble, appointments are shorter, subject to minimal patient resistance and low levels of interactional endeavour are undertaken from both the consultant and patient and would be considered optimal care. Conversely, despite all the interactional work undertaken by the consultant for non-surgical cases with high levels of pain and disability (i.e. need to be treated within a BPS framework) these consultations are full of significantly more interactional trouble, longer in duration, subject to patient resistance and clearly more challenging. The actions taken by the consultants inform us they are able to identify non-surgical cases and make attempts to manage them from a BSP perspective. However, these consultations show that they are odds with elements of PCC such as good communication, showing empathy, provider training, SDM, patient empowerment and the healthcare system, therefore resulting in a suboptimal consultation.

3.6 Limitations

The audio-recordings were undertaken in one NHS secondary care trust and therefore no wider representation of practice can be claimed. The sample was relatively small, especially

when considering both surgical and non-surgical cases and as a result the findings presented are suggestive of the types of interaction seen in neurosurgery consultations for CLBP but may not represent all interactions. The use of audio recording instead of video recording may have meant that some non-verbal communication findings such as eye contact, looking away at the MRI on screen that may have influenced the analysis was not available. The presence of the principal researcher RP at the consultations may have disrupted natural interaction.

Chapter 4: Patients' experiences of attending a neurosurgery consultation for CLBP with / without leg pain: a qualitative study

4.1 Introduction

As discussed in Chapter 3, in relation to PCC, the importance of understanding patient experience has grown in the last 30 years (Ward, 2019). This reflects a shift from paternalistic medicine towards patient empowerment and SDM (Unsgaard-Tondel & Soderstrom, 2021; Ward, 2019). Initially emphasis was placed on patient satisfaction as metric of care delivery but, since the movement towards a PCC model, patient experience has overtaken patient satisfaction as a more relevant measure of health care provider quality, reflecting the interpersonal aspects of the care received (Black & Jenkinson, 2009; Grover et al., 2022; Zhang et al., 2020).

Whilst both patient experience and satisfaction can be used to hold healthcare systems accountable, patient experience metrics appear to be more sensitive to differences in quality of care and it is considered useful to identify gaps in the quality of care that can be used as an indicator for targeted quality improvement (Larson et al., 2019). Patient experience research into dimensions such as doctor-patient communication, respect of patient preferences, co-ordination of care (Black & Jenkinson, 2009; Jenkinson et al., 2002; Larson et al., 2019) have helped identify specific areas of the patient experience requiring improvement, allowing for the provision of a higher quality of care at the service level. In comparison, patient satisfaction research has helped identify aspects of care that patients expect and particularly value (Larson et al., 2019). Although this affords opportunities to identify and meet the specific expectations of the patient it does not reflect the level of care they have received. For example, a patient may be satisfied with the quality of the care received due to the fact they have a low expectation and this may therefore prevent identification of any deficiencies in the

quality of the care provided (Anufriyeva et al., 2021; Black & Jenkinson, 2009; Larson et al., 2019).

As a result of the shortcomings of patient satisfaction research it has become recognised that capturing patient experience is a better means to understand what patients truly value particularly when looking to optimise PCC (Black & Jenkinson, 2009; Bull, 2021) and this underpins the current shift towards examining patient experience research rather than patient satisfaction. Through the lens of understanding patient experience we can then improve the provision and delivery of higher quality care (Bull, 2021; Hickey & Chambers, 2019; Ward, 2019).

4.1.1 Patient Experience: The definition and key concepts

Despite the increasing focus on patient experience there is no clear consensus on how to define it (Wolf et al., 2021; Wolf et al., 2014). Bull et al. (2019) defined patient experience as "providing insight to *what* happened and *how* it happened from a patient's perspective". A seminal literature review by Wolf et al. (2014), and revisited in Wolf et al. (2021), highlighted the absence of a commonly used definition around patient experience in healthcare despite the growing interest and research. This was reinforced by Oben (2020) whose work describes defining patient experience as 'far from simple' due to the multi-dimensional, multifaceted, interconnecting subsections involved.

Despite the difficulties of a clear definition Wolf et al. (2014 & 2021) did report central components and core concepts that are seen as critical to the patient experience. These core concepts are listed below and will be discussed in more detail.

- Experience is much more than satisfaction.
- Experience as an idea that crosses the continuum of care.
- Experience is not simply about quantitative measures or survey results.

- Experience remains grounded in expectations and perceptions.
- Experience is built on the principles of PCC.
- Experience is individualised and personalised.

Patient *experience is much more than satisfaction*:

Often, the terms patient experience and patient satisfaction have been erroneously used interchangeably (Bull, 2021). Expanding on earlier comments, patient experience represents all someone encounters, their perceptions they take with them, their interactions, and the story they will tell (Larson et al., 2019; Wolf et al., 2021). Patient experience is a process indicator and reflects the relational aspects of the quality of care received (Larson et al., 2019). As forementioned, it is understood that patient satisfaction most likely reflects the meeting or failure of a patient's personal expectations rather than the quality of healthcare itself. Satisfaction is often numerically rated from a questionnaire with scoring associated with whether care provision meets those expectations. Consequently, patient experience can have direct impacts on patient satisfaction (Larson et al., 2019).

Patient *experience as an idea crosses the continuum of care*:

Patient experience is often described as a sum of interactions that the patient has with the healthcare system. It is not just limited to one care setting or clinical encounter but all the touch points through which the patient engages with a healthcare organisation from the initial point of access (Wolf et al., 2021). The patient experience includes interactions between patients and staff members (clinical and non-clinical), clinician practices, treatment plans and other ancillary services (Hickey & Chambers, 2019; NICE, 2021).

Patient *experience is not simply about quantitative measures or survey results*:

Historically, patient experience has been examined in many ways from surveys, email questionnaires, patient reported experience measures (PREMS), which are all quantitative measures that then undergo statistical analysis (Benson, 2022; Friedel et al., 2023). Some may feel these methods may lend themselves to being more scientific (Ward, 2019). However, it has been suggested that in several clinical settings this may dilute the patient's voice and that by quantifying patient's experience, you may lose important nuances of the narrative that are more important than numbers in understanding the patient's experience (Howarth et al., 2017; Ward, 2019).

Patient *experience remains grounded in expectations and perceptions:*

Despite patient experience being complex and multifactorial, the health care experience for the individual is unified in the fact that it is shaped by a complex combination of their own and their families and friends' experiences within the health care system (Oben, 2020). Their complex human experiences (experiences outside the healthcare setting) will also influence their perception of the situation. It will be further influenced by their values, beliefs and circumstances that need to be recognised by the healthcare provider / organisation (NICE, 2021; Oben, 2020)

Patient *experience is built on the principles of PCC*:

The principles / core elements of PCC as discussed in detail in Chapter 1, that are likely to have the largest influence on the patient experience are communication, shared decision making, empathy, BPS care, patient individuality, respect, and patient empowerment (Epstein et al., 2010; Grover et al., 2022; Langberg et al., 2019; Park et al., 2018). Positive patient experiences are reported when care is individualised, personalised and patients have a right to be treated with dignity and respect (Larson et al., 2019; NICE, 2021). The actions and

processes put in place by the healthcare organisation must attempt to support the uniqueness of each person's encounter whilst maintaining process generalisation and efficiencies (Wolf et al., 2021).

PCC is associated with improved outcomes and health care utilization (Larson et al., 2019; Street, 2022). Patient centred communication and its relationship to a patient's experience has also been studied in many different clinical settings such as cancer care, paediatrics, and dietetic clinics (Bhise et al., 2018; Hancock et al., 2012; Mohan et al., 2021; Street et al., 2019) . These studies have reported that a breakdown in patient centred communication often results in an increase of unmet information needs, inattention to patient perspectives and diagnostic uncertainty, all creating distress that diminishes the patient's experience (Bhise et al., 2018; Street et al., 2019).

Further studies undertaken with a CLBP population have shown that healthcare provider communication and reassurance within an Orthopaedic setting influences distress and further health utilisation (K. Braeuninger-Weimer et al., 2021). Lin et al. (2020) undertook a systematic review and made 11 recommendations for high quality care of musculoskeletal pain conditions and the primary recommendation was to PCC.

Patient *experience is individualised and personalised*.

Patients wish to be identified as individuals within the health service and it is recommended that healthcare staff adopt an individualised approach tailored to the patients' needs and circumstances (NICE, 2021). Studies in other clinical settings such as sexual health clinics, primary care physiotherapy settings, orthopaedics (treating LBP patients), have reported that the patient's experience was enhanced, when they felt care was individualised, when patients were given a full explanation of their disorder (described as knowledge translation) and

when patients felt listened to and treatment options where thoroughly communicated to them (Allvin et al., 2019; Enthoven et al., 2021; Howarth et al., 2017).

4.1.2 Patient Experience within the clinical setting and its relationship to CLBP

Additional research has taken place looking at what patients or "consumers" of healthcare thought contributed to a positive experience and included the following: being communicated to in a way that they could understand; being listened to by the attending healthcare professional; being provided with a clear plan and justification of future treatment / pathway, being asked about their preferences; being treated with courtesy and respect and lastly, feeling cared for (Allvin et al., 2019; NICE, 2021; Wolf et al., 2021). Further research by Lim et al. (2019) reported that patients with CLBP felt a strong need to have a definite diagnosis following their consultation and this would contribute to their post appointment experience. However, this would be contradictory to current evidence-based guidelines whereby not all CLBP can or should be diagnosed within a traditional medical model via imaging (Maher et al., 2023). This has the potential to create misalignment between clinician and healthcare professional and affect the experience of both parties.

Therefore, having a clearer understanding of the patient's experience will assist clinicians, and managers in improving that experience at the point of care, inform future research and provide insight to allow for quality improvements (Oben, 2020). Despite its recognised importance, studies in many areas such as cancer care and interdisciplinary care for LBP have shown a need for further investigation into patient experiences and particularly how improved experience maybe linked to improved outcome (Gogovor et al., 2019; Mohan et al., 2021).

A systematic review by Lim et al. (2019), on patients with CLBP showed patients expressed a strong desire for clear and consistent information on their prognosis, treatment options and self-management strategies. This research reinforced the findings of a previous systematic

review by Hopayian and Notley (2014) that looked at the experiences of low back pain and sciatica patients and reported themes that influenced the patient experience. These themes included relationship and interpersonal skills, personalised care, information, outcome of care and the importance of diagnosis. They also reported how care delivery contributed to the experience with a thorough full examination, consideration to the individual's situation, empathy shown by the clinician and the sharing of information all seen as positive care attributes. In contrast, not having a diagnosis contributed to more negative experiences and a feeling of delegitimization.

These findings are reinforced by Wolf et al. (2021) whose work "re-examining defining the patient experience" resulted in expanding the previous framework, identifying many additional essential elements that would help people understand what a positive experience would entail. These additional elements included the following:

- Effective, open, and clear communication.
- Bidirectional support between those being served by healthcare services and the professionals providing the care.
- Knowledge acquisition and transfer between all those engaged.
- Focussing on outcomes in other forms other than experience survey data.
- Expanding methods for measuring experience outcomes such as qualitative approaches/narrative inquiry.

Furthermore, Allvin et al. (2019), reported that the relationship between healthcare professionals and patients is essential to patient experiences, highlighting that few studies of CLBP patients have examined this and its relationship to PCC. They felt that improved knowledge and understanding of patient experiences could lead to improved healthcare

professional behaviour and in turn better patient responses, contributing to a better standard of care.

This study recognises the lack of research in this area, the importance of examining patient experience and how the patient experience is reflected in associations between a positive experience and improved health outcomes, improved subjective / objective markers, increased adherence, and satisfaction (Doyle et al., 2013; Enthoven et al., 2021; Howarth et al., 2017). This is especially important, since failing to deliver a positive experience can have wide ranging negative implications (Hickey & Chambers, 2019). Allvin et al. (2019), described CLBP patients as reporting their negative experiences as not being understood, not being treated as individuals and their pain not being legitimised. Therefore, it has been suggested for many years that the patient's experience be considered the fundamental source of the definition of healthcare quality and more recently it has been included in healthcare policy (Berwick, 2002; Kruk et al., 2018; NICE, 2021; WHO, 2018),

The aim of this study is to understand the patient's experience of attending a first-time consultation with a consultant neurosurgeon for CLBP with / without leg pain. The focus of this study is the patient experience of the initial clinical encounter. This is not to disattend to other aspects of the patient experience along the continuum of care i.e. waiting times, hospital environment, eases of access, but these are beyond the scope of this body of research. Qualitative methods were employed to assess the clinical interaction using reflexive thematic analysis to discover what themes emerged in the data to provide insight into the patient's experience directly following the consultation. Baseline data in the form of age, gender, disability, presence of neuropathic pain was collected to provide some context to the group.

4.1.3 Ethics and Local Research and Development Approval

As presented in Chapter 3 Ethics and local research and development approval was obtained.

The study was granted ethical approval on the 16.10.14 by NRES Committee East of England – Cambridge South, REC reference number: 14/EE/1198. (appendix A)

The study was given local research and development approval on the 06.11.14 by Barking Havering and Redbridge University Hospitals NHS Trust research and development department, Reference Number: R&D 1113. (Appendix B)

4.1.4 Patient Participant identification / recruitment

The patient participants that that were included in the observational CA study in Chapter 3 were the same patient participants that completed the patient experience interview. The recruitment process, inclusion / exclusion criteria are presented in Chapter 3 section 3.2.3. These interviews took place shortly after the initial consultations described in Chapter 3 in a separate treatment room.

4.1.5 Baseline Data

The 26 patient participants completed baseline questionnaires as described in Chapter 3, section 3.2.4. These were the ODI, HADS, PainDETECT and VAS. Table 5 below, patient characteristics, has been reproduced for convenience.

Table 5: Participant characteristics (reproduced from Chapter 3)

Patient	Age	Gender	ODI	Anxiety	Depression	VAS	Pain Detect
1	36	M	64	10	8	10	33
2	39	F	22	9	7	1	5
3	55	F	20	15	12	4	8
4	61	M	20	15	9	4	15
5	42	M	50	15	8	5	18
6	41	M	46	15	10	6	7
7	40	M	64	16	15	8	21
8	37	F	58	12	10	7	20
9	43	M	10	8	11	2	7
10	60	F	44	0	5	6	18
11	65	M	28	8	12	9	17
12	41	F	50	13	13	8	7
13	59	M	58	7	6	7.5	16
14	48	F	40	10	13	5	10
15	33	M	54	9	9	7	19
16	46	M	62	16	11	7	2
17	47	F	30	12	1	8	6
18	42	M	66	16	12	6	20
19	42	F	38	9	4	9	22
20	55	M	14	9	8	8	0
21	43	M	60	17	13	7	21
22	53	F	32	14	6	5	12
23	55	F	38	7	8	5.5	3
24	63	F	66	11	7	7	19
25	41	M	20	8	5	3	0
26	29	M	22	6	7	8.5	1
27	47	M	26	6	11	2	6
28	61	M	28	3	4	2	6
Mean	47.2	M17/F 11	40.3	10.6	8.75	6	12.1

4.1.6 Data Collection / storage

As per Chapter 3, all paper records containing consent forms, confidential data were kept in locked storage in an NHS department. All audio data collected were recorded on a Zoom 5HDN recorder. This data was then imported to Cubase LE 5, a software programme for audio file management. All electronic files were password protected and all records of confidential data were kept on an NHS password protected computer, password protected external hard drive or password protected college computer.

4.2 Semi structured interviews

Following the consultation, all patient participants were then asked to participate in a semi-structured interview. The design of the questions for the interviews was informed by the primary researcher's (RP) 15 years clinical experience of treating this patient population as well as consultation with Professor McGregor and Dr Murtagh. A synopsis of interview schedule is presented below.

1. Patient Experience

Can you tell me about your experience of the appointment you have just attended?

Prompt: Positive or negative aspects

2. Patients understanding / education

Can you tell me how confident you are in having a good understanding of the procedure you were offered?

Prompt: why / what would have improved it.

3. Developing patient clinician rapport

Do you feel you were given an opportunity to ask any questions related to your problem?

Prompt: Any ongoing fears / anxieties

Additional question: Do you feel like you developed a good rapport with the consulting doctor?

4. Patients decision making

From your experience what factors made you accept / decline surgery?

Prompt: Were expectations met.

5. Patients' expected outcome

How do you feel with regards to the potential outcome of your problem?

4.3 Analysis

As discussed in more detail in Chapter 2, Thematic analysis (TA) is a method for developing, analysing, and interpreting patterns across a qualitative data set. TA follows a process of systematically coding the data to develop themes, these themes are your ultimate analytic purpose (Braun & Clarke, 2022). Different versions of TA exist (Braun & Clarke, 2019) as described in Chapter 2 section 2.3.2. However, reflexive TA was best suited to this research project as reflexivity involves critically interrogating what we do, how and why we do it (Braun & Clarke, 2022) as discussed in detail Chapter 2 section 2.3.2.

All interview data collected were audio recorded and transcribed verbatim by an external transcription agency. Data collection was completed then analysis commenced. The analytic process was undertaken primarily by RP principal researcher and followed the six-phase process described by Braun and Clarke (2022) as shown below table 8 and discussed in more detail in Chapter 2 section 2.3.5. Phases 4-6 described below, took place with discussions within the larger research team (RP, AM, GM, IC) to provide further rigour to the analysis. Any difference in interpretation were resolved through these discussions. Checking of the data set with research participants was not undertaken to validate the interview transcripts due to limited funding and time constraints.

Table 8: Six phase process of TA (derived from Braun and Clarke 2022)

Phase	Name of Phase	Features of Phase
1	Data set familiarisation	Immersion in data, repeated reading and listening whilst making brief notes
2	Data coding	Capturing meanings or concepts potentially interesting to research question
3	Initial theme generation	Identifying patterned meaning, clusters of codes related to research question
4	Theme development and review	Checking provisional themes highlight most important patterns or compelling stories by going back to the dataset
5	Theme refining, defining and naming	Making sure each theme is built around strong core concept
6	Writing up	Producing a coherent story about the dataset that addresses a research question

An example of the coding process undertaken in phase 2 is shown below in table 9.

Table 9: Examples of TA method, phase 2 data coding (performed line by line)

Patient Quote	Coding Example
(Pat) "Quite good understanding which is good. 'Cause some doctors you talk to and you can't understand what they're talking about, you know, or where they're coming from. Or they don't seem to be bothered. But no, he was quite a good bloke."	Need for understanding important Good communication skills required Clinician attention appears valued
(Pat) "Because he, as I said, he explained everything. He showed me on the CD exactly what was what. I mean I could look at it and not find nothing wrong but he said what it was and that was it. Yeah."	Explaining condition important Use of MRI images increases patient understanding Need for expertise

4.4 Results

Following the above analytical method the resulting themes and accompanying sub themes were discovered and are shown in the table 10 below.

Table 10: Patient experience themes sub themes

Themes	Sub-themes
1. Patient's understanding or lack of it	1.1. Communication, clear concise vs lacking clarity 1.2.1 MRI provides positive reinforcement 1.2.2 MRI provides negative reinforcement 1.3 Understanding risks of treatment (surgery)
2. Hope or Loss of Hope	2.1 Optimistic about treatment pathway outcome 2.2 Reduced fear of serious pathology / recurrence 2.3 Pessimistic of long-term management
3. Therapeutic Alliance	3.1 Communication style 3.2 Knowing your patient
4. Agenda Clash	4.1 Only able to offer a surgical view 4.2 Is the surgeon the expert
5. Multi theme quotes	Quotes that overlap in themes

4.4.1 Theme 1: Patient understanding or lack of it

Some patients reported a clear understanding of their problem and their treatment pathway. Receiving detailed explanations, and using the MRI to visualise, where possible, a specific and structural cause of the patient's symptoms helped facilitate their understanding. Also, the

consultant's use of 'lay' language was deemed important in making the explanation about the MRI findings understandable to the patient.

> *(P20) "Just the way he explained everything really, it was quite an in depth, showing you the model of your spine, showing how your spine works, showing you the MRI scan results. So everything was in black and white in front of you. You're not just having someone using big words you don't understand, it's all there in detail."*

Alternatively, where the consultant could not provide a specific structural cause for the symptom's patients left the consultation concerned due to a lack of understanding about the cause of this symptoms.

> (P08) "*You know, it's, it's the unknown really, isn't it? You don't really know what's wrong with you. So you're thinking, obviously you do to a certain extent, but then for him to say well your leg pain, it's not coming from your back. The pain that you're getting in your leg. So where is it coming from then? So, is anybody gonna tell me where it's coming from?"*

4.4.1.1 Communication: clear, concise/unclear, evasive

Patients suggested that they wanted to leave the appointment with a deeper understanding of the reason of their pain and expected a neurosurgeon consultant to be able to provide this. A clear communication approach seemed favourable amongst this population, on many occasions.

> *(P22)" Where he showed me the scan and was explaining what it should look like and what this one looks like and, yeah. Yeah, I understand what it is now, so that's good. I just wanted to understand what, why this pain is there, why it's not going away when I'm going for all these different treatments."*

Whereas no clear explanation was poorly received.

> *(P07) "He hasn't explained what's giving me my pain down my leg though has he? Do you know what I mean that's the only thing, do you know what I mean? At the end of the day because he obviously hasn't got a clue what's causing the pain down my leg. You know 'cause as I say in January, I couldn't even walk on it. I couldn't walk on it, I*

couldn't stand up, didn't wanna do nothing. And then that's when the ambulance was called."

4.4.1.2 Use of MRI scan as a tool to provide understanding.

The MRI scan was a very powerful tool that appeared to influence the patients experience in either a negative or positive way. Using the MRI to visualise the presence of a specific pathology, and help explain the structural cause of pain, was helpful to patients and well received. When the scan did not provide a clear or assist a previous explanation the patient response was less well received.

(P03) "He explained the, the erm, scans quite well, because I'm not particularly a biological person so I don't really understand all of that so that was quite good. Otherwise, I probably wouldn't have made head nor tail of it, and it's helped me understand exactly what's happened to the bottom of the disc."

(P25) "I think the images are very useful. I think you need that, because as, I think you would always want that reassurance to see it yourself, rather than just listening to what's on, because no one's perfect and everyone can make mistakes and maybe misinterpret something and or just assume that this is what's right, when actually then if you see that in front of you and also seeing the images in front may trigger further questions as a result of that. So, I think that's an important part."

(P19) "I'm trying to think, because I think that's the first time I've, they've really shown, I've really seen the MRI and he explaining that, OK yes, the nerve is being trapped on the right side. Because that's where I have the pain, on the right side all there, well it's not too bad at the back now and then, but that just give me a better idea and seeing the scan and my ribs and my spine and my lower back, gives me a better idea."

However, where the scan findings were deemed incidental findings and not relevant to the patient's current symptoms, or the consultant's explanation of the scan was either contradictory to previous explanations or the patients pre-existing knowledge, the MRI was unhelpful in terms of developing patients' understanding about the cause of their pain.

(P20) "I don't really know what's wrong with me, to be quite honest with you. Obviously, I know that my disc is prolapsed but he's saying it's only mildly now, whereas before it was, when I was in hospital, they told me it was quite severely prolapsed. And that's exactly the same scan that they're looking at. So, I don't know now he's saying its more muscle so now I'm not a hundred percent sure. Is it muscle pain I don't know?"

4.4.1.3 Understanding the risks of surgical treatment pathway

When patients were offered surgery for their low back and leg pain, a no-nonsense explanation of the risks involved was well received with a direct communication style appearing favourable in this context.

(P01) "I like somebody who gives me, I mean there are people who want different answers, but somebody who gives me an answer straight to the point is good enough because if I am going on to the operation table, I know what are, what are my risks and if I am going to come out of it, you know"

Lines omitted

"In my experience I like people to be straight forward with me. If it's gonna mess up my life I would like to know. I don't like to be given surprises and stuff. The one percent chance that he gives is my headache."

4.4.2 Theme 2: Hope or loss of hope

The patients talked about hope from many different perspectives, and having hope, or lacking hope for a positive outcome clearly had an influence on the patient's perception of the consultation. Incidences observed in this data showed hope was linked to the expectations the patient had for the consultation. Hope or lack of it also appeared to influence patients' sense of optimism or pessimism for different aspects of the consultation such as i) proposed treatment pathways, ii) reducing fear of serious pathology, iii) recurrence rates if some symptoms had recently reduced prior to attending the consultation, iv) the long-term management of the condition and v) the chance of resolution of the problem, pain or disability the patient was suffering from.

4.4.2.1 Being given hope.

The following patient is optimistic about the treatment pathway outcome. The consultant's perceived level of experience appears to be influential.

> *(P03) "Ah, he's been through a thousand patients that he said, I think he knows where I'm coming from, I think he knows the pain the person has in this situation. Now all I can do is just cross my fingers and wait for a good job and recovery after that."*

In this illustration this patient has been offered surgery and is now more hopeful of the problem being "fixed" despite the associated risks.

> *(P11) "Positive. Very positive. I've come out feeling that it's, that it's something that, that, that, can, there's a bit chance that it a bit fixed. Yeah. But he's also explained one or two percent it can go worse, get worse. But that's like anything in life, you know."*

Patients that were expecting surgery also felt hopeful going forward when offered alternative non-surgical treatments they had not been previously explored.

> *(P02) "yeah he just literally erm, erm just put my mind at ease really. Erm, I was expecting for him to say surgery which I personally wasn't' looking forward to 'cause I'd like to get back to work. But now I can erm speak to my work colleagues and hopefully I can get put on some light duties and he'll contact the erm the doctor and maybe offered, maybe some physiotherapy."*

> *(P25) "Knowing that it's not, I'm not on some downward path where it's just going to get worse and worse and worse and I'm going to end up in a wheelchair, I'm like well actually now, knowing this I can get back to going to the gym a bit more and things like that. Whereas for the last month or so until I've, I thought oh do you know what I'm not going to do that, just in case what I'm doing is aggravating things. But the consultant said exercise is good, not just sitting around is, is not the thing to do. So from that point of view, yeah."*

4.4.2.2 Reduced fear of serious pathology / recurrence

In particular, the reduction of fear made patients more hopeful of a positive outcome and in turn created a more positive experience. For some patients this was strongly linked to the consultant ruling out serious or sinister pathology. Patients that had experienced a natural resolution, or reduction of symptoms, whilst awaiting their consultation were more hopeful when a low recurrence rate was explained to them.

The following patient's main concern was that sinister pathology was the cause of her symptoms, particularly as she had family members with metastatic spinal disease.

> *(P09) "All I was worried about it was gonna be summink major wrong but it's not it's wear and tear, old age. That's fine. If it goes again, I'll go back and see me GP but other than that I shall just take me paracetamol and soldier on."*

Patients who left the consultation feeling reassured about the low likelihood of their symptoms recurring were hopeful about the future and talked positively about "moving on" with life.

> *(P03) "On the recurrence as well wasn't very high, which is fantastic for me. Because I really don't need to have that kind of pain. Because I was thinking I'm not going to be able to fly for very long, yeah, and travelling around. So, to have that reassurance as well actually was quite good as well."*

4.4.2.3 Loss of hope when no clear treatment pathway / resolution is made apparent.

Conversely to patients that were offered clear treatment pathways (surgical or non- surgical) compared to those that were not offered surgery, or in the eyes of the patient a credible new treatment pathway, hope was often lost.

> *(P08) "Erm, disheartening really. I was hoping for a bit more, erm. Obviously, I know the reason why he can't operate on me, why he said he can't operate on me. I don't expect*

him to just drop it and do an operation just for the sake of it. But it's, I am disappointed to be quite honest with you. Because no-one wants to help ya. I feel gutted to be quite honest with you. That I'm gonna have to do this for the rest of my life. Really."

When patients expected surgery and were not offered it, they often lost hope for a resolution of their symptoms.

(P20) "My Expectation was I thought they was going to tell me something like it can be sorted out by a little bit of surgery and that's me done. That's not going to happen, so I've now got to look down the avenues of what he's recommending. So, I came here with the anticipation that I'm going to have a, either a small operation or a needle of some description later on that would cure the pain. That's what I was hoping. I'm not over happy that it's not going to go away"

Patients felt particularly deflated when surgery was not offered, and the consultant suggested conservative treatments they had already undertaken.

(P08) "At this moment in time, no. Because I have tried with the physio and I'm still doing it. I got another appointment next Thursday. Erm, and acupuncture, as she does it both. I do that as well. Erm, she's doing that and she's give me a load of exercises to do at home which I've been doing. I don't know what, what else I can do."

4.4.2.4 Linking themes 1-2: When understanding and hope have a reciprocal relationship.

Patients were clear that on many occasions a greater understanding of their problem would offer them greater hope going forwards and a less understanding would reduce their hope. Patients described increased understanding of their pathology via MRI, with reduced fear of recurrence and confidence in future management strategies.

(P04) "So, for me, I'm quite happy with knowing that I can manage it and that the reason my pain's gone down because it has slipped back in and it's fine and I'm not looking at a likely reoccurrence because I'm doing the things that most people do to avoid having, erm, a relapse. And if it does come along then I've still the techniques to do."

When patients were not offered a credible explanation for their pain, not only did they lose hope, but also considered looking at alternative ways to search for an answer themselves.

(P08) "If he would've told me where the pain's come from then. Why I'm getting it. The reason why I'm getting it, then I can get it, I can get it sorted out then, can't I? I've got, I've got private health insurance at work and I'm tempted to go and get another scan to be quite honest with you. I'm thinking, is that it? Is that what I've gotta do then for the rest of my life? That's how it makes you feel."

4.4.3 Theme 3: Therapeutic Alliance

Patients that reported they had built a good rapport with the consultant had a more positive experience. This was fostered via good communication skills, where the consultant used lay language. The relationship was also strengthened by the consultant not pushing their own agenda which promoted trust within the patient clinician relationship. Additionally, by the consultant taking time to get to know and understand the context of the patient's situation via open questioning and collaborative conversation the therapeutic alliance was further strengthened.

(P18) "Positive. Erm, he was clear, didn't really use very technical language. He addressed most of the points that I'd wanted to ask in any case. Erm, assessed my physical pain perfectly. I mean it's something similar to what has been done before with all my other three physio, or through the osteopath. Erm, and I was pleased that he wasn't trying to push for surgery for the sake of pushing for surgery which I was pleased about too, and I felt that I trusted his judgment as a professional to make a decision, for him to have made the decision whether I needed surgery or not and the likelihood of it coming back. So, the fact that he, I could see that he knew what he was talking about, that, yeah, that helped"

(P25) "I'm aware of the setup if you like with consultants and how some consultants are. And I don't think he was like that at all, whereas other consultants have been very much more, this is it and that's the way it is. Whereas he was much more open I think and explained things well."

4.4.3.1. Getting to know your patient.

Patients appreciated it when consultants appeared to be mindful of allowing them to ask questions, got to understand them better, appeared attentive.

(P03) "I'm sure that they see a lot of people with a lot of pain. So, there I was, I didn't feel like there was any judgment or frustration or, erm, or that he was impatient to kind of get through an appointment. I felt the time was mine."

(P05) "If I've, if you feel relaxed then you feel comfortable to ask anything that's on your mind. If you don't feel relaxed you just wanna get in and out and you don't ask the questions. I felt relaxed"

(P09) "Yeah. He listened to what I had to say. Yeah. He was quite, I was quite pleased with him. Yeah."

4.4.3.2 Not building a rapport

Conversely, the therapeutic relationship was negatively impacted when patients felt that they were not listened to, shown empathy or given opportunities to disclose.

(P08) "I do feel disheartened. That they're not prepared to actually listen to, to what you're really going through. He was just talking to me, he wasn't listening really to what I was saying. I didn't say much, did I really? I wasn't given the opportunity to say what I wanted to say."

(P07) "Erm, well he could have, he could have asked. I mean he said he to me he was gonna ask me a couple of questions and he did that. But he didn't ask me how I was feeling. Cause I haven't really explained anything. To him, to be perfectly honest."

4.4.4 Agenda Clash

There was a strong perception in patients that the surgeons were only prepared to provide an opinion on surgery, and when surgery was not indicated consultants were perceived as reticent or unable to offer meaningful explanations for the patient's pain or guide them on appropriate non-surgical treatment options. In the cases where surgery was not indicated patients had a sense that the consultant had already made the decision prior to the consultation, based upon the MRI scan results alone. This almost preconceived and unilateral decision making on the patients' pathway appeared non-negotiable and did not consider or include the patient's perspective.

(P08) "Obviously he's there to explain what my problem is and what he's prepared to do or not do. Didn't really give us much of a choice, chance to speak. You know, but, if he, if he's seen what he's seeing on the screening and he's made his mind up before I've even walked in the room to be perfectly honest with you, hasn't he? You know,"

As a result of their disappointment following the consultation patients questioned whether the surgeon was the right person to have seen them. They felt maybe a "back specialist" would have been more appropriate.

(P07) "Err, maybe if he had somebody else in there with him. Erm, I know, I know people can't be in two places, you know, at once. But if he would've had somebody else in there to. If he would have seen my scans beforehand and said look we're not gonna operate on her but we need to find out where this pain is actually coming from, would there be somebody else who would be willing to have a look or, I don't know. But just to give me, give me some answers."

(P08) "All he kept saying to me was I'm a surgeon, I don't do this, I don't do that. I'm not here to give you pain management or whatever, I'm just here to decide if you need an operation. So maybe it would have been better if I did see somebody else who specializes in backs who can understand what I'm going through''

4.4.5 Multi-theme quotes'

There were times where the patient's narrative of their experience was coloured with multiple factors as seen in the examples below.

In the following quote the patient appears to be hopeful because of increased understanding (Themes 1 & 2)

(P02) "Yeah, it was a very good experience. Talking to the consultant. His erm literally put my mind at rest, erm to say erm what's wrong with my back. Err, yeah, very thorough, erm. It's nice to have finally, erm, to find out what's happened since November."

In the following example, the patient appears to understand the consultant's decision not to operate but also does not have an understanding of what is causing his pain (Theme 1). This

would probably also relate to an agenda clash with the surgeon providing a surgical opinion vs the patient wanting an explanation of non-operative back pain (Theme 4).

> *(P08) "I mean to me, as he, it sounded like he was, he, he's just, he doesn't know, does he? He doesn't know exactly what's causing my pain. So therefore I could understand yeah, he doesn't want to open me up just to do like a, just, just to see, erm, you know what I mean, like open me up just to see what the problem is. Do you know what I mean? Fair enough. Trial injections first which I've, I suppose he's, he's given me some advice to go on, you know what I mean. I would rather have injections than have an operation but at the same time I just want the pain to go. I just wanna get, try and get back to normal. Do you know what I mean? 'Cause I'm, I'm fed up with this!"*

4.5. Discussion

This study showed that patients' experiences vary, some positive and some less positive. On occasions patients expressed strong opinions in the interviews as to whether the consultation was a good or bad experience.

The theme *"patient understanding or lack of it"* appears to be a key factor in shaping the patient experience. When consultants provided a thorough explanation of a pathoanatomical cause of the patient's back pain, with clear concise language and with visual reinforcement of any related pathology on the MRI scan (particularly in the case of patients that went onto to be offered surgery), patient experience was enhanced. Conversely, when consultants demonstrated uncertainty in communicating a specific diagnosis responsible for the patient's symptoms, or communicated contradictory MRI findings that were discrepant with the patient's belief or previously received information from other health care professionals, patients reported a negative experience. This is pertinent and resonates with previous research showing that good knowledge transfer, or lack of it, from clinician to patient in a primary care and orthopaedic CLBP settings can significantly influence patient experience, their ability to manage their CLBP, their levels of anxiety regarding their CLBP and motivation moving forward (Braeuninger-Weimer et al., 2019; Enthoven et al., 2021). The importance of

good knowledge transfer and asserting a diagnosis with certainty may relate to its potential to reassure a patient. Whereas diagnostic uncertainty and absence of understanding is associated with distress, further treatment / health care seeking in a CLBP population in primary care (K. Braeuninger-Weimer et al., 2021; Serbic & Pincus, 2014).

These data indicate that where patients' symptoms have a clear relationship to the scan findings then using the MRI scan as a visual tool to enhance understanding can be powerful. However, a large percent of CLBP remains "non-specific" in nature where a pathoanatomical cause for patient's symptoms cannot be determined (Maher et al., 2023). Previous research has shown that being provided with a clear diagnosis and plan of future treatment have contributed to a positive experience (Allvin et al., 2019; NICE, 2021; Wolf et al., 2021). However, these data illustrate the challenges consultants face in explaining symptoms attribution in these "non-specific cases", as seen in chapter 3, which can create a void of understanding for the patient and the potential to undermine the patient-consultant therapeutic relationship.

We also observed the impact of referrals for a surgical opinion when it is not indicated clinically. This highlights two important and related factors i) criteria for referring clinicians ii) how equipped neurosurgeons are to navigate the difficult communication terrain when the patient's treatment pathway does not include surgery.

The theme "*hope or loss of it*" was very important to some patients and was strongly orientated to their experience. Hope was closely linked to patient's sense of the potential success around the treatment offered to them in both an optimistic and pessimistic viewpoint. Patients with a strong belief that a certain treatment would be successful and provide a "fix" or "cure" (generally patients offered surgery), were very hopeful of the future. By contrast, those patients that were less certain of treatment proposals (normally non-surgical

treatments), particularly those presenting with high levels of pain, disability, and distress, were often less optimistic of the future, especially if some of the treatments proposed at the consultation had previously been prescribed and undertaken. Research by Toye and Barker (2012), demonstrated how restoring hope is important in improving not only the patient experience but also long-term recovery and rehabilitation through means of deconstruction of fear, construction of an acceptable explanation and reconstruction of oneself. They also reported that in cases of hopelessness, no recovery was found in patients after one year who had "non-specific LBP". Allvin et al. (2019), reported that hope was also a crucial component to building a trusting relationship between clinician and patient. The importance of hope has also been demonstrated in other healthcare settings. The preservation of hope has been reported as a vital goal in patients with terminal cancer when there is no obvious cure (Helft, 2005). The findings of this study would support this previous research that the preservation or provision of hope is integral to a positive experience when either surgery is or is not offered.

Of interest in this study, a small group of patients who described a spontaneous reduction of symptoms whilst awaiting their consultation, reported a positive experience as they became much more hopeful of the future particularly when a sinister or serious pathology was ruled out. This appeared to be due to being told by the consultant that the chance of the previously significant symptoms returning was unlikely, this again made them more hopeful of a long-term positive outcome. The current study has highlighted that hope can play a significant part in the patient's experience. Clinicians need to be mindful in their attempt to provide the patient with hope going forwards whilst also being mindful not to create false hope for symptom resolution.

The theme "*Therapeutic Alliance*" emerged from our data as a factor influencing the patient experience with communication influencing the strength of the therapeutic alliance. Patients felt that when the consultants used lay language, it appeared easier for them to understand,

and they felt "involved" in the consultation. If they were given the space and opportunity and did not feel time pressured, judged, and able to ask questions, their experience was heightened. When the consultant appeared attentive to their needs and attempted to get to know them and the context of their situation, the therapeutic alliance was stronger, and a positive experience resulted.

Conversely, when patients left the consultation feeling they had not had a chance to disclose further information regarding their problem, or the consultant had not sought to gain further insight, therapeutic alliance was lost. Additionally, if a lack of empathy was perceived to be shown towards the patient, the therapeutic alliance was reduced, and patients reported a negative experience.

Research in other clinical settings has shown when patients feel comfortable, listened to and not rushed, their experience is more positive (Braeuninger-Weimer et al., 2019; Howarth et al., 2017) and this resonates with the experience of the patients in this study. This is important as patients' with CLBP struggle to be seen and understood as unique people and want to be acknowledged as individuals with personal goals (Allvin et al., 2019). Therefore, creating a strong therapeutic alliance is an essential part of this. This study reinforces the importance of PCC, whereby consultants need to provide a greater bio-psycho-social approach toward all patients (Håkansson Eklund et al., 2019). Gaining a greater understanding not just of their symptoms, but their experience of these symptoms within the wider context of their lives.

The final theme "*Agenda Clash*" that appeared to influence experience was linked to the sub theme of expectations from both a patient and consultant perspectives. Patients that came with an expectation of a surgical intervention being offered, and received an offer of surgery, left describing a positive experience, and there was no agenda clash. When patients attended

with an expectation of surgical intervention and did not receive one, they often described a negative experience. In these instances, the surgeon appeared to feel it was not their role / responsibility to deal with these patients, something which has been observed elsewhere (Braeuninger-Weimer et al., 2021). This, therefore, leaves a sub-group of patients with high levels of pain & disability but no clear pathoanatomical cause and no clear management pathway going forward. In some cases, patients reported they had felt the consultant had made the decision that they were not a surgical candidate before they entered the room based upon case notes / MRI findings and were less attentive in the appointment. Since the patient's agenda was to gain further insight / knowledge regarding their problem, if this insight was not forthcoming during the consultation, they went onto to describe a negative experience. Patients that fell into a sub-group of not being offered surgery and the expectation of consulting a back pain specialist, came with an agenda that they would be offered a good explanation of their pain cause and treatment pathway. They reported to be very disappointed and felt an expert in back pain would have been a better clinician to see rather than a surgeon. Similar findings have been reported where patients need to "feel they are seeing the right person" (Braeuninger-Weimer et al., 2019) that has the right expertise and qualifications related to their problem (Braeuninger-Weimer et al., 2019). This brings to light some questions on the role of a neurosurgeon in seeing certain subgroups of CLBP, referral patterns and pathways to best manage certain sub-groups within the CLBP population. It also suggests that healthcare professionals may also need to be clearer on what the role of a surgical back pain specialist is in the management of CLBP.

Hartley and Elowitz (2020), reported on barriers to effective communication in Neurosurgery settings and these can be clearly seen in this study with Cognitive Bias (pre-existing subject beliefs and preferences), a Cultural Hierarchy of consultants' sitting on the top of a pyramid

that prevents open communication, lack of training (discussed in other chapters) and the perception it takes too much time.

4.6 Study Limitations and Weaknesses

This study has several limitations one being that all the participants studied attended the same Neurosurgical department and therefore their experiences might not be generalisable to the wider low back and leg pain community attending different departments. Secondly, despite the data being rich in personal experiences it may have been susceptible to interviewer and researcher bias, Thirdly, participants in the study all had a comprehensive understanding of the English language and therefore this study might not reflect the experiences of other ethnic groups that are not English speaking that may have attended this or another neurosurgery department.

However, the strength of this study was that the qualitative method deployed allowed participants to express their own experiences in detail, which is particularly important due to the absence of research in this area. An additional strength in this study was that both positive and negative experiences were reported.

4.7 Conclusion

The present findings provide insight and understanding to the experiences of patients attending an initial consultation in secondary care for ongoing low back and leg pain. They describe both positive and negative experiences linked to their clinical presentation and consultation. Patients that had clear specific pathology left appointments feeling they had a good understanding of their problem, often left with hope and a good rapport with the

consultant. However, patients that did not appear to have a specific pathology or clear surgical target often left feeling they lacked an understanding into their problem or pain, felt less hopeful of the future, not listened too, and felt disconnect from the consultant.

Chapter 5: Consultants' experiences of managing CLBP patients with / without leg pain within a Neurosurgery Clinical Department: a qualitative study

5.1 Introduction

As part of their clinical journey, many patients with CLBP, with or without leg pain, are seen in Orthopaedic or Neurosurgery Departments as part of their clinical journey (Braeuninger-Weimer et al., 2019; Hutton, 2019). Most acute back pain gets better with initial primary care intervention with emphasis placed upon self-management strategies, physical and psychological therapies without the need for investigations or referral to specialist services (Foster et al., 2018; NICE, 2016). However, up to one-third of people present with chronic back pain of significant intensity at 1 year after their acute episode, of those that resolve, many experience further episodes of back pain requiring further medical care (NICE, 2016). Consequently, referrals to spinal surgery clinics are increasing year on year and patients often wait longer than the recommended 18 weeks to be seen (Jayakumar et al., 2023; Murphy et al., 2022). Not surprisingly, the volume of spinal surgeries remains high in the UK with over 10,000 elective spinal surgeries taking place each year with annual cost in excess of £200 million (Greenough, 2017; Hutton, 2019).

For those patients attending spinal surgery clinics there are wide variations in terms of how many patients advance to surgical intervention, with surgical conversion rates between different UK centres and departments ranging from 20-75% often dependent on referral pathways (Burn & Beeson, 2014; Murphy et al., 2022; Napier et al., 2013). The patients that attend these clinics that do not proceed to surgery are often offered a number of treatments with a poor evidence base such as facet joint injections and repeated nerve blocks (Greenough, 2017; Hutton, 2019).

As discussed in Chapter 4, these patients attending surgical clinics with CLBP, with or without leg pain, have certain expectations of the consultation i) they will often be anticipating a surgical resolution to their problem, ii) they will expect a specific diagnosis and iii) they expect that a clear treatment pathway will be provided (Allvin et al., 2019; Lim et al., 2019; NICE, 2021). It has been reported that these patient's expectations are often influenced via interactions with other health care professionals seen prior to attending the surgical consultation (Lewis & O'Sullivan, 2018). This creates a challenge for clinicians as the causes of low back pain with / without leg pain remains difficult to accurately establish via clinical tests. Additionally, correlating clinical presentations with imaging findings, such as those seen on MRI, can be problematic given the high incidence of abnormal findings on scans in asymptomatic populations, (Brinjikji et al., 2015; Hartvigsen et al., 2018; Lee, 2016),with as many as 50% of people over 30 years of age having disc changes on MRI rising to 90% by the age of 60. As reported in Chapter 4 this leaves some patients after the appointment, particularly those where surgery is not offered, lacking an understanding of their problem, and leaving with loss of hope. In turn, this likely creates a negative experience for the patient and has a deleterious impact on the patient-consultant relationship.

The impact of this disconnect between the patient and consultant, as described in chapters 3 and 4, has been highlighted in previous research, and illustrates the difficulties clinicians have experienced when attempting to provide care for the CLBP population in various clinical settings such as Orthopaedic clinics, GP practices and pain management services (Allegretti et al., 2010; Braeuninger-Weimer et al., 2021; White et al., 2016). These difficulties include: i) the diagnostic and communications challenges in explaining a patient's pain presentation when no physical cause, such as a disc herniation, cannot be identified, ii) this communication challenge is intensified when clinicians the patient has previously consulted have attributed the patient's pain to an incidental scan finding, and iii)

when a patient was seeking a cure to the CLBP or (iv) when the patient is significantly distressed from their pain experience.

Clinicians have reported that these difficulties have impacted their ability to develop an emphatic relationship with the patient, and to meet their expectations of care, especially with vulnerable patients. (Allegretti et al., 2010; Braeuninger-Weimer et al., 2021; White et al., 2016). As a result this can often lead to disagreement between patient and doctor on the nature of their pain problem (Braeuninger-Weimer et al., 2019; White et al., 2016), especially interactional difficulties as seen in Chapter 3 and the negative experiences as reported in Chapter 4.

As a result of the challenges described above, clinicians managing CLBP in family care settings and orthopaedics have described high levels of frustration, particularly due to the limited time available to fully understand and treat the patient, manage co-morbidities complicating the delivery of care and being relegated to a support role in the face of treatment ineffectiveness (Allegretti et al., 2010; Braeuninger-Weimer et al., 2021). Specifically, consultants in an orthopaedic setting have also described the challenges of consultations whereby surgery is not indicated especially in the circumstance of a patient eliciting psycho-social issues (Braeuninger-Weimer et al., 2021; Dismore et al., 2022). Although there is increasing evidence that patients with CLBP should be treated from a BPS perspective and that psychological factors are more effective predictors of CLBP and the patient outcome than pathoanatomical findings (Hartvigsen et al., 2018), clinicians often felt they did not have the time or skills to work within a BPS framework and to address these issues (Braeuninger-Weimer et al., 2021)

Given the lack of research in this area, the aim of this chapter is to gain a deeper understanding of the challenges and experiences consultants face from within a secondary care neurosurgery department when managing patients, diagnosed with CLBP with / without

leg pain. This study will also complete the investigation of looking at all three components of the consultation from an interactional, patient experience and consultant experience perspective.

5.1.1 Ethics and Local Research and Development Approval

As presented in Chapter 3, Ethics and local research development was obtained.

The study was granted ethical approval on the 16.10.14 by NRES Committee East of England – Cambridge South, REC reference number: 14/EE/1198.

The study was given local research and development approval on the 06.11.14 by Barking Havering and Redbridge University Hospitals NHS Trust research and development department, Reference Number: R&D 1113.

5.1.2 Consultant Participants

As described in Chapter 3 section 3.2.5, the consultants participating in the study were from the Neurosurgical Department at Queen's Hospital, part of the Barking, Havering, and Redbridge Hospital's University Trust. At the time of recruitment, the department had 12 Neurosurgeon Consultants, 8 that regularly engaged in seeing patients for a surgical consultation with CLBP. All 8 consultants agreed to participate in the study. However, an interruption of studies for personal health reasons alongside the Covid 19 pandemic meant that 2 consultants left the trust before completing their interviews. Therefore, 6 consultants were interviewed regarding their experiences of treating patients with CLBP. Table 11 below shows the baseline characteristics of the six consultants that completed the interviews.

Table 11: Consultant Participant Characteristics

Age	Gender	Years of experience	Years as a consultant
48	Male	22	12
65	Male	41	22
52	Male	27	16
53	Male	30	17
63	Male	43	32
54	Male	26	15

5.1.3 Data Collection / Storage

As per chapter 3 and 4, all paper records containing consent forms and confidential data were kept in locked storage in an NHS department.

All audio data collected was recorded on a Zoom 5HDN recorder. These data were then imported to Cubase LE 5, a software programme for audio file management. All electronic files were password protected and all records of confidential data were kept on an NHS password protected computer, password protected external hard drive or password protected college computer.

5.2 Semi-structured interviews

Following completion of the interactional conversation analysis data of their consultations with a patient with CLBP, the consultants were then asked, at a later date, to undertake a

semi-structured interview. These interviews were completed after the interruption of studies. It was originally intended to be completed in this order anyway for two reasons, firstly we wanted the interactional data help to formulate the semi structured interview questions and secondly, we felt interviewing the consultants prior to gathering all the audio recordings may have influenced their behaviour in the consultations. The questions from the semi-structured interview were also chosen and refined based upon the experiences of the research team and particularly the primary researcher's (RP) clinical experience of treating this patient population and observing the neurosurgery clinics appointments as discussed in Chapter 4.

Semi-Structured Interview Questions: Neurosurgeons

Interview domains

1. Perception of role
2. Perception of patients' expectations
3. Diagnostic reasoning
4. Rationale for diagnostic decision
5. Advice supporting diagnostic decision
6. Perceptions of the outcome for patients with LBP who are not offered surgical treatment

Question 1

Can you please tell me how you see your role when a patient consults with you for the first time with regards to their back and leg pain?

Prompts

- Giving a diagnosis (how do you know that a patient accepts this)
- Educating patient (how do you know they have understood what you have said)
- Offering a surgical opinion versus a general opinion

Question 2

What do you think the patient expects from their first consultation?

Question 3

How do you decide on offering a patient a micro-discectomy?

Prompts

- Scan and symptoms (examination) correlating
- Nature of pain (leg vs back)
- Patient description of pain
- Previous treatments (failed or not undertaken)
- Compensation, work status, anaesthetic risk

Question 4

If you have a patient that is not a candidate for surgery (based upon your surgical criteria) that presents with has high levels of pain and disability, what do you see as your role within this group their management?

Prompts

- How do you explain and justify your decision to not offer surgery
- How do you explain the ongoing symptoms to the patients (if challenging skill set required)

Question 5

What do you think happens to this group in terms of long-term outcome?

5.3 Analysis

As discussed earlier in chapters 2 and 4, Thematic Analysis (TA) in the form of reflexive TA was deemed to be the most appropriate method for analysis of this data set by the principal researcher (RP). As previously described, TA is a method for developing, analysing and interpreting patterns across a qualitative data set. TA follows a process of systematically coding the data to develop themes. These themes are your ultimate analytic purpose (Braun & Clarke, 2022). Different versions of TA exist (Braun & Clarke, 2019). However, as described in chapter 2 it was felt that reflexive TA was best suited to this data set within the research project as reflexivity involves critically interrogating what we do, how and why we

do it (Braun & Clarke, 2022). Reflexive TA also involves creating codes at the later stages of analysis normally using inductive coding. This particular data set was looked at primarily the principal researcher (RP) rather than multiple coders within a team, there was no fixed codebook or pre-determined codes as used in Coding reliability and Codebook TA (described in Chapter 2).

All interview data were collected (as described in Chapter 4 but with consultants) and were audio recorded and transcribed verbatim by an external transcription agency. Data collection was completed prior to analysis commencing as per reflexive TA. Once again, the analytic process was undertaken by primarily RP and followed the six-phase process described by Braun and Clarke (2022) as shown below in reproduction of table 8 for convenience and described in more detail Chapter 2 section 2.3.5 . An example of the coding process phase 2 is shown below in table 12. This was again an inductive approach and themes were allowed to emerge from the data as part of the reflexive process. As per the patient experience data, phases 5 & 6 took place with discussions within the larger research team to provide further robustness to the process. Any difference in interpretation were resolved through these discussions. As per the patient experience data it was not checked with research participants to validate the interview transcripts due to limited funding and time constraints.

Table 8: Six phase process of TA reproduced for convenience

Phase	Name of Phase	Features of Phase
1	Data set familiarisation	Immersion in data, repeated reading and listening whilst making brief notes
2	Data coding	Capturing meanings or concepts potentially interesting to research question
3	Initial theme generation	Identifying patterned meaning, clusters of codes related to research question
4	Theme development and review	Checking provisional themes highlight most important patterns or compelling stories by going back to the dataset
5	Theme refining, defining and naming	Making sure each theme is built around strong core concept
6	Writing up	Producing a coherent story about the dataset that addresses a research question

An example of the coding process undertaken in phase 2 is shown below in table 12.

Table 12: Example of Coding from phase 2

Consultant Quote	Coding Example
"So, I very often find myself explaining that the linkage between the picture and their problem isn't 100 percent, that the body can remember to hurt."	Needing to explain pain in the absence of pathology on imaging. Good communication skills required
"So, I want to know their age, what they do, where they live, any dependents and comorbidities,"	Needing to gather a good history at the onset of the appointment. Understanding the context of the patient is important.

5.4 Results

Table 13 below provides an overview of the themes and sub-themes that emerged from the data within this study following the above-described analytical method, reflexive TA.

Table 13: Consultant experience themes and sub themes

Themes	Sub-themes
1. The consultant's perception of their role in the initial consultation	1. Understanding the patient problem 2. Educating patients 3. Sub-grouping surgical vs non-surgical
2. What consultants believe patients expect "Can we deliver?"	1. Provision of Pain relief 2. To fix, cure or resolve "I'm afraid we cant"
3. The wrong patients' for this clinic " I'm a surgeon"	1. Inappropriate referral 2. The need for pathway change
4. Challenges with CLBP patients "I know you don't need surgery"	1.Explaining a cause can be difficult 2.Explaining their options when surgery is not indicated "am I qualified or equipped?" 3. Interaction troubles 4. Perceived outcome of group

5.4.1 The consultant's perception of their role in the initial consultation

Consultants reported that they felt their role at the initial consultation was to be able to understand the patient's disorder within the context of their life via information gathering. They then felt they needed to interpret this information to better educate the patient and present the treatment options. Some surgeons revealed a preference towards identifying patients that required surgical intervention, effectively sub-grouping patients, in order to minimise any potential challenges within the consultation later.

5.4.1.1 Understanding the patient's problem.

Surgeons were cognisant of the complexity of CLBP (with / without leg pain) and acknowledged the need to have a greater insight into the patient's problem and the patient's understanding of their own disorder. This allowed consultants some knowledge into how they would best educate the patients and help inform the offer of subsequent treatment options.

> (CO1) "Part of it's about putting the patient at their ease, developing a rapport with them. And then, when we get down to the technical aspect, my first priority is to understand what the patient's problem is, so what is it that you want help with? How does it affect you? How would you like it to change? "

The consultants recognised that their clinical population were not a homogenous group and recognising a patient's individual circumstances was important.

> (CO 6) "So, I think my role for the, when I meet them for the first time is to gather information and put it in the context of that individual. Pretty much to find out how their condition is affecting them and how their condition is impacting on their life because no two conditions for no two people, different people are the same. So in a 90 year old back pain is different than in an athlete who's got back pain and can't function as an athlete. So it's gathering information and putting it into a context that I can use to treat that individual."

5.4.1.2 Educating the Patient

The consultants reported that following the information gathering phase of the consultation that their role would be to use the information provided from the patient account and any associated imagery to help educate or enhance the patients understanding of their problem and the treatment options available to them.

> *(CO 1) "I go on to share my understanding of what their problem includes, if I can, what underlies the problem that they're experiencing. I almost always show them their images, and that's particularly important if they've got leg pain and you're trying to explain that it's due to something being squashed in their back. So, seeing the picture paints a thousand words. And then following that, and almost lastly, a discussion of options, so to educate the individual on what their options are, to try and put those in the perspective of what they've shared about what their problem means to them".*

There was a sense it was important for patients to be able to ask questions in order to better understand their problem.

> *(C01) "it's open to questions, discussions, to try and leave the patient at the end of a 20 minute period where they understand a bit better and are in a position to start to decide what they want to do next."*

Consultants felt that part of the education process was not just to inform patients of what treatments were available but also the associated risks attached to them.

> *(CO3) "So I feel that my role initially is, if confronting or seeing these patients first time, is to educate them and to make sure that they understand the various avenues and what they can achieve at what cost of course, at what risk. So that's how I see myself first time"*

When educating patients, considerations were also given to timeframes in which treatments were available to them.

> *(CO5) "Right, OK, well, very much as advisory, I guess, so that the patient has the options to know when and what is available to them"*

5.4.1.3 Sub-grouping surgical vs non-surgical cases

The consultants recognised that their role was to differentiate between potential surgical candidates and from patients for whom surgery would be inappropriate. The was a strong sense that the presence of sciatic nerve / leg pain is a significant clinical finding increasing the likelihood of being a surgical candidate.

> *(CO3) "Yeah. I think we have to differentiate between the back and the leg pain. And it is important, I mean at least for me, the way I see it every time, I see these people in the clinic that, for me, these two groups are very distinct on the basis that the people with the back pain, there's nothing I can do about them, unfortunately. While the people with*

the leg pains or the arm pains, if you were to put it this way in similar fashion, we can offer them something surgical to help them."

The importance of acknowledging the stage of the disorder acute, sub-acute or chronic was also a factor in deciding the surgical and non-surgical candidates.

(CO2) "So I always look for patients, trying to separate the simple back pain patients from sciatica patients. And I always ask, try to separate the pain intensity in the back itself, in the actual back and also in the leg, the sciatica pain, I'm looking for someone who is a good candidate for surgery, who has more obviously leg pain than back pain, who has at least six weeks, eight weeks of not getting any better".

5.4.2 What consultants believe patients expect "Can we deliver?"

Consultants talked about what they believed patients expected from the consultation and what service they were able to deliver within the consultation. The consultants reported that some patient expectations were often unrealistic, and they were unable to meet them. These expectations were often focussed on pain relief and being cured.

5.4.2.1 Provision of pain relief

Consultants' views were that patients attended the neurosurgery consultation expecting significant pain relief, relatively quickly, even instantly in some cases. Although this was often considered an unrealistic expectation consultants recognised the importance of giving patients alternate pain-relieving treatment options when surgery was not indicated.

(CO2) "some patients know very little about these things, some patients are very well educated and they have read a lot of stuff before. They expect, obviously they expect instant pain relief, which I can't give them, but I can give them the various options and how quickly they can relieve the pain and how permanently perhaps"

There appeared to be an expectation from patients' that injection therapy was part of the service and would be quickly accessible.

(CO4) "They're expecting, well, some of them are expecting injection treatment and, by and large, they should have gone to pain services, and most of them are expecting complete relief of all of their pains."

Consultants showed an understanding as to why the patients wanted an immediate pain relief.

(CO5) "Some of them come with expectations that you can, you'll get rid of, you'll deal with anything quickly and why wouldn't they? Because they don't want the pain."

The patient's desire for immediate pain relief was sometimes seen as unrealistic by the consultants.

(CO6) "Most of them want an explanation why they're in so much pain. But a group of them want me to take my magic wand out and cure them instantly.

5.4.2.2 To fix, cure or resolve "I'm afraid we can't**".**

The consultants were very clear that they could not always meet patients' expectations, especially when related to a fix or cure with the non-surgical CLBP group. They alluded to having to carefully navigate these expectations in order to avoid patient discontent.

(CO3) "So people come in with these false pretences, come with false expectations on the consultation, and we have to manage them? and try to go around it in some ways. And people, I think, get disappointed when it's about the back pain perspective".

Consultants also stated that patients can have and elevated sense of the effectiveness of back surgery to relieve their pain.

(CO3) "He's expecting a solution. He thinks that there is, nine times out of ten, these people, they have been convinced indirectly that there is some surgical treatment for this, and they will come, and they will get a treatment."

Patients often ‘pushed’ for a surgical intervention if they believed a fix was still possible. consultants described a need for patients to leave with some planned treatment intervention to help meet expectations, even if surgery was not an option.

> *(CO1) “You can't make it go away. And people who are pushing for surgery are still looking for that, by and large. They're still looking for the fix. So you don't have an equivalent to offer them. You make it clear that there is stuff they haven't tried, if that's the case, and there's usually something in there that they haven't explored, so they've got something to take away. But no, there's no next door for people who are unhappy, if you see what I mean”*

Long waiting lists to see a specialist consultant was also perceived to contribute to the high expectations patients had of their consultation.

> *(CO6) “because they've taken 18 months or two years to get to me, they've suffered all that long and whoever that they've come across, and I don't mean it in a derogatory way, maybe a GP or a physio or a nurse or a family member, they say, oh, you're going to see the surgeons, you're going to see, they're going to sort that they're going to sort it out”*

Misalignment between patients’ and consultants’ expectations related to potential treatment provisions was clearly recognised.

> *(CO6) “So they've come to the consultation with the expectations hitting the ceiling and I would then end up telling them I can't help you with surgery and bring them crashing down to the ground. So that's where there is a complete mismatch with their expectation of what they want from me and what I can offer them, and this is where things go seriously wrong.”*

5.4.3 The wrong patients for this clinic “I’m a surgeon”.

Consultants talked about inappropriate patient referrals being made to the clinic. They attributed this to a multitude of reasons: i) poor understanding of the neurosurgery service, ii) poor understanding of CLBP, iii) treatments provided and the subgrouping of clinically appropriate patients by referrers, iv) no clear definition of what a neurosurgeon has to offer in

this clinical setting and v) a lack of alternative treatment pathways open to the patient / referrer.

5.4.3.1 “How effective is a surgeon in non-surgical cases?”

Consultants reported patients were referred in with no surgical target and essentially, they had very little to offer in providing them with a surgical consultation.

> *(CO1) “From the position of a neurosurgical consultation, when there isn't a physical cause for the symptom, when there isn't a surgical target at the end of it, that's where our effectiveness stops. You know, what is my offer in this? What is my value added? And it's a consultation about surgical conditions and their surgical management”.*

Consultants describe trying to avoid this type of consultation as they are time consuming for patient and an appointment with a different health care professional would have been more appropriate.

> *(CO1) “it is a situation that I try to avoid. Not because it's difficult or uncomfortable, but because it's a waste of the patient's time. They're talking to the wrong person at that stage” .*

There was a feeling that treatments for CLBP particularly surgical intervention were misconceived by the referring health care professionals.

> *(CO1) “I think there is a general misunderstanding about the role of surgery, particularly in back pain. The number of referrals that go, back pain, tried analgesia, please see. Well, you know, no, because I can't help. Surgery doesn't help back pain, and that's not understood”.*

Many of the referrals were considered to lack a surgical target and therefore deemed inappropriate.

> *(CO2) “There is no point in seeing a surgical clinic, being seen in surgical if there's no surgical target”.*

It was felt that many CLBP patients were inappropriately directed towards the surgical service and optimising the triage process would be helped by a clearer definition of the neurosurgeon's role.

> *(CO3) "But the problem is it lies in the way the system is structured. In other words, the patient goes to the GP. These people, they're frustrated. I also get back pain at the moment. I know there's nothing that can be done about it, but these people are frustrated. They go to the GP, and they say, I have this terrible problem, help me. What can I do? The GP has nothing, can do nothing. So he says, OK, I'll send you to the specialist. See what they say. The reality is that at that point, people's understanding, I say, I'm afraid there's nothing that, you will be sent to somebody for no reason. There is nothing you can do about it, unfortunately."*
>
> *Lines omitted*
>
> *(CO3) "Well, my thought is that I shouldn't be seeing these patients. It's not, it's like me, sending me to see a patient with a heart problem. I think it's the same thing. There's nothing I can do about it. Or sending to a cardiothoracic surgeon, somebody that has got, I don't know, heart failure. Maybe there I can say something, but if he doesn't need the operation, there's nothing I can do about it."*

Consultants were clear that patients with no surgical target should not been seen in this clinical setting. It was felt that with long waiting times, clinics should be filled with the most appropriate referrals with the highest chance of being converted to surgical intervention.

> *(CO4) "So, for me, I'm a surgeon and I can fill my clinic here with any number of patients. So what I want to do is only fill with patients who have a target for surgery and then ascertain whether or not they've got the appropriate clinical syndrome for that surgery, and whether or not they're fit enough for it, and whether or not they want to have it. Because I want small clinics with maximum conversion, and I don't think that just because a patient wants to be seen they should be seen."*

Consultants expressed that inappropriate referrals were actually delaying potential surgical candidates from being seen.

> *(CO4) "if I fill a clinic with patients who I can't help surgically, I'm denying those who I can help surgically from getting in"*

The consultants felt that they have very little to offer these patients' and pain management would normally be a more appropriate referral.

> *(CO5) "They're the type of patient that surgeons want to avoid because we know we can't do them much good and they're, they are the type of patient that a pain management team would, should, and probably do want to attract because they're the ones that perhaps have most to manage, most to give, most to offer."*

5.4.3.2 Need for pathway change

Consultants advocated that neurosurgery should not be the final / defining appointment for patients, particularly those with only CLBP. They highlighted the MDT care approaches available and the use of matched care pathway especially for those with only CLBP.

> *(CO3) "So ideally, for these people, it shouldn't be the neurosurgeon being the last part of the pyramid in this scenario. It should be managed by a team that says, the surgeon who says, I'm afraid nothing I can offer from my point of view. The pain specialist says, I will do this. The psychologist may say, I will do this. The physiotherapist will say, I will do that. The acupuncturist, I will do this. And that's a part of people's package in some ways. And at some point, there is the end that says palliative care, I'm afraid, only symptomatic treatment we can do for you"*

Triaging by appropriately qualified allied health professionals was also advocated to better identify the non-surgical cases to stop them being referred to surgical clinics.

> *(CO2) "if they were seen by an extended scope physiotherapist or somebody who is trained like a spinal nurse or someone, they could be selected out and then they shouldn't come to see us at all."*

Low confidence in the GPs being appropriately informed of what patients should be considered fitting of a surgical clinic referral was reported.

> *(CO2) "just to say that GPs unfortunately are still not well educated when to make a referral to a service. What kind of patients would benefit for on a surgical service. And of course, I know that we have taken on the back pain patient category in this hospital, in*

this trust we took that from orthopaedics, they are very relieved of course, well we should have a triage clinic, or at least triaging first and then a triage clinic, who should actually see a surgeon face to face"

As a result, the need for triaging before being seen in clinic by a surgeon was strongly recommended.

(CO3) "So the only way to solve this is to understand that the pathway should be GP, possibly to some sort of MSK service that does the assessment, then goes to the pain team. There's nothing else to say"

A cycle of repeat referrals within a hierarchical pathway design was thought to be ineffective by the consultants.

(CO3) "So there should be some kind of design where there is the central hub that involves the various specialities, not like a pyramid where people climb all the way up to the pyramid to see somebody that, like the magician at the end which cannot offer them nothing, actually. They fall back down, they start again. I can tell you these people, they go back through the system, and it continues like this."

It was recognised that there were difficulties in co-ordinating care for the non-surgical CLBP group.

(CO3) "So I think there is, the major challenge is lack of coordination. So, and to know what works, what is the package? What are they going to be offered, these people?"

The consultants reported that a significant number of resources would be required to provide the level of care required for this clinical population.

(CO5) "I suppose in an ideal situation, like you have for cancer, various forms of cancer, you have multidisciplinary teams, it wouldn't be a bad thing. Whether there are, whether there's enough people or enough time to set those up for this sort of thing, I don't know. But yeah, I guess the ideal situation, the patient would come in, you'd have a few people sitting there and then you could have a discussion about them but that's a huge increase in resource, I believe."

Lack of continuity between existing services was also reported as being sub-optimal in terms of the current pathway provided for these patients.

> *(CO6) "So that's where I can talk to you till tomorrow morning. So we need a closer collaborative involvement of our physiotherapist and musculoskeletal practitioners, BHRUT is one of the only trusts I know that has almost zero involvement with our MSK pathways. So everywhere else, there is a triaging service that involves the MSK team, the surgeons and the pain doctors, where they shuffle the patient before they go anywhere to the correct place."*

5:4:4 Challenges with CLBP patients "I know you don't need surgery".

Consultants spoke of the many challenges of the initial consultation, particularly those patients from the CLBP subgroup that were not suitable for or did not require a surgical intervention. They spoke of the difficulties of explaining a cause of the patient's symptoms, suggesting treatment options outside of the treatments that they provide, and the interactional struggles and their concerns of the longer-term outcomes of this group.

5:4:4:1 Explaining a cause can be difficult

Consultants reported they had to carefully consider their choice of language to aid them in their explanations of the patients' symptoms that were usually centred around the medical model. They reported difficulties in doing so and were not confident all patients were aligned to this.

> *(CO1) "I try and use plain English. I don't talk about lumbar spondylitis, I talk about wear and tear change in the back, for example. I talk about moving parts wearing out. And if they're a mechanic, I talk about a car and I try and bring that moving part analogy back to something that they can relate to. I leave lots of space to sense check that they're ready to move on to the next stage. I'm sure there are people that I leave behind".*

It was also reported that these explanations were also very time consuming compared to explaining the cause of pain in a surgical case.

> *(CO2) "Quite difficult actually, because you have to spend much more time with them and explain that you can only operate on corresponding pathology to their symptoms. If it's, if there is no corresponding disc products or nerve root pressure, pressure on the nerve root that can cause their sciatica pain, then of course I'm not going to operate blankly just on that."*

The consultants stated that some patients wanted an explanation that leaned towards passive treatments rather than the locus of control being with the patient and them actively self-treating the problem. Communicating this came with some interactional difficulties.

> *(CO4) "Well, it's a matter of explaining the reality of the situation to patients, and it can be a bit tricky, but I think there's a lot of people out there who don't want to put in the graft. So they want someone else to make them better, but they're not prepared to stop smoking or reduce weight or exercise."*

Attempting to explain subgrouping and the mechanism causing the pain did not appear to be a smooth process.

> *(CO3) "That's difficult because people, first of all, patients cannot understand why. Since the leg pain came from the spine, the back pain came from the spine, how come we can only treat the leg pain? That's very difficult for people to understand, yes?"*

Consultants recognised despite their best efforts it was felt patients often left dissatisfied.

> (CO3) "*So I spend quite some time there trying to explain. I don't think we are making enough, I don't think, I'm not so sure how many people understand the concept of all this. They leave frustrated, I think, from the clinic."*

5:4:4:2 Explaining their options when surgery is not indicated: am I qualified or equipped?

All consultants reported that they were very comfortable explaining to patients what surgical intervention involved and the risk / benefit associated with it. They also reported that they were happy to explain why surgical intervention was not appropriate. However, they felt suggesting / explaining non-surgical interventions was more difficult and acknowledged that this was not necessarily within their area of expertise or training. This was particularly relevant within the CLBP group that reported high levels of distress and disability.

> *(CO1) "So clearly there's a bit of a gap in my understanding of what happens in the pain service, for example. I've worked with pain services in a number of different places over the years, so I have some idea, but I've never been in it. I've never done it myself. Describing what someone else does is always more difficult than explaining what you do yourself."*

The consultants reported that they do not extensively research the evidence behind treatments beyond their scope of practice.

> *(CO3) "Because when they arrive in the clinic and there is, I cannot offer them surgery, I say to them, do Pilates, do swimming. I don't know, is it appropriate for them? Maybe, who knows? We've read, I've also read this on the internet. Who knows if they are successful or not? So I don't spend time myself looking after the evidence behind this."*

Most consultants felt their knowledge base of other existing treatments was insufficient to advise patients accurately.

> *(CO3) "That some people, that they are more experienced in dealing with this, have looked at and understood. For example, myself, apart from the surgeries that I'm doing, conceptually, unless I do something, a big intervention that I see makes a difference, I have never seen difference offered by acupuncture, physiotherapy, Pilates and all these things. I don't know if they work, but they may work a lot. It's just that it's not under my radar. So it's also unfair, these people, they wouldn't get the correct advice in all these things because they say to me, can I have some physiotherapy? I don't know, where is this based? I don't know if this is working. I have no idea if this works or not,"*

All the consultants felt non-surgical explanations were more time consuming and they were not necessarily trained to provide them.

> *(CO4) "The time to offer someone surgery takes very, is very little compared to the time you invest in explaining to someone why they don't need an operation or not why they don't need, but why there isn't an operation to offer them".*

There was a strong sense of being sufficiently trained to explain when surgical intervention was unsuitable and that to consider other treatments were more appropriate.

> *(CO5) "I believe that as a neurosurgeon, I will have been trained adequately to give an opinion that a non-surgical option is more, would be more beneficial or, put it another way, that a surgical treatment would not adequately deal with the situation. I think that maybe I should put it that way because have I been adequately trained enough to decide whether a non-surgical treatment would be better? I suppose you might say if the surgical option's no good well then the other one must be better, but no."*

Some consultants described developing skills to deal with these difficult scenarios.

> *(CO6) "well I don't think I'm fully prepared to deal with that, but I have a coping mechanism by the sense that I have, then tell them no, I'm not condemning you to the pain for the rest of your life because there are other ways of treating your condition other than surgery".*

5:4:4:3 Interaction struggles

Consultants expressed a variety of interactional troubles when treating the CLBP non-surgical cases. They reported a sense of negative emotions being felt by themselves and expressed by patients alike during the consultations. This would lead to the need to attempt to validate the pain from both the patients and consultants' perspectives.

> *(CO1) "it sometimes felt embarrassing to say, I can't help you. And that then leads to a position where the patient picks up on that and feels that they're not worthy of, not important enough, not in enough pain, not enough of whatever it is to earn an operation. And that then gets you into conversation in, it really does hurt. It really does stop me doing things. As though they're trying to bargain their way into --The treatment option that I've unwittingly led them to perceive is the best and highest value treatment.*

The consultants reported downgrading the patient's perceptions of the effectiveness of surgery in combination with validating the patients' symptoms to help minimise misalignment.

> *(CO1) "The worst, surgery without potential benefit is damaging assault. Cutting people up into small pieces, effectively, isn't good for folk. And those are exactly the sorts of languages I use. So I will explain that there isn't an operation that will help. And I will be explicit about that's not because I don't think it's bad enough. I don't think it's because you're not important enough. It's because of the type of problem you have, and there isn't a surgical treatment that will help you. And I do use the bit about, the line about cutting people up into small pieces. It's not good for you. Sometimes I go so far as to say something like, if you do this to people in the pub, you go to prison for a very long time, to try and bring it home."*

All consultants reported that offering an alternative opinion or treatment option was often a strategy used with difficult CLBP cases.

> *(CO2) "I usually just say, I, as a surgeon, I'm not, I can't help you and I'm happy to refer you to a pain specialist and that's what I do."*

The consultants recognised this group of non-surgical cases made up a large proportion of the cases they saw in clinic. They expressed the advice they gave to patients was generic and had some doubts to the efficacy of the treatments they suggested.

> *(CO3) "So there is this big group that they come with back pain, that there is nothing operative that they can offer. So, I find myself in a very frustrating situation, and embarrassing that I have to go around a little bit, the consultation, to offer them general advice about life changes and keeping their weight, again Pilates and this sort of things. And ultimately, I would suggest to them, either the GP or myself would refer them to the pain specialist, yeah, to do pain. So, it's symptomatic pain treatment. So still today there has not been any treatment for back pain. This is period"*

Many consultants felt that highly disabled patients with no surgical target often presented the greatest challenges.

(CO3) "That's the worst consultation we can have. This happens. So, people get fed up, all fed up. They tried everything, there's nothing they can do. They say, OK, go and see the neurosurgeon now. So that's the worst type of consultation because really there's nothing I can do. They were expecting some solution. These are usually people that they have been troubled a lot".

Consultants reported they were not trained to deal with these patients, but that over time they developed the ability to recognise patient dissatisfaction, and ultimately when required they would tell the patient that as a surgeon, they may not be able to help them.

(CO4) "So, no, we don't have the skill set or the tools. So, by and large, you learn from your experience or from what you observe or the consequences of complaints, not many but there will be still some. But you can sense in a consultation when the patient's unhappy and so then, dependent on how late you're running and how many you've got booked in, you have to make a decision whether you explore that further or whether you simply say, I'm sorry. But an easy cop out is, well I am only a surgeon, and therefore I can't address these things."

Most consultants reported advising the patient to receive a second opinion if they were dissatisfied.

(CO5) "If, as a surgeon, I don't think I can make the patient better, then I, then I'll say, no, operation's not for you and in the end, if they make enough of an issue of it, you've got say to them, well, you'll be best off getting another opinion and I, I've done that. I can say, look, I can organise another opinion for you, or I can write to the GP and say, please organise a second opinion, and they, patients don't often like it, but, you know?"

Consultants also accepted that despite spending adequate time with a patient and providing them with a thorough explanation, some CLBP patients will do not accept the outcome and leave emotionally distressed. However, many consultants deemed that this was beyond their control.

(CO5)"it gets that far that they think they should be having one thing and I think another then yes, they will go away unhappy, but that's just the very nature of it and they might make a complaint or whatever, but you can, as a doctor or as a surgeon, whatever way you want to look at it, you can only give your best opinion and if a patient doesn't like it

and it's been explained to them adequately why, that's another issue, of course, so has it been explained adequately, then there's nothing much more you can do."

All consultants were aware of trying to leave the patient with hope following the consultation which was linked to them having had a positive experience (as discussed in Chapter 4)

(CO6) "The other group are quite angry about the fact that I can't operate on them and they get, they become quite hostile in a sense to say, well, am I supposed to live with this for the rest of my life then? Is this for me? Is this the rest of my life then? I have to suffer with pain. Is, so there's nothing you can do? Do I have to live like this for the rest of my life? So that theme is also common that I have now condemned them, as a healthcare worker, as a consultant, to pain for the rest of their life. So that's the second group of individuals that don't accept this and they almost accuse the person who's giving them their news of condemning them for lifelong pain."

Lines Omitted

(CO6) "So it's a lot easier for someone who says yes to surgery, because I'm not sending them out of the room with nothing. I'm giving them a lot to think about or take away with them to do, so they're happier. The person I say, sorry, I can't do anything with you and your GP will refer you to a physiotherapist or pain specialist, they're leaving my clinic empty handed. So they're a lot less satisfied with the consultation."

The consultants reported they intentionally attempted to define their role and possible interventions they could offer in order at the start of the consultation to pre-empt any interactional difficulties later on within the consultation.

(CO6) "I'm very careful to tell my patients what I do, what I am, what I, what I'm able to do. And I tell them, look, I'm not a pain specialist, I'm not a physiotherapist, I'm not a pain doctor. I am a surgeon. So what I do involves cutting things out or putting things in, making more room or making things more straight or making things wobble less. So, I tell them that in so many words, if I can't find any of those things to do I become redundant to you. I become useless to you, other than telling you what's wrong. So I try to meet that expectation head on. A lot of the patients accept that, but the proportion, the significant, some proportion, a significant proportion are angry at the end of the consultation because I haven't cured them, and I haven't given them a way out."

5:4:4:4 Outcome: What happens to this CLBP group?

Consultants were uncertain of what the longer-term outcome and trajectory was of this difficult group. Many thought that would end up seeking a second opinion and continuing a cycle of seeking a 'fix'.

> *(CO1) "I know that some of them get referred to another neurosurgeon who sees them and says, oh, I see Mr xx didn't think there was anything to do here. I think I agree. Why are you here?"*

One consultant was hopeful that the explanation provided to the patients in the consultation would be helpful in aiding them to accept and adapt to the problem they have.

> *(CO1) "my hope is that the suggestions made back to the community result in perhaps the sort of community based therapy that might have been tried anyway. You know, the lifestyle modification, the weight loss if required, the analgesia, consideration of a pain management programme once the physical's been exhausted, the input of the pain clinic, perhaps in difficult cases. But I've never audited it to see what does happen next."*
>
> *Lines omitted*
>
> *(CO1) "There's a sense in some of them, maybe even most of them, that the explanation has helped it all make sense and that that's allowed them to take a small step towards adapting to this problem and getting on with it, with whatever help they can find and need to take".*

However, most consultants were more sceptical regarding the treatment provided, outcome and patient satisfaction for this group.

> *(CO4) "Well, yeah, so one, a subgroup of that group will get referred elsewhere and have an unproven procedure done. So, they, initially they'll be happy if someone's offering them something, but they won't get a result. And then another subgroup will just be not exercising, losing jobs and just popping pills. But, if you say physio, well if we refer them to the hospital services, they're not going to get anything. And if you ask the GP to refer, they won't get anything, terrible."*

5.5 Discussion

This study looked to investigate and provides insight into neurosurgery consultants' experiences of treating patients referred into their service with CLBP with / without leg pain, with a focus on the initial consultation. The consensus from the clinicians was that there were many challenges in dealing with this clinical population, in particular dealing with cases where there was no surgical target or an unrealistic expectation of what treatments and services they could provide.

The consultants felt their role at the initial consultation was to gather all the relevant clinical information and details unique to the patient's case in order for them to gain a greater understanding of that particular individual's problem. This would, in turn, help them inform the patient of what treatments were best available to them. This would be an approach that would fit within the model of PCC whereby individualised care was provided based upon the context of the patient's situation and their understanding of the treatment choices available to them (Lin et al., 2020).

Once this information has been gathered this could be reasoned through and used to discuss treatment options within a SDM process (Elwyn et al., 2000; Elwyn et al., 2012; Waddell et al., 2021). As discussed earlier in Chapter 1 SDM is best suited to situations where there is a clear need for a decision to be made (Elwyn et al., 2012) and for a the majority of patient participants in this study this was the case as they had high levels of ongoing disabling pain as noted on the screening questionnaires in chapter 3 and no treatment was rarely an option. Clinical guidelines recommend that SDM process should be undertaken for all spinal surgery consultations (Valentine et al., 2021). However, as identified in this study SDM comes with significant challenges when the identity of the consultant's role and the patients' expectations

are unrealistic to the service the consultant can provide. The realities of clinical practice highlight that the implementation of SDM requires further thought and discussion.

The identification of sub-groups within a CLBP has been considered crucial for providing stratified care (Kongsted et al., 2020; Sowden et al., 2018). This will ultimately mean patients are more likely to be provided with an appropriate and evidence-based treatment pathway. The consultants in this study felt strongly that their role was to identify patients that were a potential surgical target. They talked about two distinct sub-groups within the patient population; Group 1: Patients with ongoing CLBP and no leg pain and therefore not a surgical target. Group 2: Patients with CLBP and associated leg pain with a surgical target. Identifying patients within group 2 was strongly considered to be part of their role at the initial consultation but managing this group was not.

However, the consultants in the study had strong perceptions on their role in the initial consultation which was sometimes was at odds with what the patient expected from the first encounter, especially from a treatment perspective. They reported difficulties in meeting the patient's expectations, in particular, with those patients deemed not appropriate for surgery, where they felt the patient's expectations were often unrealistic. In these cases, consultants did not appear to be empowered to provide PCC as suggested they should be able to (Grover et al., 2022; NICE, 2016, 2021). This resulted in causing some misalignment and disconnect within the consultation, similar to, that illustrated in the interactional data in Chapter 3. Previous studies have shown for CLBP patients and those that undergo surgical intervention (Lehrich et al., 2021; Tabibian et al., 2017), the importance of meeting patient's expectations and the influence this has on outcomes and the patient experience.

The consensus across these data was that patients attended with a strong expectation that some provision of pain relief would be undertaken at the first appointment. The consultants

were sympathetic towards the patients in this regard, as many reported high levels of pain and disability (as seen in chapter 3 baseline data) and had often waited a long time for their appointment. However, this provision of pain relief was not an option within their practice or service provision.

In particular, the consultants felt many patients came with an expectation that injection therapy would be potentially offered by the consultant. As a result of this, most consultants spoke of needing to have a clearer identity of what the service provides in order to educate patients of this. Previous research by Braeuninger-Weimer et al. (2021) reported that orthopaedic clinicians treating patient with CLBP felt that better preparation of patients for the consultation in the form of triaging and explaining the surgeon's role could help align patient's expectations. It would appear to be the case in this study as well, however we have no research to show the effectiveness of this and whether it would address the realities of the consultation.

Consultants often described varied levels of patient understanding regarding their CLBP problem. They discussed some patients being well informed and having good insight into what treatment options were available to them and as a result made their experiences of treating them more positive. Conversely, they felt many were unfortunately poorly educated with regards to treatment options for CLBP with / without leg pain and specifically the potential benefit of surgery and the fact that it is not appropriate to be offered to all patients. They reported that many patients struggled to accept that surgery was not an option for their CLBP. As discussed in Chapter 4 it is believed that in a majority of cases many of these expectations often originate from other healthcare professionals (Lewis & O'Sullivan, 2018). This implies it may also be a requirement for referrers i.e. GPs, physiotherapists, and pain specialists to be better educated on the service provision, CLBP management and the skills surgeons have to manage non-surgical CLBP cases. As a result, there was a very strong

theme and sense of frustration amongst the consultants that a significantly large proportion of the patients referred into their clinics were inappropriately referred.

All but one consultant felt that within a neurosurgery consultation, when a physical cause / surgical target was not clearly identified, then their role within the patient's episode of care was clearly limited. The consultants consistently reported that they felt significant resources in terms of cost and time to both the patient and NHS were being lost due to these inappropriate referrals. They reported that there was an abundance of appropriate surgical candidates to fill their clinics without the need for non-surgical cases being referred. This current pathway of care would appear to be at odds with stratified care and providing patients with potentially matched treatment pathways (Sowden et al, 2018. Kongsted et al, 2020). They once again alluded to the fact there is a misconception of the role of surgery within the back pain population and some health care professionals. There was a strong consensus in these data that within this department that surgery does not help back pain.

Not only did consultants feel there was a misconception of the role surgery in back pain they also felt the identity of the consultant as a back pain specialist needed to be more clearly defined. Consultants expressed the opinion that referrers elevated patients' expectation and opinion of both them and the appointment / service provision but often being referred to as a back pain specialist rather than a surgeon. These expectations were clearly seen with the patient experience data in Chapter 4 with patients retrospectively feeling they should have seen a back pain specialist rather than a surgeon.

This volume of deemed inappropriate referrals led to all consultants describing a need for a change in the pathway of care for these patients. There was a strong sense of the consultant being the "end of the road" or "top of the pyramid" in an almost hierarchical system wrongly synonymous with the analgesic ladder (Anekar et al., 2023). There was very strong

agreement that these patients need to be triaged by other allied health professionals (mainly physiotherapists) and that patients need to once again be matched to an appropriate treatment pathway, as suggested by CLBP guidelines (NICE, 2016). The consultants felt that this was not the role of General Practitioners, but an MSK hub or MDT approach would be the most appropriate. There was awareness, amongst most consultants, of other NHS trusts having this approach fully implemented for back pain and other complex long-term conditions. The general consensus was, that this approach would take significant resources and co-ordination between departments. However, it would provide a much better standard of care for the patient, prevent patients from going through a vicious cycle of disappointment due to inappropriate referrals and unhelpful clinical encounters as seen in chapter 3. There was also a feeling this would be much more efficient from a health economics perspective, but further research is required (Bornhöft et al., 2019; Murphy et al., 2022)

Previous research by Braeuninger-Weimer et al. (2021), has shown the challenges orthopaedic surgeons faced when dealing with consultations involving non-surgical CLBP cases such as terminology and ways to explain pain particularly in the absence of imaging findings, and managing patient expectations. This was also the experience of the neurosurgeons in this study. In particular, explaining a cause of the pain in the non-surgical cases was described as particularly troublesome. There was clear evidence from an interactional and patient experience perspective, in chapters 3 and 4, that in surgical cases whereby specific pathology was present, the use of anatomical models and MRI scan findings were strong aids to providing a pain cause explanation that was efficient, effective and well received. However, we know that specific pathology only accounts for between 8-12% of CLBP and quite often there is no clear pathological-anatomical cause (Hartvigsen et al., 2018). This has created a clinical vacuum for the consultants in terms of their offer of an explanation. Consultants described having to spend additional time within the busy clinics

trying to explain a cause of the pain in non-surgical cases. The use of metaphors and analogies around moving parts, wear and tear were often being used in conjunction with the MRI findings. This language or diagnostic label may potentially be harmful to the longer term trajectory of the patients outcome (Alhowimel, 2019) and elicit a representation that the CLBP is incurable (Bunzli et al., 2017).

Consultants felt their symptom explanations as seen in Chapter 3 were often given directly prior to treatment suggestions and these non-surgical explanations and treatment offers were often poorly received by patients especially when self-management strategies were suggested. There was a strong awareness amongst the consultants that many of these patients would leave the consultation frustrated and upset about what they had been told.

The consensus of the consultants' experiences of providing treatment options was mixed. When offering patients surgery with a clear surgical target it was considered a very positive experience with little complaint or comment. There was also a strong feeling of good experiences when justifying when and why surgery was not indicated. However, consultants described difficulties in offering treatments not provided by themselves. They all described not being experts in the conservative management / treatment of CLBP. They talked about their lack of knowledge / expertise in treatments provided outside their training and scope of practice. They described many struggles in recommending these treatments to patients, especially when patients interpreted these treatments as having little to no hope of improvement for them going forwards as seen in the Chapter 4 data.

There was a strong expression from the consultants that from an interactional perspective that had to work very hard with the non-surgical group to create a therapeutic alliance (as seen in chapter 3 data). They described the need and desire to validate a patient's pain and symptoms, to be apologetic and effectively downgrade their level of expertise and the

efficacy of surgery in this clinical scenario in order to avoid discord within the consultation. On detecting patients were unhappy with the non-offer of surgical intervention, consultants described using strategies such as the offer of a second opinion, commonly, a referral to pain clinic and spending significant amounts of time attempting to make sure the patient did not leave the appointment too despondent or unhappy.

Consultants described that they were generally uncertain of what happened to the non-surgical group in terms of longer-term trajectory. They were aware from their own practice patients would be sent for second opinions, effectively starting the cycle of referrals again as described above. They hoped some patients would be manged in the community and self-management strategies would be embraced. However, there was a general sense that many cases would continue on a vicious cycle of seeking a cure or undertaking a treatment that was not necessarily evidence based.

5.6 Study Limitations and Weaknesses

This study has several limitations. The interviews and primary analysis were undertaken by the same principal researcher (RP). All the neurosurgeons in the study were aware of the principal researcher's professional background (physiotherapist), which may have influenced their responses. The study was undertaken in a Neurosurgery Service within a secondary care NHS trust and is unlikely to represent other healthcare settings. All participants within the study were male, leading to potential male provider bias. However, this probably represents the gender distribution of the neurosurgical profession within the UK.

5.7 Conclusion

This study has led to a better understanding of the experiences of neurosurgeons treating CLBP patients at the initial consultation. The findings suggest that there is a need to clearly define the role and identity of a neurosurgeon to patients and referrers of the service, especially when referred or referring for non-surgical cases of CLBP. Referral pathways may need to be reviewed, as it would appear, sub-optimal pathways are in place creating unnecessary negative experiences for patients and consultants alike. Alternatively, consultants would need to be trained to deal with non-surgical cases more effectively in order to improve both theirs and patients' experiences.

Chapter 6: Discussion

This chapter will summarise and consider the findings of the three different aspects to this PhD thesis i) the clinical encounter ii) the patient's experience and iii) the consultant's experiences of managing CLBP. How the findings from these three studies relate to one another (method triangulation), and to the wider current scientific literature, will be discussed. This project makes a novel contribution to the research field since it examines CLBP consultations from these three different perspectives. Furthermore, the fact that the participants in the experience studies were the same as those in the observational (CA) study is unique. The findings of the project provide insight into how patient education, clinician training and referral pathways could be improved to provide more optimal patient care. The chapter will also consider the limitations of the study, dissemination of the study findings and potential future research directions.

6.1 Summary of key findings

- The observational study (Chapter 3) explored how consultants and patients interacted at the initial consultation for CLBP. This study demonstrated clear differences in the consultant-patient interactions when patients presented with high levels of pain and disability, dependent on whether they were a surgical or non-surgical case. Interactional challenges were apparent in the non-surgical cases despite consultants' best efforts to mitigate them, whereas in cases where surgery was appropriate appointments were less troublesome and more straightforward.

- The qualitative patient experience study (Chapter 4) demonstrated clear differences in the patient experience dependent on whether they were a surgical or non-surgical case. Patients who were surgical candidates reported feeling understood, hopeful, had

an enhanced understanding of their problem and left with the perception of a good relationship with the consultant. Conversely, patients who become non-surgical cases left feeling misunderstood, expressed a loss of hope and perceived a poor relationship with their consultant.

- Chapter 5 examined the experiences of consultant neurosurgeons managing CLBP. This study revealed that consultants clearly recognised the challenges and problems in consulting non-surgical cases of CLBP within their clinical setting. They did not feel that they had had the necessary training to deal with this group. They also felt that they were only equipped to provide a surgical solution for back pain that had a clear pathoanatomical cause for the pain and that some non-surgical cases were inappropriately referred to their service.

6.2 Explaining the patient's symptoms: a conversation analytical approach

Chapter 3 demonstrated the challenges faced by consultants when explaining the patient's symptoms when there was an absence of a definite biomedical cause. These data indicated that surgeons were confident in deciding who was a potential candidate for surgery and who was not. This was based upon their history taking, physical examination and their assessment of imaging findings of the patient. However, consultants found it challenging when they were presented with cases that did not fit within the traditional biomedical model i.e. there was no identifiable structural cause to explain the presenting symptoms on the patients MRI scan and therefore no clear surgical target. Of note the findings indicated that consultants acknowledged the BPS model of care, illustrated through their attempts to explain the patients' symptoms by referring to multidimensional factors such as psychology of pain,

trauma as a cause of pain, central sensitisation, muscle guarding, and fear of pain, but it became clear that they were not confident in delivery of such information.

Despite clear guidelines and research advocating a broader BPS approach for surgical intervention due to dissatisfaction with the biomedical model (Katon & Kleinman, 1980; Wade & Halligan, 2017) the findings within this thesis indicate that the BPS approach has not been fully implemented in this area of clinical practice. This is consistent with findings in other studies in surgery and acute medicine (Nadir et al., 2018; Wade & Halligan, 2017; Zale et al., 2018). In Chapter 3, we see examples that show that the consultants are very comfortable and competent in explaining a patient's symptoms within this single cause (biomedical) approach with the aid of the MRI, i.e. *"The disc is pressing on that nerve causing your leg pain"* (Extract 1). These utterances were free of hesitation i.e. there was an absence of long pauses, word repeats, self-person repairs and little resistance shown by patients following these explanations.

However, there is evidence, between 80-90% of all CLBP develops from the interaction of biologic, psychological and social factors (Chiarotto & Koes, 2022). Therefore, many patients are referred to consultant surgeons experiencing symptoms that cannot be attributed to the scan findings (non-surgical group). Subsequently, the consultants are faced with the problem of explaining the cause of the patient's symptoms to them in the absence of correlating imagery on the MRI, a strategy they commonly use.

Chapter 3 identifies and explores some of the interactional difficulties in the consultations with this non-surgical group of patients who require an explanation of their symptoms in contrast to the less troublesome explanation given to the surgical group. Consultants make attempts to try to prevent this interactional trouble by explaining the symptoms though the formulation of relatively long accounts. These long accounts are formulated with reference

to causes of the symptoms from a multi-dimensional perspective, for example in this study, as mentioned above, consultants attempt to explain pain due to "psychological reasons, trauma, muscle guarding". These actions show that the consultants recognise and acknowledge that symptoms can occur from a non-biomedical perspective and support a shift towards a BPS approach, as described in orthopaedic surgeons by Dismore et al. (2022).

A BPS model of care has been shown to be a better model for this group of patients in order to both provide an explanation of the cause of their symptoms and inform appropriate management (Kent et al., 2023; Wade & Halligan, 2017). However, the findings from this study suggest that consultants are not yet equipped or ready to deliver this approach and highlights the importance of having the communication skills required to do so. When attempting to formulate and deliver the explanation with respect to a BPS perspective, the consultation data shows hesitations, word repeats and long pauses indicating a lack of confidence in managing the interaction. On these occasions patients responded with weak acknowledgements of the explanation and sometimes explicit resistance to it.

This observational study showed that despite consultants' significant interactional work as described in Chapter 3 these non-surgical consultations resulted in significant interactional trouble. It has been suggested that in an orthopaedic setting, the reasons for not fully implementing a successful BPS approach include a lack of effective communication skills and it is suggested that surgeons feel uncomfortable attempting to have such discussions (Ng et al., 2021; Vranceanu et al., 2017; Zale et al., 2018). The findings of this study and the consultants' reflections in chapter 5 would echo the existing research indicating that the lack of communication skills resulted in the uncomfortable interactional trouble observed in these consultations. Until recently surgeons had not formally been taught appropriate communication skills (Astin et al., 2008; Smith et al., 2013; Vranceanu et al., 2017). With consultants in the study all being qualified for a minimum of 22 years (mean 31.5) it is likely

they would not have had any significant early career formal communication training around the BPS model i.e. managing patient expectations, and reconceptualising pain. The results of this study reinforce this speculation.

Communication is a key component of PCC and a requisite for a BPS model of care (Smith et al., 2013) which would suggest that formal training would be beneficial if we are to improve the consultant-patient interactions, as seen in the non-surgical cases in this study. Despite the consultations in surgical cases having minimal interactional trouble, this does not mean that future issues e.g. dissatisfaction with surgical outcome may occur subsequently through the poor implementation of a BPS model. The importance of exploring multifactorial contributors to LBP in its management is recognised (Lall & Restrepo, 2017). Research has suggested that not recognising psychosocial factors as drivers of pain pre-surgery, can lead to poor outcomes in relation to post lumbar spine surgery (Ayers et al., 2013; Berk, 2010; Dismore et al., 2022; Lall & Restrepo, 2017; Zale et al., 2018). This area requires further exploration but is beyond the scope of this study.

One solution going forward would be to encourage consultants to undertake formal training specifically in pain sciences such as “explain pain”, particularly when there is no biomedical explanation (Moseley & Butler, 2015). The “explain pain” educational programme has been designed to provide health care professionals with the tools to shift patient conceptualization of pain from tissue damage or pathology to that of the body’s perceived need to protect itself. This model is a pragmatic application of the BPS model (Moseley & Butler, 2015). Alternatively, Conversational Analytic Role-play Method (CARM) as pioneered by Stokoe (2014) is a training approach based upon CA analytic evidence about the problems and roadblocks that can occur in institutional interaction as presented in this study. Whilst traditional training will often rely on role play, this approach uses audio or video recordings of real time encounters to discuss and evaluate, and to inform future effective communication

practice and policies (Stokoe, 2014). The approach will use extracts such as those in this study and pause them at relevant moments in time to allow discussion and evaluation in slow motion, around actual talk as it occurs within the selected setting. CARM training has been shown to improve communication in various healthcare settings and also help inform and improve existing training methods (Pilnick et al., 2023).

6.3 Patient experiences: two sides of the coin

Chapter 4 illustrated that a patient's experience of their consultation (either positive or negative) were linked to their clinical presentation and correlating imagery e.g. MRI scan. Patients who presented with high levels of pain and disability (as identified on the questionnaire data), who also presented with a surgical target for their pain on their MRI scan, were offered a surgical treatment option and described positive experience from the consultation. In contrast, patients with high levels of pain and disability who had no identifiable cause for their symptoms on MRI, and thus no target for surgical intervention, were not offered a surgical treatment option and consequently had a negative experience during their consultation. Therefore, two dominant subgroups, those with high levels of pain and disability and a surgery target on MRI and those with high levels of pain and disability and no clear surgical target on MRI were apparent in these data. When examining the experiences of these two subgroups and relating them to the commonly reported components of PCC (Grover et al., 2022) as described in Chapter 1, it becomes apparent how these components were linked to the patient experience.

Patients who had positive experiences (predominantly surgical cases) reported multiple aspects of their experience that was indicative of a consultation delivered with using a PCC approach (Grover et al., 2022). They described being treated as an individual, that the consultant was attentive to their personal circumstances, and that the consultant was expertly

trained to deal with their problem. They left the appointments feeling respected by the consultants and optimistic of positive future outcome. The communication style experienced was well received due to the fact patients left with a clear understanding of their problem. The use of the MRI as a tool to describe their problem was seen as positive in that it provided an individualised explanation of their condition using images of their spine that they could relate to. Interestingly, since their problem could be explained using a predominately biomedically oriented model, psych-social factors were not discussed or considered. Thus, the current healthcare system appears well suited to see this particular subgroup of CLBP patients. These findings suggest at this stage of the patients' care journey the provision of PCC in this clinical scenario appears more simplistic than in the non-surgical cases. These clinical scenarios (surgical cases) remain very much in the consultant's domain of expertise and although the patients reported a positive experience it could be argued clear shared decision making (SDM) was not adhered to in so far as both parties did not appear to make equitable contributions (Waddell et al., 2023). Whilst this provides a positive patient experience at this stage of their care journey there is potential for this approach to unfold if post-surgical outcomes and expectations are not met (Dismore et al., 2022; Zale et al., 2018).

Patients who had negative experiences were predominantly non-surgical cases with high levels of pain and disability, and their reports were less reflective of a PCC approach. Patient 8 described their experience as the consultant "*not wanting to get to know them"*, and not treating them as an individual, which left them feeling a loss of hope and a loss of empowerment to help themselves going forwards. Consequently, patients questioned the expertise of their consultant in dealing with their problem and pointed out the healthcare system may be failing to provide them with the appropriate care that they need. The use of the MRI as a communicative tool was less helpful in this group, with patients leaving with doubt or confusion since the MRI did not show any clear related pathology to their

symptoms. Despite the fact these patients did not have a clear biomedical driver to their symptoms, the patients experience was that consultants were reluctant to explore any psychosocial factors "*That they're not prepared to actually listen to, to what you're really going through"* Patient 8 and "*But he didn't ask me how I was feeling"* Patient 7.

These findings build on the work of Braeuninger-Weimer et al. (2019) that looked at the experiences of 30 patients with back pain in an orthopaedic setting who were discharged with no treatment. In their study they reported that patients who did not require surgery needed the following in order to have a positive experience, i) a good explanation ii) a clear management plan, iii) a perception that the consultant had gathered sufficient information about the patient's background and lifestyle, iv) that the consultant showed good expertise and experience in dealing with their presentation and v) that they left reassured. These features of what constitutes a positive / negative experience is strengthened further by Allvin et al. (2019) who reported the experiences of CLBP patients as feeling the need to be seen and understood as individuals, listened to and empowered. These findings from the literature as well as this study, once again highlight the need for a BPS model of care underpinned by PCC in these non-surgical cases of CLBP. In other areas of healthcare such as sexual health services (Howarth et al., 2017) inpatient nursing (Edvardsson et al., 2017) oncology (Browall et al., 2013),and diabetes (Naithani et al., 2006) patients' experiences in these studies were enhanced when a BPS framework to treatment was in place and underpinned by a PCC approach.

6.4 Consultant experiences: challenges of managing non-surgical cases

Chapter 5 examined the consultants' experiences of managing patients with CLBP and provided insight into i) the way they viewed their role, ii) the challenges they faced when

treating non-surgical patients, especially meeting patient expectations and iii) problems they reported within the referral pathway.

During the consultation, consultants took time to initially get to know the patients, their individual story and how the patient's problem was impacting their life. This fits with the patient individuality component of PCC (Grover et al., 2022). This is important, as described earlier, surgical outcomes are increasingly being linked to psychosocial factors and maybe relevant to whether someone is offered surgery or not (Dismore et al., 2022), and these findings suggest that the consultants in this study are cognisant of this connection. During the research, they also described their role as educating the patients around their problem which theoretically would empower the patient moving forwards, another component of PCC (Grover et al., 2022). Consultants also felt that identifying surgical and non-surgical cases was part of their role and they had strong beliefs that they had the skills required to identify who was, and was not, an appropriate candidate for surgery.

Secondly, the consultants in this study expressed their perception that many patients' expectations of what they as consultants could offer was unrealistic. Whilst they acknowledged that patients presented with significant pain and disability, they perceived patients wanted either a provision of instant pain relief or a fix / cure for their problem. The consultants were also clear that in the non-surgical cases they could not provide this because as surgeons they require a biomedical reason to intervene. These experiences were similar to those reported in Braeuninger-Weimer et al. (2021) who studied the experiences of 24 clinicians in an Orthopaedic service treating CLBP and also found clinicians experiences of dealing with patient expectations to be particularly challenging in patients with a similar clinical presentation i.e. non-surgical cases. The consultants in the current study reported that through the repeated experience of not meeting patients' expectations they had a strong sense that the healthcare system, another component of PCC (Grover et al., 2022) was failing

the patients. The consultants expressed a need to better define the role of the surgeon, in the fact that patients were seeing a spinal surgeon, to provide a surgical perspective to the patient's problem, not necessarily a spinal or chronic pain specialist. They also expressed a need for the role of the clinics treatment provision to be defined i.e. what treatments were on offer, and stated this could be achieved by educating referrers of what the service could and could not provide. Again, this echoes the findings of Braeuninger-Weimer et al. (2021) who reported the surgeons in their study felt a need for better triage by GPs and referring health care professionals to exclude non-surgery cases.

Lastly, the consultants in this study reported that because of the failings of the system to provide appropriate referrals, they were often faced with the challenging scenario of CLBP patients with high levels of pain and disability that they knew were not surgical candidates from their scan findings. These experiences matched those of Dismore et al. (2022) who interviewed 14 orthopaedic surgeons whose experiences posed similar challenges to those experienced by the neurosurgery consultants in this study. The two main challenges reported in both the literature (Braeuninger-Weimer et al., 2021; Clark & Hudak, 2011; Dismore et al., 2022) and in this study was the need to provide an explanation of the patients' symptoms that the patient found acceptable and to make an appropriate treatment recommendation despite this not being treatment that they as surgeons provided. Consultants described the difficulties of attempting to explain the patient's symptoms within a medical model, they also talked about not being able to implement a BPS approach due to the fact they did not feel prepared or trained to do so. In some instances, they found themselves recommending treatment options that they did not fully understand, and as a result fell short of providing a PCC approach. Their repeated experiences of this had led them to recognise patient dissatisfaction, as observed in Chapter 3 and described in Chapter 4, and despite their best efforts to prevent this, as seen in Chapter 3, they were aware some patients who left the appointments

disappointed and emotionally distressed. Their belief was that patients' that go through this experience would have poor long-term outcomes and probably end up on a cycle of repeated visits to various healthcare practitioners. They reported this current model of care for these patients drives this cycle and is an example of the healthcare system increasing the burden rather than reducing it for CLBP as described in the literature (Buchbinder et al., 2018; Foster et al., 2018; Hartvigsen et al., 2018).

6.5 Triangulation of data

Triangulation can be used in qualitative research by combining methods used in a research study which can help to ensure that biases from a single method or single observation are overcome (Denzin, 2017; Noble & Heale, 2019). Triangulation can also enrich the research as the different datasets and research approaches can be used to explain the same phenomenon (Fusch et al., 2018; Noble & Heale, 2019) which in this project is "Consultations for CLBP". When triangulating the data for the three different datasets collected in this project, a greater depth to the understanding of these consultations is found and this triangulation provides more confidence in the findings.

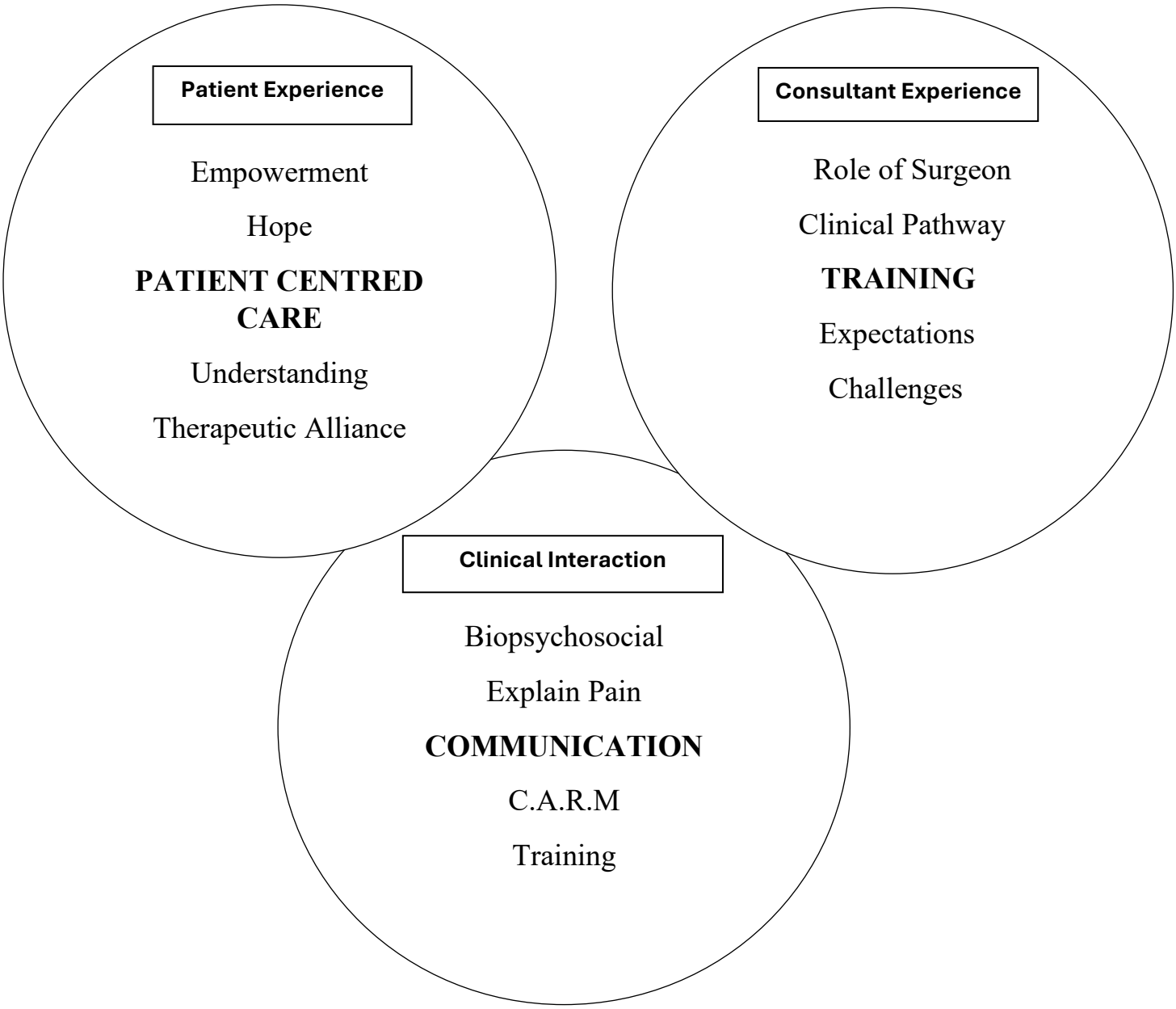
When examining consultations of CLBP patients who were surgical cases from an observational, patient experience or consultant experience perspectives, the following findings were apparent and reinforced across the three studies i) consultations were less troublesome from findings in all studies, ii) the consultation followed a more traditional bio-medical model and iii) some aspects of PCC were observed and reported but SDM was not undertaken.

When examining consultations of CLBP patients who were non-surgical cases from an observational, patient experience and consultant experience perspectives, the following findings were apparent and reinforced across the three studies i) consultations were

troublesome in comparison to surgical cases ii) the consultation followed a traditional bio-medical approach iii) aspects of PCC underpinned by BPS model of care were attempted but did not provide optimal care in these cases.

The following figure highlights the key features of the three areas this thesis examined, clinical interaction, patient experiences and consultant experiences.

Figure 3 Key features of the three areas studied.



6.6 Original contributions of this thesis

The findings in this thesis suggest that CLBP and radicular pain pathways require improvements as they are currently providing sub-optimal care for CLBP patients. The findings of this study provide evidence to reinforce the recommendations of the National Low Back and Radicular Pain Pathway (Greenough, 2017) which have advocated that to improve patient care in this area the following is required i) surgeons need to be retrained in their approaches to CLBP and their knowledge of treatments for CLBP, ii) patient literature needs to be clearer on what to expect from consultations and the spinal surgeon and iii) the need for specialist triage services or referrer education to manage patients to appropriate treatments and investigations.

6.6.1 Policy Implications and service design

This study provides significant insight into how the design of this particular service is creating many problems for patients and surgeons. Many of the patients in this project did not present with symptoms or signs that indicated that they were surgical candidates yet were seen by a surgical specialist creating an expectation of a surgical solution. The objectives of the National Low Back and Radicular Pain Pathway, (Greenough, 2017) were to i) identify serious red flag pathology ii) fast track treatable specific pathology and iii) provide effective and expeditious treatment of non-specific CLBP. This research highlight that the patients referred into this service are treated as a homogeneous group and that many of these patients would have benefitted from seeing a specialist triage practitioner (see below). Whilst there were no red flags patients present in this study we saw both specific and non-specific cases of CLBP being referred and managed in this secondary care setting. The interactional problems that resulted from this were reported by both patients and consultants alike and there was a consensus that many of these non-surgery patients could have been managed more effectively

in a way that would improve the patient experience, the consultation effectiveness and efficiency and potentially the outcomes of management.

The advocation of a specialist triage practitioner was made in the National Low Back and Radicular Pain Pathway (Greenough, 2017), and suggested that this specialist clinician should be trained to provide an assessment and management of CLBP patient from an BSP perspective whilst providing the patient with continuity throughout their episode of care. The skill set described for this practitioner would include traditional bio-medical skills such as ability to perform objective examination, order and interpret imaging but to also have an understanding of, and be able to employ CBT principles, within a psychosocial assessment. In order to undertake this, they must be highly skilled with training around shared decision making, communication and expectation management.

The research reveals that this current service provision falls short of meeting the National back pain pathway (Greenough, 2017) recommendations and this is highlighted in the interactional challenges seen (Chapter 3) and described from both the patients' and consultants' experiences (Chapters 4 and 5). In particular, this research contributes to enhancing our understanding of the experiences of patients and clinicians when non-surgical cases of CLBP are referred in for a surgical consultation. Furthermore, the need for specialist triage practitioners in this service pathway and / or additional communication training for consultants is exposed and discussed in more detail below.

6.6.2 Implications for Practice

For patients who receive sub-optimal care (non-surgical cases with high levels of disability and pain), they leave a consultation without a credible explanation for their pain and a direction of management that generates a belief that they are in a worse position than before their consultation, resulting in their on-going pursuit of a solution or explanation for their

pain. This is an example of current healthcare systems increasing the burden of CLBP rather than decreasing it as described in chapter 1 (Buchbinder et al., 2018; Foster et al., 2018; Hartvigsen et al., 2018). If we are to reduce the burden of CLBP we need to re-think our care delivery approach. This research highlights the need for practice change, and this could be undertaken in a variety of ways. In particular, for these non-surgical cases options may include the use of specialist triage practitioners or the creation of specialist MDT services to manage non-specific CLBP. This may be more appropriate than seeing a surgeon who is exclusively trained to operate which is only relevant for a small subgroup of CLBP patients.

Alternatively, as described in section 6.2 the surgeons could undergo training using a method known as CARM. This method differs from traditional communication training that often involves "simulated" interactions to create hypothetical scenarios. As a result debate remains whether this provides "real world authentic simulation" Stokoe (2014). This research could be used to present to stakeholders as evidence on the value of training clinicians with real world data and in some cases train clinicians using their own data. This would follow as five step process as described by Stokoe (2011) once audio recordings of consultations have been obtained. The five-step process that could be presented is as follows. i) Identify a data extract or series of extracts in which a particular interaction occurs i.e. explaining pain as seen in this service. ii) The data is transcribed according to CA conventions. iii) The transcript is presented line by line in synchrony with the audio file so training clinicians can "live through" the interaction as it happens. iv) Having listened / observed several lines or a turn of talk clinicians then discuss possible troubles, perturbations in the interaction so far and begin to discuss and formulate the next turns. v) The next turn of conversation is then played, and participants discuss it as a possible solution to the trouble displayed or reflect on what could be done differently.

Looking at the communication challenges seen within this study this alternative approach to training communication is recommended to help enhance clinical practice and improve the management of CLBP, however the logistics and time implication for a service already under strain could be problematic.

6.6.3 Understanding of PCC

This study provides insight into increasing our understanding of PCC within this clinical settling and what elements of PCC (as described chapter 1) were achieved and implemented. It also informs of us of the challenges of providing PCC within the different subgroups of CLBP and the ongoing complexity of applying PCC within CLBP population.

In all cases in this clinical setting the clinicians treated the patients as an individual by taking time to take a history of the individuals' problem at the start of the consultation (phase 1) and this was undertaken in a respectful manner. However, this early phase of the consultation was clinician led and the questions where targeted around obtaining information related to a traditional medical model approach and consultants rarely asked questions within a BSP framework as evidenced in the non-surgical patient experience data. As a result, elements of PCC such as empathy and empowerment did not appear to be applied in these cases. In the patients offered surgery the absence of these PCC elements did not appear to be problematic as the hope they had obtained from the offer of surgery appeared to be sufficient to provide a positive experience.

With regards to the PPC element of SDM the model described in chapter 1 by Elwyn et al. (2012) was undertaken by consultants following the i) choice talk, ii) option talk and iii) decision talk process in the surgical group. They would list the treatment options available with a justification for the treatment offered and likelihood of success. This frequently centred on the MRI findings and empowered the patient to make the final decision. This was

well received and reported as a positive process by both consultant and patient. However, when attempting to apply this model to a non-surgical group the absence of a surgical target, no clear explanation of pain, minimal exploration of BSP factors and lack understanding of alternative treatment options the process in the decision talk phase was often a negative one as seen in both the experience and interactional data.

This research therefore contributes to our understanding of the challenges faced when trying to apply PCC to sub-groups of CLBP patients. Consultations that culminate in consultants being faced with patients and having to offer them treatments beyond their scope of practice and area of expertise will result in many elements of PCC not being undertaken. This research shows the need for healthcare system change for CLBP patients, particularly in providing communication training and sign-posting for existing service providers or service redesign to allow for more elements of PCC to be provided.

6.7 Limitations

6.7.1 Sampling

Eight consultant neurosurgeons were purposively sampled for this project, unfortunately two left the healthcare trust participating in the study due to the Covid 19 pandemic and interruption of studies due to the principal researcher RP being unwell. Therefore, six remained and completed the entire study. Although six is a small number it represented all but one consultant that worked within the healthcare trust from this department that managed CLBP post the pandemic / interruption of the studies. This data size reflected the challenges of recruiting and retaining consultant neurosurgeons over a prolonged period of time (6-7 years). All the consultants were from a single health trust, and we should be cautious about generalising findings.

Twenty-six patient participants were purposively sampled for the project, and all completed both the observation (CA study) and subsequent interview (patient experience study). Whilst a reasonable sample size caution must again be given to the generalisability of the findings. All patients that participated were from the local East London area and implies representation of that urban population. Also due to the fact they agreed to participate in the study suggests that they are more actively involved in their own healthcare journey and may not represent all patients that attend a consultation for CLBP.

6.7.2 Observational data generalisability

As a method CA studies are typically based on relatively small data samples. The reason for this is because the focus of this methodology is on identifying or establishing detailed aspects of communication behaviour in single instances of interaction. Any identified aspects of communication behaviour can then be examined across the sample to see if they are repeated in an exact or similar form. In this way it is possible to start to build patterns and make claims about the observed communication practices in a way that may be generalisable. For example, following the diagnostic announcement, patients typically provide minimal responses. This claim holds true in this study and in other previous CA studies (Clark & Hudak, 2011; Peräkylä, 2006). The findings from this study, however, may not be generalisable in the sense that they are not representative of all neurosurgical consultants communication behaviours, Nevertheless, they certainly add value and build on previous studies on the medical encounter around explaining patients symptoms and treatment recommendations (Clark and Hudak (2011), Heritage et al. (2010), Stivers and Timmermans (2020).

6.7.3 Recording and analysing live interaction

Chapter 3 attempted to gather and observe "naturally occurring behaviour" exactly how it occurs in neurosurgery consultations. However, in the presence of an audio recorder and the principal researcher RP, it is acknowledged that when being recorded and observed, participants (patient and consultant) may change their behaviour (Parry et al., 2016).

As described in the methods section of Chapter 3, audio recording was chosen instead of video recordings due to the practicality of collecting the data. This may have meant that some non-verbal communication behaviour such as hand gestures, shaking the head, eye rolling, findings that may have influenced the analysis was not available to be examined.

6.7.4 Public and Patient Involvement (PPI)

6.7.4.1 What is PPI?

The NIHR (2024) and HRA (2019) define public PPI as research being carried out "with" or "by" members of the public, rather than "to", "about" or "for" them. This differs from public engagement and participation as described below. However, the three do complement each other and are described below.

Engagement is where information and knowledge regarding the research is disseminated through means such as research open days at the start of the study, media channels to increase awareness of the study and dissemination through participants, colleagues and members of the public on completion of the study. Participation is when people take part in the research as actual "research participants". PPI, though greater detail is beyond the scope of this thesis, is described by the HRA (2019) and underpinned by four principles for meaningful PPI and are described as follows;

- Principle 1: Involve the right people. People that have relevant lived experience of the health condition or situation being researched.
- Principle 2: Involve enough people. This provides enough depth and breadth of people's views that maybe important to the study.
- Principle 3: Involve those people enough. The more aspects of the study they are involved in the more useful information can be obtained from them.
- Principle 4: Describe how it helps (see 6.7.4.2)

When using the term PPI the HRA (2019) includes patients, potential patients, carers, service users and representative groups who use health and social care services.

6.7.4.2 Why is PPI important? (NIHR, 2024)

PPI is important for a variety of reasons. Firstly, people who are affected by research have a right to have a say in it (democratic principles). As a result, PPI is an intrinsic part of citizenship, transparency, public accountability and can also empower users of healthcare to influence the research that is relevant to them. Secondly, members of the public may be able to provide a different perspective. They may have personal knowledge gained from experiences relevant to the research topics, provide a more societal perspective or bring experience of being part of a specific group or community. Thirdly, involving members of the public can improve the quality of the research but helping focus the study outcomes to those that are important to the public, identify needs of specific communities, help design and improve recruitment and retention. Lastly, it can make the research more relevant by identifying research topics / questions that may not have been identified by research professionals and help ensure research is focused on what matters to people.

6.7.4.3 How can PPI be undertaken?

Members of the public can get involved in research through many means such as becoming members of an advisory or steering group, undertaking interviews with research participants, advising and developing patient information leaflets, become co-applicants on a research project or carry out the research themselves.

6.7.4.4 When might PPI have been included in this study?

In this study PPI might have been included at the onset of the study in the form of two steering groups, one consisting of patients that had already attended a neurosurgical consultation for CLBP and the second consisting of neurosurgical consultants that were currently or had previously treated patients with CLBP. The aims of the steering groups (patients and consultants) would have been to gather any perspectives that may have differed from those of the research team. Firstly, this may have helped develop the semi structured interview questions and also identify any specific communities that may have had additional needs i.e. people for whom their first language is not English. These steering groups could also become involved in the data analysis and interpretation of the findings and the recommendations. Given the limited location and scope of this study PPI was not included in this work but will be a key component of work building upon the contents of this thesis.

6.7.4.5 Participant protected characteristics (relevance and importance)

Protected characteristics are personal characteristics that are protected from discrimination under the Equality-Act (2010) and fall into nine categories as listed i) Age, ii) Disability, iii) Gender reassignment, iv) Marriage or civil partnership, v) Pregnancy and maternity, vi) Race, including colour, nationality and ethnic origin vii) Religion or belief, viii) Sex and ix) Sexual orientation. In order to make research reflective of the population that health care

professionals manage it is important to include participants within research that have these protected characteristics.

This research attempted to reflect the population that the consultants serve but due to this being a study of communication using CA and interviews data the inclusion criteria was that participants were able to fully speak and understand the English language. As a result, this meant that any consultations conducted through an interpreter were excluded from the study. This will impact on the interpretation of the study findings but also highlights issues that required attention in study design, in this case the impact of CA as a research approach on inclusivity of participants and ensuring their voice is not ignored in future research.

6.8 Future work

This research has opened the door to many future potential studies that would seek to understand and improve the delivery of PCC in a CLBP setting. It is important to verify the findings of these studies by repeating them with a larger sample size, across multiple organisations, using video analysis if viable. This would establish if similar interactions and consultant and patient experiences occurred thereby consolidating the current body of evidence (Braeuninger-Weimer et al., 2021; Braun & Clarke, 2022; Dismore et al., 2022; Peräkylä, 2011) which would provide a stronger driver to change care provision for CLBP.

Potential further studies could establish the impact of patient information and education prior to the consultation. This information could define the consultants' role in the encounter, their area of expertise and what to expect from the consultation to clarify and outline what the patient can expect from the consultation. Similar methods to those employed in this study could be used to evaluate the impact of this intervention on both the patients' and consultants' experiences and the interactions between them.

Additional to this would be for consultants to undergo formal training in a BSP model of care and PCC (Kent et al., 2023), pain education such as explain pain (Moseley & Butler, 2015) or communication skills training using a method such as CARM (Stokoe, 2014) as described above section 6.2. Data could then be collected pre and post training to see whether the upskilling of consultants had any impact on patient and consultant experiences and the actual interaction between them. However, since their primary care intervention (surgery) is based on a biomedical model this may be hard to implement unless future work also demonstrated the benefits of BSP model on surgical outcomes as well as consultation experiences.

Furthermore, studies looking at the clinical pathway for CLBP patients could be explored. These studies could look at referral sources via an audit trail looking at patient selection, patient referrals to different allied health professionals, pain specialists and surgeons. The surgeons in this study voiced concerns about the referral pathways i.e. that they needed to be referred the right patients for a surgical consultation. This would suggest a need for a more effective pre-referral triage. Audits of practice could explore overall conversion rates to surgery as well as individual conversion rates from different referral sources and potentially examine cost implications and its effectiveness to providing a more cost-efficient service.

6.9 Dissemination

The early findings of this thesis were presented at a meeting for the Society of Back Pain Research in November 2016. This is a multidiscipline special interest group that consists of various healthcare professions with a particular interest in back pain research.

Additionally, the completed findings from this thesis are planned to be disseminated through the publishing of at least three papers in peer reviewed journals such as *The Journal of Health and Social Behaviour* or *Patient Education and Counselling.* Initially a paper from each of

the following chapters, chapter three (CA of CLBP encounters), chapter four (patient experiences) and chapter five (consultant experience) will be produced.

6.10 Authors personal reflection

When I enrolled on the PhD programme in September 2013, I did not envisage finishing my thesis write up in February 2024. At no point in time did I expect to face the challenges that have been thrown my way personally and professionally over this time period. The challenges of a part time PhD were clear in the first couple of years working in clinical practice one day and then in a research setting the next. Developing research skills, in particular, for the use of CA at Loughborough University, were invaluable to me being able to analyse and understand the observational data I was unfamiliar with at the start of this process.

However, the loss of NHS funding, being unwell and the Covid 19 pandemic were unforeseen problems that just made the challenge greater. There was a period of time when it was uncertain if I would be able to finish the process but thankfully, I have been able to do so. During this time the support and understanding from supervisors, colleagues, friends and family has been amazing and I will be forever grateful.

The overall experience has not only changed me professionally but also personally. On an academic level my understanding of qualitative research, communication practices and how to get an ethics amendment has improved exponentially. This has had significant carry over into my professional life whereby I am now more mindful of my own communication practices, work more within a BPS model of care and try to implement PCC in my own practice. As a result, my identity as a clinician has now evolved to clinician-researcher.

Personally, the process has taught me that resilience is the key in the face of adversity. With hard work, reflection, positivity you can overcome barriers that are placed in your way. Looking forward I hope to continue to develop as clinician, researcher, and person but with a few less bumps along the road.

The project itself has shown how patients and clinicians being prepared to expose themselves to recordings are invaluable to the research process and without their consent observations of naturally occurring data would be sparse as would gaining insights into their experiences. The findings highlight the need for further examinations into provision and implementation of PCC with CLBP patients in order for the healthcare community to provide optimal care going forwards.

6.11 Conclusion

The overall contribution of this thesis is in the field of doctor-patient communication. The CA (observational data) and the experiences (interview data) of both patients and clinicians following an initial consultation for CLBP has found that much work is required to provide patients with CLBP optimal, evidence-based PCC within a BPS model.

This thesis adds to the growing body of evidence around consultant and patient experiences and their clinical encounters for CLBP. It also fills a research void when examining the same consultants and the same patients from a triangulated approach in an observational and experience methodology.

The well recognised challenge of managing CLBP, due to its complex multidimensional nature, is illustrated in the study. Despite increased awareness and acknowledgement of PCC underpinned by BPS model, challenges remain for neurosurgery consultants that have

traditionally worked within a biomedical framework. Improving consultants' communication skills in order to enhance PCC may improve not only the experiences of patients and consultants, but also the interaction between them in the consultations, as they appear to be related.

Additionally, developing pre-appointment patient education through information provision, would make patients more aware of what the service provides and the role of a spinal surgeon in these consultations. Thus, creating more realistic expectations prior to attending the appointment and in turn reducing interactional trouble and enhancing the experiences of both patients and clinicians.

Lastly, CLBP pathways remain problematic, and it is open to debate if these non-surgical cases should have been received by the consultants. What we do know is that these complex cases are best suited to be seen by clinicians that has the skill set, in particular good communication practices, in order to provide them with PCC.

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Appendices

Appendix A: East of England - Cambridge South NRES Committee approval letter

Health Research Authority
NRES Committee East of England - Cambridge South
The Old Chapel
Royal Standard Place
Nottingham
NG1 6FS
telephone 0115 883 9428

16 October 2014

Professor Alison McGregor Biodynamics laboratory

Charing Cross Hospital

Charing Cross campus W6 8RF

Dear Professor McGregor

Study title:	**Does the patients experience of the initial consultation affect their decision to undergo lumbar microdiscetomy and influence outcome: A Qualitative study**
REC reference:	**14/EE/1198**
IRAS project ID:	**157399**

Thank you for your letter of 16 October 2014, responding to the Proportionate Review Sub-Committee's request for changes to the documentation for the above study.

The revised documentation has been reviewed and approved by the sub-committee.

We plan to publish your research summary wording for the above study on the NRES website, together with your contact details, unless you expressly withhold permission to do so. Publication will be no earlier than three months from the date of this favourable opinion letter. Should you wish to provide a substitute contact point, require further information, or wish to withhold permission to publish, please contact the REC Manager Tracy Leavesley, nrescommittee.eastofengland-cambridgesouth@nhs.net

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised.

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at http://www.rdforum.nhs.uk.

Where a NHS organisation's role in the study is limited to identifying and referringshould be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of approvals from host organisations.

Registration of Clinical Trials

All clinical trials (defined as the first four categories on the IRAS filter page) must be registered on a publically accessible database within 6 weeks of recruitment of the first participant (for medical device studies, within the timeline determined by the current registration and publication trees).

There is no requirement to separately notify the REC but you should do so at the earliest opportunity e.g. when submitting an amendment. We will audit the registration details as part of the annual progress reporting process.

To ensure transparency in research, we strongly recommend that all research is registered but for non-clinical trials this is not currently mandatory.

If a sponsor wishes to contest the need for registration they should contact Catherine Blewett (catherineblewett@nhs.net), the HRA does not, however, expect exceptions to be made. Guidance on where to register is provided within IRAS.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" above).

Approved documents

The documents reviewed and approved by the Committee are:

Document	*Version*	*Date*
Covering letter on headed paper [Covering letter for amendments]	version 1	15 October 2014
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only)	version 1	06 October 2014
GP/consultant information sheets or letters	version 5	15 October 2014
Interview schedules or topic guides for participants	Version 1	06 October 2014
Interview schedules or topic guides for participants	version 1	06 October 2014
IRAS Checklist XML [Checklist_08102014]		08 October 2014
IRAS Checklist XML [Checklist_16102014]		16 October 2014
Letter from sponsor	version 1	01 October 2014
Participant consent form	version 3	15 October 2014
Participant information sheet (PIS) [Participant information sheet]	version 5	15 October 2014
REC Application Form [REC_Form_16102014]		16 October 2014
Research protocol or project proposal	version 3	21 September 2014
Summary CV for Chief Investigator (CI)	version 1	06 October 2014
Summary CV for student	Version 1	06 October 2014
Validated questionnaire	version 1	06 October 2014
Validated questionnaire	version 1	06 October 2014
Validated questionnaire	version 1	06 October 2014

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol

- Progress and safety reports
- Notifying the end of the study

The HRA website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

Feedback

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website:

http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance

We are pleased to welcome researchers and R & D staff at our NRES committee members' training days – see details at http://www.hra.nhs.uk/hra-training/

14/EE/1198	**Please quote this number on all correspondence**

With the Committee's best wishes for the success of this project.

Yours sincerely



Dr Leslie Gelling

Chair

Email: nrescommittee.eastofengland-cambridgesouth@nhs.net

Enclosures: *"After ethical review – guidance for researchers"*

Copy to: *Mrs Becky Ward*

Mrs Ian Laskey, Barking Havering and Redbridge University Hospitals

Appendix B: Barking Havering and Redbridge University Hospitals NHS Trust Research and Development approval letter

Barking, Havering and Redbridge
University Hospitals
Research and Development Department
Rm.
G10451, Blue zone
Queen's Hospital
Rom Valley Way
Romford
Essex
RM7 OÄG
Direct Line: 01708 435
306 Direct Line I Fax: 01708
435 305

6th November, 2014 (revised 07/11/14)

To: Ross Poyton
Research Associate Imperial College / Extended
Scope Physiotherapist NELFT
5 Court way Harold
Wood
Romford
Essex RM3
OLD
r.poyton13@imperial.ac.uk

Dear Ross,

RE: R&D1113
Does the patients experience of the initial consultation affect their decision to undergo lumbar microdiscetomy and influence outcome: A Qualitative study. (REC: 14/EE/1198)

I am pleased to inform you that the R&D review of the above project is now complete and has been formally approved to be undertaken at Barking, Havering and Redbridge University Hospitals NHS Trust.

NHS permission for the above research has been granted on the basis described in the application form, protocol and supporting documentation. Documents reviewed included:

Document	Version	Date
Project Proposal	/	21/09/2014
Participant Information Sheet	5	15/10/2014
Participant Consent Form	3	14/10/2014
Consultant Information Sheet	5	15/10/2014
Consultant Consent Form	5	14/10/2014

Interim Chairman: Mr Edwin Doyle
Chief Executive: Averil Dongworth

The conditions of the approval are as follows:

1. You adhere to the approved version of the protocol and notify R&D immediately of any changes to the study, including any new staff working on the project, who may need Trust or Honorary contracts issued

2. You notify R&D of any Serious Adverse Events in all CTIMP studies
3. Adherence to the requirements of the ethics committee as detailed in their approval letter and standard operating procedures which can be found on www.nres.npsa.nhs.uk
4. You notify R&D on completion of the project

I also would like to draw your attention to the Research Governance Framework which can be found on the internet:
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuid ance/DH 4108962

All research within the Trust should be run to the standards as outlined in this document. Guidance and advice is always available from the Department of Research and Development should you require it at any stage of the project.

Please allow me to take this opportunity to wish you the best of luck in your research endeavours. If you have any further queries please do not hesitate to contact us

[redacted]

Yours sincerely,

Davy Yeung, BSc, PGCE, PhD
Associate Director of Research & Innovation, BHRUT

cc: Prof. Alison McGregor
a.mcgregor@imperial.ac.uk

Appendix C: Patient study information sheet

Imperial College
London

Participant Information Sheet

Study Title

Do patients' experiences' of the initial consultation influence their decision to undergo lumbar microdiscetomy surgery and subsequently their post operation outcomes.

Introduction

I am Ross Poyton a research associate from Imperial College London. My colleagues and I are conducting research on patients suffering from lower back and leg pain, a very common problem within the western world. I am going to give you information and invite you to be part of this research. You do not have to decide today whether or not you will participate in the research. Before you decide, you can talk to anyone you feel comfortable with about the research.

There maybe some words or information that you do not understand. Please ask me to stop as we go through the information and I will take time to explain any queries you have. If you have any questions later you will also be able to ask them of me. Thank you for reading this.

Purpose of the research

Lower back and leg pain is one of the most common reasons people seek the opinion of a neurosurgeon. In many cases people are offered surgery to help improve their problem. Depending on the patient's experience of the encounter with the surgeon, they may decide to accept or decline surgery. This research will examine if the communication style of the surgeon influences the patient's decision to undergo or decline the surgery.

Patient Selection

We are inviting all adults with lower back and leg pain that have been referred to a neurosurgeon, that may be offered a lumbar microdiscetomy, to participate in the research. A microdiscetomy is a surgical procedure that involves removing a small part of the disc in your lower back to relieve your leg symptoms caused by this part of the disc compressing a nerve. This is the reason for us inviting you to join the study.

Voluntary Participation

Your participation in the research is entirely voluntary. It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet

to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of care you receive.

What you will be required to do

This research will involve you completing 6 short questionnaires prior to seeing the consultant and repeating these questionnaires at weeks 6, 12 and 52 if you decide to undergo surgery. We will also take an audio recording of your initial consultation with the doctor followed by an interview that will allow you to describe your experience of the consultation. We will then record your subsequent follow up appointment and interview you for a second time.

Description of Process

- In the first visit you will be asked to complete 6 short questionnaires related to your problem and how it is affecting you.
- You will then attend your consultation as normal but this will be recorded.
- Following this consultation you will participate in a short interview related to your experience of the consultation.
- If you decline to undergo surgery offered by the Doctor your participation in the research will cease at this point.
- If you undergo surgery you will be asked to repeat the 5 short questionnaires at weeks 6, 12 and 52 following your surgery. This can be posted or completed over the telephone.
- Your next routine appointment with the doctor will also be audio recorded and we will interview you gain after this appointment.

Duration

The research will take place from the day you consent to participation in the study up unto the time you either decline from undergoing surgery or 1 year post operatively. The consultation and follow appointments are routine for this problem. The extra time taken to participate in the research beyond routine care is the time taken to complete the questionnaires on 4 separate occasions approximately 15 minutes each time (60 minutes in total) and the time of the two interview 30-45 minutes each.

Side effects

It is unlikely that participants will suffer any side effects. However, it is possible they may suffer from stress / distress. However, in the event a participant should experience any stress or distress following their interview they would be offered appropriate support. If the distress or stress were of clinical significance the patient would be advised to contact the consultant's team that their care was being provided by. In the event that any stress or distress was due to the researcher / research process then they would be given the contact details of the chief investigator to offer them support.

Disadvantages

There are no significant risks involved in this study as it is purely based around questionnaires and interviews. The only slight disadvantage is that some extra time is required for patients to complete questionnaires and interviews.

Benefits

This research intends to provide clinicians with insight into the patients' experience of the consultation. It will allow us to provide information on what aspects of the consultation affects a patients' decision to undergo or refuse surgery, including the positive and negative aspects of the consultation. What aspects of the consultation process can be considered to be important to the patient and how can consultants harness those aspects through their communication in order to make the patients experience more beneficial. We cannot promise the study will help you but the information we get might help improve the treatment of people with a similar condition. Participants will not be provided any incentive to take part in the research.

Completion of the research / Sharing the Results

The research for each participant will be completed after their interview if they decline surgery and 52 weeks after undergoing surgery if they agree to a microdiscetomy. Each participant will receive a summary of results the results of the research. The results will be published as academic papers in high ranking academic journals.

What if something goes wrong?

If you are harmed by taking part in this research project, there are no special compensation arrangements. If you are harmed due to someone's negligence, then you may have grounds for legal action. Regardless of this, if you wish to complain, or have any concerns about any aspect of the way you have been treated during the course of this study then you should immediately inform the investigator Professor Alison McGregor via email a.mcgregor@imperial.ac.uk or telephone on 0203 313 8831.

Confidentiality

We will not be sharing information about you to anyone outside of the research team. The information that we collect from this research project will be kept private and all participant details will by anonymised. All recorded data will be stored on a password protected external hard drive. My supervisors and myself will have access to this. Following your interview I will give you an opportunity at the end to review your remarks.

Audio recordings will be kept until the end of the study and subsequently destroyed.

Organising the research

This research has been sponsored by Imperial College London. The researchers role has been part funded by North East London Foundation Trust. The research has been organised with Barking Havering and Redbridge NHS Trust co-operation.

Study Review

This study was reviewed and approved by the East of England – Cambridge South REC and given a favourable ethical opinion for conduct within the NHS.

Who to contact

If you have any questions you can ask them now or later. If you wish to ask questions later, you may contact the principal investigator Ross Poyton via email on r.poyton13@imperial.co.uk, telephone on 0208 5229865 or mail at Musculoskeletal Service, Porters Avenue Health Centre, Porters Avenue, Dagenham, RM8 2EQ.

Many thanks for considering participating in the study.

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Appendix D: Patient consent form

Imperial College
London

Participant Consent Form

Full Title of Project: Do patients' experiences' of the initial consultation influence their decision to undergo lumbar microdiscetomy surgery and subsequently their post operation outcomes.

Name of Principal Investigator: Mr Ross Poyton

Please initial box

1. I confirm that I have read and understand the subject information sheet dated 10.11.15 Version 7 for the above study and have had the opportunity to ask questions which have been answered fully. ☐

2. I understand that my participation is voluntary and I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected. ☐

3. I understand all audio recordings will be kept until the end of the study and then destroyed. ☐

4. I understand that sections of any of my medical notes may be looked at by responsible individuals from [company/institution name] or from regulatory authorities where it is relevant to my taking part in this research. I give permission for these individuals to access my records that are relevant to this research. ☐

5. I agree to take part in the above study. ☐

_____	_____	_____
Name of Patient/Participant	Signature	Date
_____	_____	_____
Name of Person taking consent (if different from Principal Investigator)	Signature	Date
_____	_____	_____
Principal Investigator	Signature	Date

1 copy for patient/participant; 1 copy for Principal Investigator; 1copy to be kept with hospital notes

Appendix E: Consultant information sheet

Imperial College
London

Consultant Information Sheet

BHR Research & Development study reference Number: 1113
NRES Committee reference: 14/EE/98

Study Title

Do patients' experiences' of the initial consultation influence their decision to undergo lumbar microdiscetomy surgery and subsequently their post operation outcomes.

Principle Investigator: Ross Poyton: Research Associate

Academic Institute: Imperial College London

Introduction

I am Ross Poyton a research associate from Imperial College London. My colleagues and I are conducting research on patients suffering from lower back and leg pain. I am going to give you information and invite you to be part of this research. You do not have to decide today whether or not you will participate in the research. Before you decide, you can talk to anyone you feel comfortable with about the research. This research project is being conducted in liaison with Mr Jonathan Pollock head of neurosciences.

Purpose of the research

Lower back and leg pain is one of the most common reasons people seek the opinion of a neurosurgeon. In many cases people are offered surgery to help improve their problem. Depending on the patient's experience of the encounter with the surgeon, they may decide to accept or decline surgery. This research will examine if the communication style of the surgeon influences the patient's decision to undergo or decline the surgery and also subsequent post-surgical outcomes. Following collection of this data, this research will also investigate the consultants' experience of treating patients with low back and leg pain.

Type of research

This qualitative research will involve us recording the initial consultation with you and the patient. We will then interview the patient following the consultation. The patient will complete 3 short questionnaires prior to seeing the consultant and repeating these questionnaires at weeks 6, 12 and 52. If the patient decides to undergo surgery we will also take an audio recording of the patients' subsequent follow up appointment and interview them again afterwards. Following collection of the above data at a later date you will be asked to participate in a short semi-structured interview regarding your experiences of treating this patient group that will be audio recorded.

Participant Selection

We are inviting all neurosurgeons within Barking, Havering and Redbridge Hospitals trust that undertake lumbar microdiscetomy to participate in the research.

Voluntary Participation

Your participation in the research is entirely voluntary. It is your choice whether to participate or not. You may change your mind later and even stop participating even if you agreed earlier.

Description of Process

- In the patient's first visit they will be asked to complete 3 short questionnaires related to their problem and how it is affecting them.
- They will then attend your consultation as normal but this will be recorded.
- Following this consultation the patient will participate in a short interview related to their experience of the consultation.
- If they decline to undergo surgery offered by you, their participation in the research will cease at this point.
- If they undergo surgery they will be asked to repeat the 3 short questionnaires at weeks 6, 12 and 52 weeks following their surgery. This can be posted or completed over the telephone.
- The patient's next routine appointment with the doctor will also be audio recorded and a second interview will be conducted at after this appointment.
- Following completion of the above data collection you will be contacted so we can arrange an appropriate time and venue for your interview to take place.
- Interview is audio recorded and undertaken in semi-structured format
- Results disseminated to participant in due course

Duration

The research should not add any additional time to clinics and the principal researcher would be recording the consultation and first follow up appointment. There will be no additional involvement required of the Doctors. The interview is expected to take around 30 minutes

Benefits

This research intends to provide clinicians with insight into the patient's experience of the consultation. It will allow us to provide information on what aspects of the consultation affects a patient's decision to undergo or refuse surgery, including the positive and negative aspects of the consultation. What aspects of the consultation process can be considered to be important to the patient and how can consultants harness those aspects through their communication in order to make the patient's experience more beneficial. Participants will not be provided any incentive to take part in the research. The interview process intends to provide the low back pain community with insight into the consultants' experiences of the

treatment of the low back pain patient group. It will provide us with both the positive and negative aspects of the intial consultation and may provide information as what can be done to improve both the patients and consultants experience.

Confidentiality

We will not be sharing information about you to anyone outside of the research team. The information that we collect from this research project will be kept private and all participant details will by anonymised. All recorded data will be stored on a password protected external hard drive. Only myself and my supervisors will have access to this. All audio data will be kept until the end of the study and then destroyed.

If you are harmed by taking part in this research project, there are no special compensation arrangements. If you are harmed due to someone's negligence, then you may have grounds for legal action. Regardless of this, if you wish to complain, or have any concerns about any aspect of the way you have been treated during the course of this study then you should immediately inform the investigator Professor Alison McGregor via email a.mcgregor@imperial.ac.uk or telephone on 0203 313 8831.

The Chief Investigator will preserve the confidentiality of participants taking part in the study and is registered under the General Data Protection Regulation (GDPR) for health and care research.

Sharing the Results

Each participant will receive a summary of results the results of the research. The results will be published as academic papers in high ranking academic journals.

Right to refuse or withdraw

You do not have to take part in this research if you do not wish to do so. You may stop participating in the research at any time. The participant can withdraw from the study at any time if they wish to do so, but any data already collected would still be kept.

Who to contact

If you have any questions you can ask them now or later. If you wish to ask questions later, you may contact the principal investigator Ross Poyton via email on r.poyton13@imperial.co.uk, telephone on 0208 5229865 or mail at Musculoskeletal Service, Porters Avenue Health Centre, Porters Avenue, Dagenham, RM8 2EQ.

This proposal has been reviewed and approved by the East of England – Cambridge South REC which is a committee whose task it is to make sure that research participants are protected from harm. It has also been approved by Imperial College London which is supporting the study.

Appendix F: Consultant consent form

Imperial College
London

Consultant Consent Form

BHR Research & Development study reference Number: 1113
NRES Committee reference: 14/EE/98

Consultant Information Number for this trial:

Full Title of Project: Do patients' experiences' of the initial consultation influence their decision to undergo lumbar microdiscetomy surgery and subsequently their post operation outcomes.

Name of Principal Investigator: Mr Ross Poyton

Please initial box

4. I confirm that I have read and understand the information sheet dated 11.07.18 version 6 for the above study and have had the opportunity to ask questions which have been answered fully. ☐

5. I understand that my participation is voluntary and I am free to withdraw at any time, without giving any reason. ☐

6. I understand audio recordings will be kept until the end of the study then destroyed. ☐

7. I understand that sections of any of my research notes may be looked at by responsible individuals from imperial college or from regulatory authorities where it is relevant to my taking part in this research. ☐

5. I agree to take part in the above study. ☐

_____	_____	_____
Name of Patient/Participant	Signature	Date
_____	_____	_____
Name of Person taking consent (if different from Principal Investigator)	Signature	Date
_____	_____	_____
Principal Investigator	Signature	Date

1 copy for patient/participant; 1 copy for Principal Investigator; 1copy to be kept with hospital notes