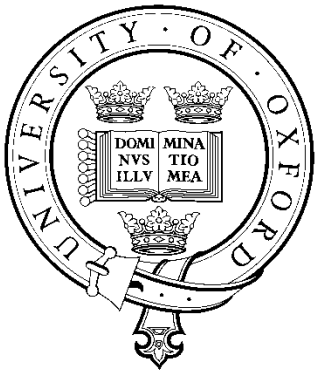
The associations of informal coercion with legal compulsion, clinical outcomes and the therapeutic relationship in community mental health care



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Abstract

In addition to involuntary treatment, patients with severe mental illness are routinely subject to other pressures such as leverage to improve their adherence to treatment. Little clinical or research attention has been given to these pressures and their associations with both involuntary treatment and clinical outcomes are poorly understood. My thesis aims to test whether the imposing of compulsion affects patients' experience of leverage and whether leverage affects treatment outcomes. It also examines whether patients' relationships with clinicians influence their perception of the coerciveness of involuntary treatment.

The thesis begins with a scoping review of current knowledge about non-legislated pressures and identifies their widespread use and limited associations with patient characteristics and outcomes. My empirical studies find that involuntary and voluntary patients do not report different rates of leverage, that leverage is not related to better outcomes, and that the therapeutic relationship does not moderate perceived coercion.

My studies suggest that involuntary treatment does not liberate patients from other pressures, but there is also no evidence that clinicians were more controlling with involuntary patients. Unlike legal compulsion, the use of leverage may be a more integral part of clinical practice rather than a considered strategy. Such pressures restrict patient autonomy but their use is neither monitored nor regulated. I found no justification for them in benefits to patients. In contrast to the positive effects of 'procedural justice' I found no evidence that the therapeutic relationship independently alters perceived coercion. Policies and formal training should increase clinicians' awareness of non-statutory pressures to improve their skills and reduce coercion.

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Abbreviations

Abbreviations	Full name[1]
ACT	Assertive Community Treatment (or AOT)
AES	*MacArthur Admission Experience Survey*
AOT	Assertive Outreach Team
API	*Autonomy Preference Index*
API-DM	*Autonomy Preference Index – Decision making*
API-IS	*Autonomy Preference Index – Information seeking*
BPRS	*Brief Psychiatric Rating Scale*
CMHT	Community Mental Health Team
CI	Confidence interval
CQC	Care quality commission
CSQ-8	*Client Satisfaction Questionnaire*
CTO	Community Treatment Order
DAI	*Drug Attitude Inventory*
FI	*Financial incentives*
GAF	*Global Assessment of Functioning*
HR	Hazard ratio
IDR	Incidence-density ratio
IQR	Interquartile range
ITAQ	*Insight and Treatment Attitudes Questionnaire*
MH	Mental health
MHA	Mental Health Act
NHS	(UK) National Health Service
OR	Odds Ratio
RCT	Randomised controlled trial
PC	Perceived coercion
SD	Standard deviation
SMI	Severe mental illness
STAR-P	*Scale To Assess Therapeutic Relationship—Patient Version*
STAR-C	*Scale To Assess Therapeutic Relationship—Clinician Version*
UK	United Kingdom
USA	United States of America

[1]All details of research instruments (indicated by italics) are given in full in Chapters 3, 4 and 5.

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Chapter 1 Background

> *Closing asylums and developing systems to deliver care to people's homes is a job started, not job done.* (Craig, 2015)

1.1 Introduction

Most human relationships include certain pressures. People do not always agree and they have different preferences so they use various pressures to influence each other. Pressures may vary in form, intensity, and frequency but they are part of normal human interactions.

The history of pressured and compulsory treatment of mentally ill people dates back centuries (Gelder et al., 2006, Pichot, 2009). In an attempt to provide protection and care clinicians and family members pressure mentally ill people to accept treatment. Modern psychiatry is committed to the protection of patients' human rights and autonomy by minimising coercion and promoting patient-centred treatment (Department of Health, 2015, World Psychiatric Association, 2002). A more paternalistic approach is, however, widely practiced in the form of both hospital and community legal compulsion and as non-legislated pressures, and treatment pressures will probably remain part of mental health care for non-adherent patients. The investigation of its effectiveness and factors which reduce its negative consequences are essential to minimise and justify coercion.

Research into coercion was, until recently, exclusively focused on the use of legislation for the involuntary treatment of patients in hospitals. With the deinstitutionalisation of psychiatry in the second half of the 20th century, research into compulsion has shifted to

the community. However, both voluntary and involuntary patients are subject to other pressures to adhere to treatment (e.g. persuasion, incentives). Little is known about these non-legislated pressures (informal coercion) but there is evidence that patients who are not subject to legal compulsion may feel coerced in their treatment (Lidz et al., 1995, Hoge et al., 1997). Understanding patients' subjective experience of coercion and minimising coercion is not achievable without examining the whole spectrum of pressures in both inpatient and community settings.

My thesis aims to investigate both informal coercion and legal compulsion. It examines the relationship of informal coercion with legal compulsion and clinical outcomes, and the role of the therapeutic relationship in the appraisal of compulsory treatment in the community. This first chapter will explore the conceptualisation of coercion and its various forms. The second chapter will review the scope of knowledge on informal coercion. The third chapter will investigate associations between informal coercion and legal compulsion. Chapter four will examine the association of informal coercion and treatment outcomes. Chapter five will explore whether the therapeutic relationship moderates perceived coercion. The final sixth chapter will summarise and interpret results of these studies.

1.2 Coercion in mental health care

Psychiatry is the one of few disciplines of medicine allowing the treatment of patients against their will and this has always been its determining factor. 'Control and coercion' as well as 'cure and care' have been associated with mental health care in the past, and in modern society (Szasz, 2007).

Organised care for people with mental illness was in the past exclusively in hospitals or 'asylums' which were built in large numbers across Europe and the USA in the 19th century. Psychiatric treatment in hospitals was involuntary, mostly at the request of the family, and many patients spent a substantial period of their life in these institutions, and voluntary admission was not available (Jones, 1993, Fakhoury and Priebe, 2002). Doctors were considered experts who knew the best treatment and patients were expected to follow staff advice and hospital rules. This predominantly *paternalistic approach* was considered good treatment. Doctors' powers and expertise were not challenged and patients' autonomy was not questioned. This approach was gradually transformed in the 20th century into more collaborative care following changes in service provision.

1.2.1 Terminology

The terminology used in the literature on coercion is complex and at times confusing with varying terms and concepts used for compulsion, coercion and treatment pressures. I will use *legal compulsion* for formal or statutory coercion which is regulated by mental health legislation. This includes *inpatient compulsion* (involuntary hospital admission) and *community compulsion*, variously referred to as *Community Treatment Orders (CTO),* Outpatient Commitment and Assisted Outpatient Treatment. This study concentrates largely on *informal coercion*. This is a broad term covering various non-statutory treatment pressures used on a day-to-day basis by clinicians, carers, family members, and the welfare and criminal justice systems to improve patients' stability and treatment adherence. The narrower term *leverage* will be used for a form of treatment pressure which employs a specific and explicit treatment lever in a declared effort to increase adherence. Terminology such as mandated community

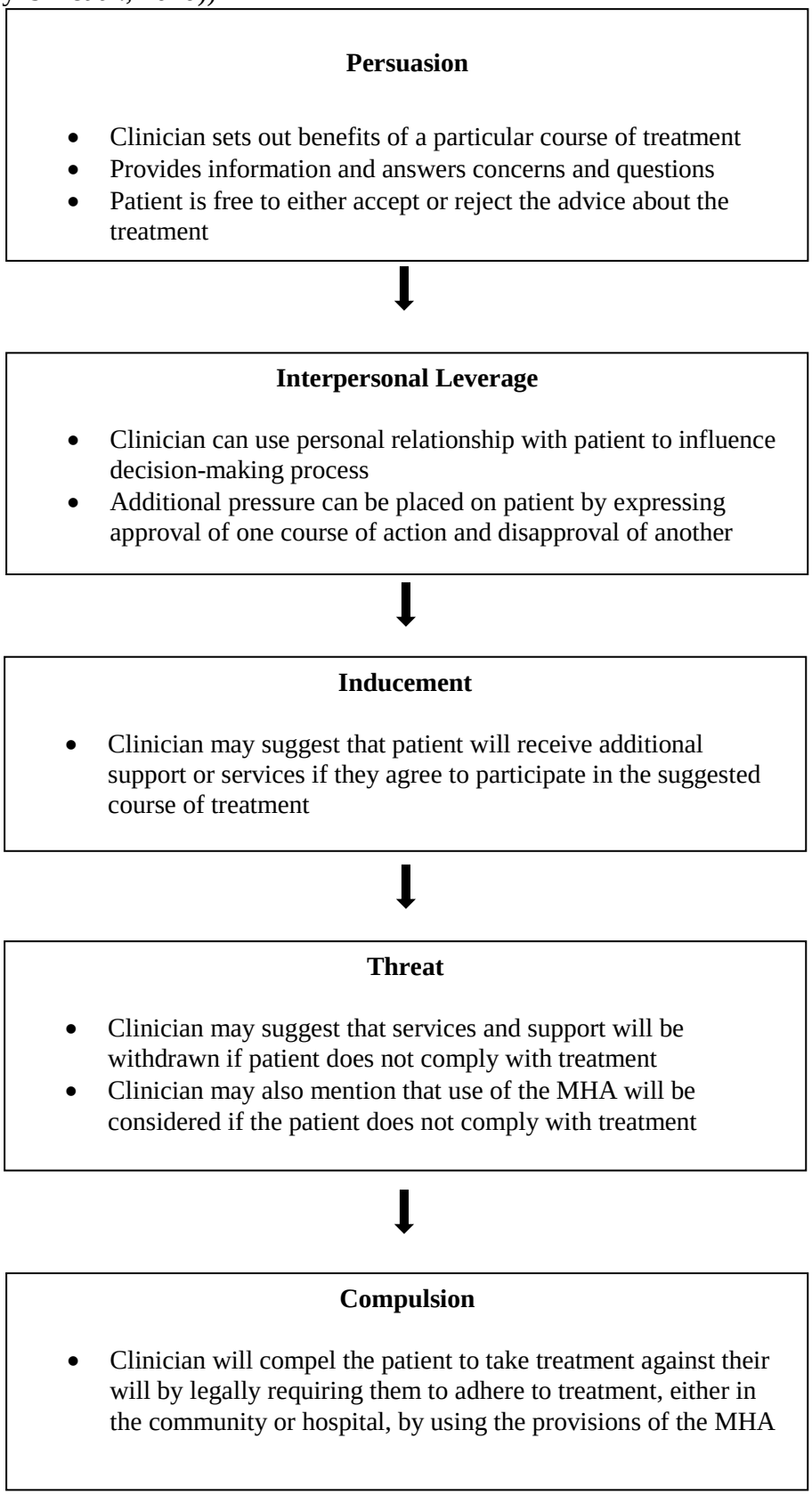
treatment, leveraged pressures or therapeutic limit setting activities is also used for leverage in literature. I will use *treatment pressures* as a broad term for pressures including both legal compulsion and informal coercion. *Perceived coercion* is the patient's subjective perception of the coerciveness of their treatment.

1.2.2 Conceptualisation of coercion

There is no simple, widely accepted concept of coercion. While narrow conceptualisations suggested a binary concept of coercion (Oxford English Dictionary, 2016, Olofsson et al., 1998), most broader conceptualisations propose a continuum of treatment pressures applied either in an open or indirect manner to influence a patient's behaviour (Beauchamp and Childress, 2001, Wertheimer, 1987, Hiday, 1992, Rogers, 1993, Szmukler and Appelbaum, 2008, Szmukler and Appelbaum, 2001). Research into coercion was difficult without its operationalisation (Høyer et al., 2002, O'Brien and Golding, 2003, Lidz et al., 1997a) but limited empirical evidence has facilitated the development of the broadly accepted theoretical framework by Szmukler and Appelbaum (Szmukler and Appelbaum, 2008).

The Szmukler and Appelbaum hierarchy of treatment pressures (Szmukler and Appelbaum, 2008) comprises five levels: persuasion, interpersonal leverage, inducement, threats and compulsion (see Figure 1 and Chapter 2, page 52 and 55). Threats and compulsion (force) are considered as coercive (Szmukler and Appelbaum, 2008) and various forms of force were found to be associated with compulsory treatment (Sørgaard, 2007, Eriksson and Westrin, 1995).

Figure 1 Hierarchy of treatment pressures (adapted from (Szmukler and Appelbaum, 2008, Molodynski et al., 2010))



While there is wide agreement about coerciveness at the most coercive end of the continuum of treatment pressures (e.g. physical force, restraint, legal compulsion), there is inconsistency about less coercive measures. Persuasion is considered non-coercive by some authors (Beauchamp and Childress, 2001, Szmukler and Appelbaum, 2008, Mason, 2000) but potentially coercive by others (O'Brien and Golding, 2003). This continuing lack of clarity on the less manifestly coercive forms of pressure requires more research to inform the current debate.

1.2.2.1 Objective and subjective coercion

Objective coercion

The distinction between objective and subjective coercion has been broadly accepted (Szmukler and Appelbaum, 2008). Operationalizations of coercion in research have considered objective measures such as legal status, seclusion, physical restraints, and forced medication of patients as indicators of the coerciveness of treatment (Monahan et al., 1995, Kaltiala-Heino, 1999). Involuntary status in hospital was equated with the experience of coercion while voluntary patients were considered non-coerced (Monahan et al., 1995).

Objective coercion (e.g. compulsory treatment) is, however, problematic for research because of differences in legislation, large variations in involuntary admission rates (Kjellin et al., 1997, Salize and Dressing, 2004), disregard of the patients' subjective perception of coerciveness of treatment, and pressures employed outside hospital by family and friends (Swartz et al., 2003c, Kjellin and Westrin, 1999, Hoge et al., 1993).

Subjective experience of coercion

The focus on assessment of subjective coercion was prompted by findings that not all involuntary admitted patients felt coerced (Kjellin et al., 1993, Westrin and Nilstun, 2000, Rogers, 1993) and that many voluntary patients felt that their admission was not entirely voluntary or was coerced (Kaltiala-Heino et al., 1997, Kjellin and Westrin, 1999, Westrin and Nilstun, 2000, Hoge et al., 1997, Lidz et al., 1995, Lidz et al., 1998, Katsakou et al., 2011). Many were uncertain of their legal status (Sørgaard, 2007, Lidz et al., 1993, Hoge et al., 1997). Hence restricting research to legally detained patients fails to provide a sufficient understanding of how patients experience coercion in their treatment. These findings sparked research into patients' subjective experience of coercion and non-legislated treatment pressures.

Perceived coercion

Researchers have long been aware that the assessment of patient experience of treatment is important. Studies have shown that subjective interpretations of various aspects of treatment such as satisfaction with treatment and quality of life are associated with treatment outcomes (McCabe and Priebe, 2004, Chue, 2006, Gaite et al., 2002).

As previously noted, compulsion refers to the use of legal powers but patient experience of coercion is broader than legal compulsion (Hoge et al., 1997, Lidz et al., 1995). In a complex clinical setting it is not always obvious when pressures are applied or how they are perceived by patients. Boundaries between coercive and non-coercive pressures are blurred (Sjöström, 2006, Rogers, 1993). In addition, clinicians sometimes see themselves as non-coercive despite using social control and subtle pressures

(Valenti et al., 2015) so this may not match the patients' perception of coerciveness (Swartz et al., 2003c).

Instruments to measure perceived coercion

Research into perceived coercion needed clear conceptualisation and operationalisation (Monahan et al., 1995, Hoge et al., 1993, Shannon, 1976). The MacArthur Admission Experience Survey (AES, see description in Chapter 5, page 248) was developed for this purpose (Gardner et al., 1993). It is the most broadly used of three current instruments (Høyer et al., 2002, Marlowe et al., 1996). Meta-regression on the prevalence of perceived coercion reported different results if different instruments for perceived coercion were used (Newton-Howes and Stanley, 2012).

The AES was generated from findings of semi-structured interviews (the MacArthur Admission Experience Interview, AEI) with different stakeholders providing the first quantitative measure of perceived coercion (Gardner et al., 1993). Five items assess *perceived coercion* at admission to hospital. Two other scales (*procedural justice* and *negative pressures*) were later added to the AES (Lidz et al., 1995, Lidz et al., 1998, Hiday et al., 1997) and three sub-scales were adapted for use in community settings (Swartz et al., 1999b, Hoge et al., 1997). Despite being widely used, the MacArthur AES suffers from lack of clarity in its structure, number of items, scoring procedures, its name, and inconsistent use by researchers.

Empirical evidence of perceived coercion

Current evidence is limited. Initial studies tested perceived coercion at hospital admission (Hoge et al., 1993, McKenna et al., 2001, Bindman et al., 2005, Kjellin et al., 2006, Jaeger and Rossler, 2010, Jaeger et al., 2014, O'Donoghue et al., 2014, O'Donoghue et al., 2011) but recent investigations have extended to community treatment (Rugkåsa et al., 2015, McKenna et al., 2006, Davidson and Campbell, 2007, Swartz et al., 2002). Rates of coerced patients vary substantially between studies (Hiday et al., 1997, Sheehan and Burns, 2011, Jaeger and Rossler, 2010, Elbogen et al., 2003b, O'Donoghue et al., 2014).

Earlier studies sought to investigate how different pressures, patient characteristics, and interactions at hospital admission contribute to perceived coercion (Lidz et al., 1995, McKenna et al., 2003, Cascardi and Poythress, 1997, McKenna et al., 1999, Hiday et al., 1997). Force, threats and giving orders about admission were perceived coercive while persuasion was not (Lidz et al., 1998). Recent studies focus on the associations with treatment outcomes finding that feeling coerced at hospital admission or community treatment does not affect subsequent adherence, admissions, or satisfaction with treatment (Rain et al., 2003a, Rain et al., 2003b, Iversen et al., 2007, Rugkåsa et al., 2015). However patients may avoid services (Swartz et al., 2003a, Van Dorn et al., 2006, Watts and Priebe, 2002, Priebe et al., 2005b), rate the therapeutic relationship poorly (Sheehan and Burns, 2011), and perceive treatment as unfair and not beneficial (Monahan et al., 2005). The current body of evidence related to perceived coercion of informal coercion is reviewed in detail in Chapter 2.

One of the most important findings of both qualitative and quantitative studies is that patients feel less coerced if they perceive that the clinician treated them respectfully,

out of genuine concern, and has discussed the issues of their treatment with them (Hoge et al., 1997, Lidz et al., 1997a, Hiday et al., 1997). *Procedural justice* was identified as one of the most important factors in predicting the perception of coercion. It appears that this social interaction and experience during admission may influence the forming of a belief about the justice and fairness of the whole admission process (Lidz et al., 1995, Monahan et al., 1995, Bennett et al., 1993, Watson and Angell, 2007).

1.2.3 Controversy of ethical justification of coercion in psychiatry

Balancing four ethical principles such as autonomy, beneficence, non-maleficence and justice is a widely accepted approach in medical ethics (Beauchamp and Childress, 2001). Whilst achieving beneficence clinicians should provide information and balance the unequal power in the relationship by promoting partnership (Beauchamp and Childress, 2001). This patient-centred principle is universal for codes of practice in all medical disciplines (General Medical Council, 2013) and it assumes the patient's capacity for decision making and consent.

Despite being present in psychiatry for centuries coercive treatment has been controversial, and the subject of heated debate for decades. The controversy is centred on justification of the infringement of patients' liberty. There are two opposing views. Libertarians support the patient-centred approach and argue that autonomy is a patient's human right to be free to make his/her own choices, and be *free from* others' interference in number of choices (*negative freedom*) (Berlin, 1958). Coercing patients to treatment is not justified because clinicians or society deliberately restrict the opportunity for patients to choose and, therefore, infringe their freedom. They believe that the benefits of involuntary treatment cannot outweigh the value of freedom of

choice (Szasz, 1972, Monahan et al., 1995, Hiday, 1992) and it may have negative effects on outcomes such as satisfaction and engagement with services, and the therapeutic relationship (Swartz et al., 2003a, Pinfold and Bindman, 2001).

Those who support a more paternalistic approach often focus on the concept of *positive freedom to* be competent to do what a person actually (rationally) wants to do (Berlin, 1958) and/or on the principle of 'beneficence' or 'non-maleficence' (Beauchamp and Childress, 2001). They believe that despite a free choice (negative freedom) mental illness restricts patients' capability to have control over their lives or to make rational choices and, therefore, restricts their (positive) freedom (Berlin, 1958). They argue that coercing patients with a lack of capacity and insight to treatment may restrict their negative freedom. However, this is justified by treatment which will improve their ability to make rational choices (Berlin, 1958) prevent harm (non-maleficence) and improve outcomes (beneficence) (Beauchamp and Childress, 2001). Coercion would, therefore, increase patients' (positive) freedom and it is in their best interest (Berlin, 1958).

1.2.4 Controversy of clinical practice

Whilst professional guidelines and policies promote a patient-centred approach and respect of autonomy (General Medical Council, 2013, British Medical Association, 2013, National Institute for Health and Care Excellence, 2011, World Health Organization, 2002), they also require clinicians to use legal powers to impose evidence based treatment with reluctant patients (Beinecke, 2004). Human rights and freedom of choice regarding treatment are overridden by legislation (e.g. Mental Health Act in the UK) (Department of Health, 2007, Department of Health, 1983). Balancing both of

these requirements is demanding for clinicians but stimulating for further debate. While there is consensus among mental health professionals, ethicists and policymakers that compulsory treatment is sometimes necessary to provide treatment (Høyer, 2000), the debate about its justifications remains active. Research studies can provide evidence of the spectrum of treatment pressures to inform this debate.

1.3 Inpatient legal compulsion

Compulsory hospital admission is the oldest type of compulsory treatment documented as far back as the 15th century and the admission of the first mentally ill patient in Saint Mary of Bethlehem or 'Bedlam' in London (Gelder et al., 2006, Gelder et al., 2004). Inpatient compulsion is still the most common and most visible form of compulsory treatment in most countries practicing modern psychiatry.

Legal compulsion is regulated by laws, such as the Mental Health Act (MHA) in the UK. In the 20th century legislation dramatically changed psychiatric services. Each MHA introduced significant changes by increasing the protection of patients' rights or regulating both voluntary and involuntary treatment (e.g. MHA, 1930, 1959, 1983), or introducing legal powers for compulsory treatment in the community (e.g. MHA, 2007).

Empirical evidence for the effectiveness of involuntary hospital admission

Several reviews (Høyer, 2008, Katsakou and Priebe, 2006, Hiday, 1996, Salize and Dressing, 2005) have concluded that conflicting results did not allow a conclusion about the *effectiveness* (or harmfulness) of compulsory admission (Priebe et al., 2010a, Kjellin et al., 1997, Kaltiala-Heino et al., 1997, Rain et al., 2003a, Rain et al., 2003b,

Nicholson et al., 1996, Bindman et al., 2005, Steinert and Schmid, 2014). Inconclusive or conflicting findings were also found for *predictors* such as black ethnic minority status, functioning, age, gender, severity of symptoms, satisfaction with treatment, insight, or capacity to make decisions (Newton-Howes, 2010).

1.4 Deinstitutionalisation and community care

The need for the provision of mental health care outside hospitals was recognised long before the asylum movement reached its peak. In the 1920s the psychiatric service in the Soviet Union was provided by 'dispensaries'. This was followed in the1930s by the establishment of the first day hospitals with workshops and other activities for patients. Elsewhere during the 1930s many European countries and US states established various outpatient clinics and a range of isolated schemes such as agricultural colonies were also organised for psychiatric patients. The mobile outreach clinics in Amsterdam were developed to identify and support patients in the community. The main movement for the deinstitutionalisation and development of modern community care were, however, advanced later with the development of psychotropic drugs, public criticism of the damaging effects of asylums, and social changes such as the establishment of social welfare systems after the Second World War (Burns, 2013).

The development of psychotropic medication, particularly antipsychotic drugs in the mid-20th century changed psychiatry radically. It significantly reduced the suffering of patients with mental illness and provided the possibility of treating patients at home in the community and not exclusively in hospitals (Pichot, 2009).

With the closure of 'asylums' over the last 50 years the number of patients in hospitals has radically declined. In the UK the majority of patients with mental illness live and

receive treatment predominantly in the community and a variety of services developed (e.g. assertive outreach teams, crisis intervention teams, early intervention teams) (Burns and Firn, 2002). Despite this a small number of patients with severe mental illness (SMI) often struggle to live independently in the community, they become involved with the criminal justice system, and many are homeless (Priebe et al., 2005a). This often leads to relapse and frequent and repeated hospital admissions developing 'the revolving door' problem (Appelbaum, 2001, Dawson, 2005).

In an attempt to avoid repeated relapses and hospital admissions, and to ensure safety and stability for these patients Community Treatment Orders (CTO) were introduced. Compulsory treatment has now extended from the hospital into the community. Clinicians and family members employ various forms of pressure to improve patient adherence to treatment in the community and to keep them well (Monahan et al., 2005, Szmukler and Appelbaum, 2008, Molodynski et al., 2010). These non-legislated pressures are referred to as informal coercion.

Both CTOs and informal coercion are relatively new areas of investigation with ongoing debate about their justification. This thesis aims to contribute to the limited body of evidence and inform that debate.

1.5 Community legal compulsion

Legislation for compulsory community treatment or CTO has been introduced worldwide in more than 75 jurisdictions over the last 30 years and varies significantly (Dawson, 2005, Churchill, 2007). The main requirement is for the patient to accept treatment in the community, comply with some specified conditions, and make him/herself available for assessments. Failure to comply with the conditions provides

the power of rapid recall to hospital (Department of Health, 1983, Department of Health, 2007).

CTOs were first introduced in the USA in 1977 and were backed by civil rights groups. Instead of being detained in prisons or hospitals patients were provided with a 'least restrictive' CTO treatment in community. The condition for enforcement of a CTO was imminent and serious risk to self and compulsion would discontinue when this risk would no longer exist. This was, however, problematic because the high threshold for CTO would allow substantial deterioration before its reinforcement and early release from CTO would fail to provide long-term stability. To prevent these in the 1980s clinicians supported introduction of 'preventative' CTOs with lower threshold for prevention of relapse and specific monitoring procedures for ensuring stability. Most jurisdictions today operate the 'preventative' type of CTOs (Churchill, 2007).

The introduction of CTOs in the UK was controversial and heavily debated over 15 years. The opponents (The Mental Health Alliance) were concerned about infringements of patient liberty, freedom of choice, self-determination, overall increase of coercion, and potential disengagement from services because of the negative effect of compulsion (Lawton-Smith et al., 2008, Snow and Austin, 2009). They saw CTOs as a failure to provide adequate voluntary community treatment and invoked the principle of reciprocity insisting that high-quality services should be in place (Swartz et al., 2003a, Swartz et al., 2003b). Their main concern was that CTOs increase compulsion in mental health care with no evidence of its effectiveness (Allen and Smith, 2001).

The proponents (Royal College of Psychiatrists, 1993) argued that CTOs are less restrictive than involuntary admission and will engage patients by providing necessary

stability (Dawson, 2005, Pinfold and Bindman, 2001). They argued that without CTOs patients would not receive adequate treatment, increasing the risk of relapse, hospital admission, and homelessness. They believed that CTOs would improve patients' insight, capacity, adherence, and liberty.

The controversy is ongoing. The focus is on whether the restriction of liberties and human rights may be outweighed by positive outcomes for patient health and wellbeing (Molodynski et al., 2010, Swartz et al., 2003b).

Empirical evidence for CTO

The *rate of CTO* use varies internationally. It is highest in Australia and lowest in the USA with European countries varying between the two (Dawson, 2005). The current prevalence in the UK is 10 CTOs per 100,000 population (Health and Social Care Information Centre-Community and Mental Health Team, 2014) and use has grown since its introduction (Care Quality Commission, 2015).

One of the main arguments against CTO is the lack of evidence of its *effectiveness*. Two RCTs in the USA and one in the UK found no evidence for its benefit (readmissions) compared with voluntary treatment (Swartz et al., 1999b, Steadman et al., 2001, Burns et al., 2013). There have been more than 40 non-randomised studies with mixed and inconclusive results for the positive impact of CTOs for various outcomes such as hospital readmission, victimisation, contacts with services, quality of life, and arrest. However these studies were methodologically poor and generalisability is problematic because of different legislations (Churchill, 2007, Dawson, 2005, Rugkåsa et al., 2014b, Rugkåsa and Dawson, 2013, Maughan et al., 2014, Kisely et al., 2011, Kisely and Hall, 2014, Rugkåsa, 2016).

International evidence on *predictors* is more consistent and has shown that CTOs are used for predominantly middle-aged male, single, unemployed, socially isolated, often a risk to self or others, with a diagnosis of schizophrenia or schizoaffective disorder, with lack of insight, receiving antipsychotic depot medication, with long history of mental illness, and multiple hospital admissions (Burns et al., 2013, Care Quality Commission, 2015, Dye et al., 2012, McKie, 2014, Rawala and Gupta, 2014, Smith et al., 2014).

The limited evidence suggests that patients report very different and sometimes contradictory *views* about CTOs. In general they are ambivalent because they see both a positive and negative side. Patients mostly dislike feeling coerced and controlled, with a restricted choice of accommodation, movement and medication but they see positive impacts such as safety, structure to life, and improvement of mental health (Gibbs, 2010, Gibbs et al., 2004, Gibbs et al., 2006, Canvin et al., 2002, O'Reilly et al., 2006). Family members and clinicians, however, generally perceive CTOs positively (O'Reilly et al., 2006, Gibbs et al., 2006, Swartz et al., 2003c, Manning et al., 2011). The common concern of all stakeholders, however, was avoiding hospital admission.

1.6 Informal coercion

Legal compulsion remains the clearest expression of coercion in most health care systems. Although increasing numbers of patients have been subject to legal compulsion in the community (CTOs) the vast majority are still treated voluntarily. It has been argued that purely voluntary psychiatric treatments are very rare and there is usually some form of pressure (Susser and Roche, 1996), but in practice, the distinction between coerced and voluntary status is more complex.

Coercive pressures such as the threat of involuntary admission, are widely used with voluntary patients and some involuntary patients even report feeling less coerced than voluntary patients (Hoge et al., 1997, Rogers, 1993, Monahan et al., 2005, Bonsack and Borgeat, 2005). Regarding 'coercion' and 'involuntary treatment' as identical prevents researchers from recognising other coercive strategies. Such pressures are assumed to improve patients' adherence to treatment and consequently clinical outcomes and reduce hospital admissions. These non-legislative forms of coercion are hard to identify or measure. They are not systematically recorded in medical records, and they are not regulated by policies or legislation.

Clinicians use various pressures in their relationships with patients (Godin, 2000, Lützén, 1998). However, such pressures may risk a patient's trust, and clinicians need a clearer understanding to choose strategies that ensure both collaboration and a trusting relationship (Lützén, 1998). Better understanding of patients' perceptions of coercion can enable clinicians both to minimise the negative consequences of coercion and to improve practice.

1.6.1 What is informal coercion?

Monitoring and encouraging patients to take medication has become a central task in community psychiatry. Both public pressure and professional responsibilities may push clinicians to use unnecessarily coercive strategies to avoid failures in care that might put the patient or public at risk (Watts and Priebe, 2002). The shift from a more paternalistic approach to more collaborative interaction aims to reduce patients' experiences of coercion. To avoid using legal compulsion, clinicians have adopted other 'tools' to improve adherence, often using informal coercion including persuasion,

interpersonal leverage, inducement, and threats (see Figure 1) (Szmukler and Appelbaum, 2008). Patients' experience of coercion includes other forms of often subtle pressures that are not included in current theoretical frameworks (e.g. withholding a driving licence) (Canvin et al., 2013).

1.6.1.1 Leverage

The term leverage originated in North America. People with SMI often depend on welfare support and are frequently involved with the criminal justice system. Leverage refers to the explicit use of pressure by making needed provisions such as housing and financial support (or the reduction of criminal charges) directly contingent upon adherence to prescribed treatment. Canvin et al. (Canvin et al., 2013) (p102) proposed three conditions for leveraged pressures: "(i) consequences contingent upon a specified response (conditionality), (ii) a lever," (e.g. access to services, access to social welfare benefits, depot injection, hospital admission, discharge from services, avoidance of imprisonment or criminal charges), and "(iii) direct communication by someone perceived to have the power to bring about the specified consequences". Leverage is thus different to both legal compulsion and persuasion (Monahan et al., 2005, Szmukler and Appelbaum, 2008). It may compromise the patient's autonomy and the therapeutic relationship (Monahan et al., 2001, Angell et al., 2007) yet not always be perceived as coercive (Susser and Roche, 1996).

The most researched and described forms of leverage include access to welfare benefits (e.g. access to housing and financial support), the avoidance or reduction of criminal sanctions, access to or custody of children, and the avoidance of involuntary admission via community compulsion.

Housing leverage

Some landlords believe that housing leverage will make patients better tenants because they are adherent. For clinicians and family its purpose is to keep patients stable and in treatment (Allen, 2003). Many residential housing programmes in the USA include housing leverage in the lease (Wong et al., 2010, Robbins et al., 2009) although it is not clear whether this is entirely legal (Monahan et al., 2001). Housing leverage is often used at hospital discharge (Diamond, 1995, Allen, 2003) when moving into specific residential accommodation or into accommodation with restrictive regimes (Monahan et al., 2001, Allen, 2003).

Financial leverage

Many patients with SMI have few basic financial skills and experience (Marson et al., 2006). They may be assigned someone to support them in managing their finances. This arrangement can be formal (financial guardian or representative payee, often a clinician) or informal (carer, family member). Representative payee programmes in the USA pay a person's rent and utility bills using their disability benefits (Elbogen et al., 2005). A representative payee may make access to the remaining funds dependent upon adherence (financial leverage). Informal financial management is mostly voluntary but financial leverage is not unusual.

Criminal justice leverage

Criminal justice leverage has long been used when people with substance abuse and/or psychosis appear before the courts in many countries. Practices vary but patients are often offered the choice of entering treatment instead of criminal sanctions such as imprisonment or conviction. Adherence to mental health treatment is a frequent

condition of probation, parole, or for charges to be dropped (Monahan et al., 2005). The USA relies more on designated mental health courts (Monahan et al., 2001, Monahan et al., 2005, Griffin et al., 2002, Lamberti, 2007) whereas in Europe the practice relies on court diversion schemes. In such schemes patients are screened by mental health staff and many do not progress to a hearing but are diverted to treatment.

Avoidance of hospital treatment (via CTO) leverage

In some US states patients legally eligible for involuntary hospital admission may decide between compulsory treatment in hospital or the community (Monahan et al., 2001, Monahan et al., 2005). Avoidance of hospital treatment (leverage) via community compulsion (CTO) is conditional upon adherence to treatment.

Childcare leverage

Patients with SMI may be reluctant to disclose that they have children or to seek treatment for fear of losing custody (Nicholson et al., 1998, Busch and Redlich, 2007). Adherence may be made a condition of access to their own children (childcare leverage). Whilst a potential powerful motivator, such requirements can be very stigmatising (Nicholson et al., 2002, Nicholson et al., 2005).

1.6.2 Empirical evidence about informal coercion

Little is known about the use of informal coercion in community care and its effectiveness on clinical outcomes has not been systematically investigated. There are only three published studies investigating its prevalence (Monahan et al., 2005, Angell, 2006, Jaeger and Rossler, 2010, Jäger and Rössler, 2009, Burns et al., 2011) but

researchers' interest in informal coercion is growing. In Chapter 2 I summarise the current knowledge of informal coercion published over the last 35 years.

1.7 The therapeutic relationship in psychiatric care

The therapeutic relationship is an essential factor in the quality of all psychiatric care (Johansson and Eklund, 2003). Mental health care is provided by clinicians through relationships with patients (McGuire et al., 2001) and communicating with patients is a substantial part of "what psychiatrists do" (Priebe and McCabe, 2006).

The therapeutic relationship has three main features: the collaborative nature, the affective bond, the patient's and therapist's ability to agree on treatment goals and tasks (Catty et al., 2012, Catty et al., 2007, Priebe et al., 2011b). The definition of a therapeutic relationship may include negative and damaging features, but it is important to assess it (Priebe and McCabe, 2006). The relationship between patient and psychiatrist has changed over decades. With more patient-centred care, patients who were predominantly passive with limited influence in decisions regarding their treatment are now asked for their active contribution in care-plan and partnership with clinicians.

1.7.1 Empirical studies of the therapeutic relationship

The role of the therapeutic relationship was first debated and thoroughly investigated in psychotherapy, and shown to be related to satisfaction with care, treatment adherence and various other outcomes (McGuire et al., 2001, Priebe et al., 2011b). However, the therapeutic relationship in psychiatric care is more complex because patients have relationships with multi-disciplinary teams, treatment is often open-ended, may include

practical help and can be coercive (McGuire-Snieckus et al., 2007, Skeem et al., 2007). Therefore scales for assessment of the quality of therapeutic relationship in psychiatry were developed (Catty et al., 2007, McCabe and Priebe, 2004, McGuire-Snieckus et al., 2007) although only four have been recommended for research purposes (Catty et al., 2007).

Researching the therapeutic relationship in psychiatry is important. Social support and relationships with family and professionals may protect patients from hospitalisation, enhance their service use, and the support they receive (Becker et al., 1997). The evidence is, however, weak unlike that in psychotherapy (Priebe et al., 2011b).

1.7.2 The therapeutic relationship in coercive treatment

Understanding the therapeutic relationship is particularly important because of the clinician's complex double role (to support and to control). While most clinicians are aware of the necessity of coercion in care (Swartz et al., 2003c, Seale et al., 2006) they also believe it is a sign of a poor therapeutic relationship (Seale et al., 2006, Godin, 2000, Valenti et al., 2015, Diamond, 1995), and a failure in their commitment to care (Widdershoven and Berghmans, 2007). They are often concerned it will damage the trusting therapeutic relationship which is still necessary for applying coercion (Angell et al., 2007, Neale and Rosenheck, 2000, Dixon et al., 1999, Godin, 2000, Gilburt et al., 2008, Olofsson et al., 1998, Seale et al., 2006, Høyer et al., 1999, Swartz et al., 2003c, Romans et al., 2004, Sjöström, 2006). If perceived coercion can be reduced by fair and respectful treatment (Monahan et al., 1996, Jaeger and Rossler, 2010, Geller and Glazer, 2012) the therapeutic relationship may play an important role in minimising the patient's experience of coercion.

1.8 The current study: Informal coercion in community mental health care

1.8.1 Background

Coercion in mental health is increasing (Priebe et al., 2005a). Compulsory treatment is now possible in both hospital and the community. Both voluntary and involuntary patients may feel coerced and they are routinely subject to various forms of non-legislated pressures (Monahan et al., 2005, Burns et al., 2011).

Informal coercion is widespread but there is little research of associations with other factors. Both legal compulsion and informal coercion may restrict patient freedom and autonomy but their justification is problematic because of the absence of evidence on positive outcomes for patients (Priebe et al., 2011a, Churchill, 2007, Maughan et al., 2014, Kisely and Hall, 2014).

Neither legal compulsion nor informal coercion will disappear from mental health services but an accepted aim is to reduce coercion. To achieve this it is necessary to establish how to reduce a patient's objective and subjective experience of coercion and increase their autonomy. My thesis aims to investigate this by identifying factors associated with informal coercion and exploring the potential of a therapeutic relationship to influence outcomes of coerced treatment. My research will draw on data from two large studies (ULTIMA and OCTET) in which I have been heavily involved.

1.8.1.1 The Use of Leverage To Improve Mental health treatment Adherence (ULTIMA)

ULTIMA is a cross-sectional study aimed at examining patient experience of informal coercion in community mental health care (Burns et al., 2011).

Sample and procedure

A sample of 417 community patients with various diagnoses was recruited across Oxfordshire and Buckinghamshire. The sample comprised four groups of patients from three different community mental health services. One group with a diagnosis of psychosis was from Assertive Outreach Teams (characterised by small case-loads of very difficult to engage patients). Two groups (one psychosis and one non-psychosis) were recruited from Community Mental Health teams. These teams have larger patient caseloads with a variety of diagnoses. The fourth group was obtained from clinics for heroin-dependent substance misuse currently treated with methadone or subutex. Eligibility criteria included aged between 18 and 65 years, minimum 6 months care, with at least one contact with service in that time. Patients were assessed with a one-off structured interview between February 2007 and April 2008. The 198 ULTIMA patients diagnosed with psychosis were included in the present study. This sample was investigated before the introduction of CTOs.

Data

Research assistants collected data from medical records and by interviews with patients. Data included sociodemographic characteristics, treatment experience and self-reported and researcher-rated outcomes (instruments and measures are described in Chapters 3, 4 and 5). I collected additional data from medical records on hospitalisation

and legal compulsion during the six-month period preceding and the 12 months succeeding the interview.

ULTIMA findings

The main finding of the ULTIMA study were that 35% of community patients in England experience at least one form of leverage and the prevalence among patients with substance abuse and psychosis is higher compared with other clinical diagnoses (Burns et al., 2011).

1.8.1.2 Oxford Community Treatment order Evaluation Trial (OCTET RCT)

OCTET RCT was a single-outcome, non-blinded parallel arm randomised controlled trial on the effectiveness of CTOs (Burns et al., 2013). The hypothesis tested was that patients discharged from hospital on CTOs would have a lower rate of readmission to hospital compared with patients discharged to informal community care.

Sample and procedure

Eligible OCTET study participants were recruited from 32 NHS mental health Trusts across England between November 2008 and February 2011. Patients were randomly allocated either to be discharged on a CTO (a high level of coercion) or to voluntary treatment. Recruited patients were followed for 12 months and assessed at baseline, six, and twelve months.

Data

Socio-demographic characteristics, clinical and criminal history and self-reported and researcher-rated outcome data were collected in interviews with patients, data on legal

status and admissions from medical records. I collected no additional data for the OCTET sample.

OCTET RCT Findings

The OCTET RCT failed to find evidence for the effectiveness of CTOs in reducing remission rates, other readmission outcomes, or social and clinical outcomes (Burns et al., 2013, Rugkåsa et al., 2015).

1.8.1.3 My role in the ULTIMA and OCTET studies

I was involved in both ULTIMA and OCTET studies throughout the whole study period. My role in these studies included study and research staff management, preparation of protocols, applications for ethical approval, development of interview schedules and databases, and the supervision and training of research assistants in administering the structured interview. I conducted data assessments with patients during the training of research assistants. I managed inter-rater reliability and led on data monitoring and management (including data quality assurance). I was fully involved in data analysis and the writing of manuscripts and the final report for both studies.

1.8.2 Studies

This thesis aims to expand current limited knowledge about patients' experiences of coercion, particularly informal coercion in community mental health care. This involves four studies each with a specific research question. Boxes 1 and 2 explain how I used data collected in the OCTET, ULTIMA and my studies.

Box 1 Data for three empirical studies

	Data collection time points		
OCTET	**Baseline**	**6 months**	**12 months**
ULTIMA	**-**	**One time point**	**-**
Data collected for ULTIMA patients	**Preceding 6 months**	-	**Succeeding 12 months**

1.8.2.1 Scoping review: informal coercion

Patients are routinely subject to non-legislative pressures in community treatments. These forms of pressure were only recently acknowledged in the literature but research interest is growing. In **Chapter 2** I use a scoping review method to explore the ethical and theoretical debate and the current qualitative and quantitative evidence on informal coercion.

1.8.2.2 Informal coercion and legal compulsion

Patients who are subject to legal compulsion may also experience non-legislative pressures. It is not known whether patients under legal compulsion experience a different level of informal coercion to voluntary patients. An increased level of experienced informal coercion in involuntary patients would suggest overly increased coercion in their treatment. Reduced informal coercion among them could, however, be considered a potential positive outcome of compulsion. None of the three published studies of informal coercion tested its relationship with formal status (Burns et al.,

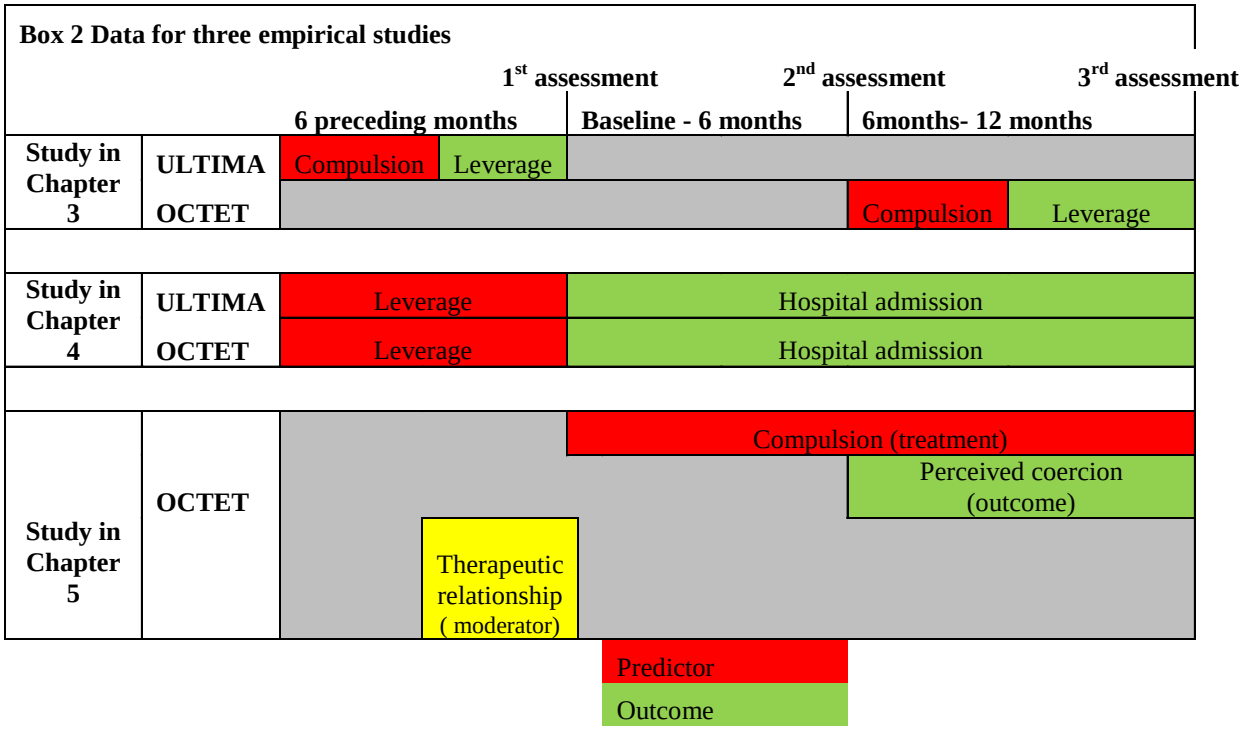
2011, Monahan et al., 2005, Jaeger and Rossler, 2010). In the study described in **Chapter 3** I test for associations of reported informal coercion with legal compulsion.

1.8.2.3 Informal coercion and clinical outcomes

Clinicians and family members believe that both legal compulsion and informal coercion improve patient outcomes (Lützén, 1998, Vuckovich, 2009, Lidz et al., 1998, Swartz et al., 2003c, Rugkåsa et al., 2014a, Valenti et al., 2015). To date no evidence has been found for the effectiveness of inpatient or community (CTO) compulsion (Katsakou and Priebe, 2006, Churchill, 2007, Maughan et al., 2014, Rugkåsa et al., 2014b). It is unknown whether informal coercion leads to more favourable treatment outcomes. In **Chapter 4** I examine associations between reported informal coercion and hospital admissions (i.e. outcome) over the succeeding twelve months.

1.8.2.4 Therapeutic relationship and perceived coercion

The associations between the therapeutic relationship and outcomes are poorly understood and causal relationships are unknown (Catty et al., 2010, Priebe et al., 2011b). The therapeutic relationship has been suggested to moderate the experience of compulsion (McNiel et al., 2013, Elbogen et al., 2005, Van Dorn et al., 2006) but it is not known whether patients' ratings reflect the effect of that relationship or a patient's overall tendency to rate treatment in a particular way (Hansson et al., 2007). The study in **Chapter 5** investigates whether the therapeutic relationship moderates perceived coercion and other outcomes of treatment with a different duration of compulsion.



1.8.3 Transfer viva

This thesis protocol has been changed as a result of suggestions for improvement by transfer viva examiners. Two general suggestions were related to (i) a clarification of the aim and a justification of the importance of the topic, and (ii) the nature of various forms of coercion, and the relationships of various concepts of treatment pressures and perceived coercion. As a result I have clarified in more detail in **Chapter 1** the concepts of various forms of treatment pressure and the objective and subjective experience of coercion. In addition I conducted a comprehensive scoping review of the literature related to informal coercion. I did not restrict my review to empirical evidence but included published ethical and theoretical papers to increase the understanding of existing theoretical conceptualisations and ongoing ethical debate **(Chapter 2)**.

There were further suggestions for expansion of three empirical studies originally designed to test one research question each. I accepted all three suggested additional research questions which I have investigated in exploratory analyses in each study. In the study investigating the associations between informal coercion and legal compulsion in the combined ULTIMA and OCTET samples I repeated the research question in the individual samples. This was to explore the possibility that the highly selected OCTET patients might have abnormal levels of informal coercion because of the high level of compulsion (**Chapter 3**).

In testing the association of informal coercion with hospital admission I also explored the associations of informal coercion with other patient-rated outcomes. This was a unique opportunity to explore these interactions and contribute to a limited body of evidence **(Chapter 4).**

Lastly in the therapeutic relationship moderation study I expanded the analysis by testing the potential moderation of other outcomes **(Chapter 5)**.

1.9 Summary

Patient-centred care and minimising coercion have become important objectives in psychiatric care. Compulsory treatment has recently been introduced into the community potentially increasing overall coercion, particularly for patients with psychosis. Coercive experiences in the community are also potentially expanded by the use of various forms of informal coercion. Empirical evidence on the effectiveness of coercion is limited and its use remains controversial. Little is known about informal coercion and factors which may reduce patient experience of coercion.

In this thesis I aim to summarise current evidence (Chapter 2) and investigate factors associated with the experience of informal coercion (Chapters 2 and 4) and legal compulsion (Chapter 5) in patients with a diagnosis of psychosis in England.

Chapter 2 summarises findings of a scoping review of the literature on informal coercion.

Chapter 3 describes the experiences of informal coercion in patients with and without involuntary treatment in a retrospective longitudinal study.

Chapter 4 reports a longitudinal prospective study of the association of experience of informal coercion with hospital and other outcomes.

Chapter 5 describes investigation of the moderation role of the therapeutic relationship for perceived coercion and other outcomes of compulsory treatment.

Chapter 6 summarises my findings, interprets them in the context of current mental health practice, discusses the difficulties of the investigation of informal coercion, and offers recommendations for clinical practice and future research.

Chapter 2 Scoping review: Informal coercion in psychiatric care

2.1 Introduction

Research into legal compulsion dominates research on coercion in psychiatry. Since the deinstitutionalisation of psychiatric care, research into coercion has begun to examine legal compulsion in the community (Community Treatment Orders, CTOs). Three RCTs (Burns et al., 2013, Swartz et al., 1999b, Steadman et al., 2001) found no evidence for the effectiveness of CTOs but they are continuously and widely used (Dawson, 2005).

However, focusing on only objective forms of coercion such as involuntary treatment (legal compulsion) does not provide a full picture of patients' experiences of coercion. In the last two decades researchers have become increasingly interested in patients' subjective perception of coercion. The findings of studies on patients' perceived coercion demonstrated that restricting research to legal compulsion is not sufficient to explain why patients feel coerced in the absence of legal compulsion, or non-coerced when involuntarily admitted (Rogers, 1993, Bindman et al., 2005, Hiday et al., 1997, Monahan et al., 1995, Lidz et al., 1995). These findings initiated an interest in research into other (informal) forms of pressure in psychiatric treatment.

Although legal compulsion still dominates research in this area there is a limited but growing body of evidence of non-legislative pressures in community treatment. The concept of informal coercion is relatively new and it covers various interventions applied on a day-to-day basis in a complex setting of outpatient and inpatient

psychiatric care. The terminology used to describe these interventions is not clear, the evidence is limited, and it generates various ethical questions.

Coercion in psychiatry is increasing (Keown et al., 2008) despite the absence of evidence for its effectiveness on patient outcomes. It is essential to identify effective forms of coercion which are not perceived negatively by patients. The absence of evidence for the effectiveness of legal compulsion heightens the necessity to research the evidence for informal coercion, and although little is known about it research interest is growing. The body of evidence has not been comprehensively reviewed to date, but a review of current knowledge may lead to the development of research questions for future studies.

This chapter will review this evidence and identify common themes in the literature on informal coercion. The aims of this review are to (i) investigate the extent and range of research, and ethical and conceptual work on informal coercion, (ii) to summarise current knowledge, and (iii) to identify gaps in the literature. The initial intention was to conduct a systematic review. This was, however, changed to a scoping review following a search for the most appropriate review method. Scoping review methods are recommended for a broad understanding of a complex and relatively new research area (Arksey and O'Malley, 2005, Davis et al., 2009, Grant and Booth, 2009, Rumrill et al., 2010, Armstrong et al., 2011, Levac et al., 2010).

2.2 Methods

The scoping review method of literature has been developed over the last 15 years. Scoping reviews differ from systematic and other types of review (Grant and Booth, 2009). The first methodological framework for a scoping review was developed by

Arksey and O'Malley (Arksey and O'Malley, 2005) and has been continuously improved and extended by other authors according to their experiences (Anderson et al., 2008, Davis et al., 2009, Levac et al., 2010, Rumrill et al., 2010, Brien et al., 2010, Daudt et al., 2013). Scoping reviews are increasingly used and acknowledged by the Cochrane Review Groups (Armstrong et al., 2011).

Scoping reviews (sometimes called 'scoping studies') are defined similarly by several authors (Arksey and O'Malley, 2005, Anderson et al., 2008, Davis et al., 2009, Rumrill et al., 2010). They refer to the mapping of existing literature (size and location of the literature), conceptual mapping (clarifying definitions and conceptual boundaries), and policy mapping. Scoping reviews prioritise the breadth rather than the depth of coverage of literature on a topic and they provide an overview of the size and scope of available literature. They can include both research (often both quantitative and qualitative) and non-research literature (Rumrill et al., 2010, Davis et al., 2009). Scoping reviews are increasingly accepted as a method for developing a broad picture of current evidence in an emerging and complex area of research where there are no RCTs available for systematic review (Arksey and O'Malley, 2005, Davis et al., 2009, Levac et al., 2010).

The purpose of scoping reviews can be (i) predominantly exploratory such as the mapping of fields, informing a potential systematic review about feasibility, potential costs, or other reviews, or (ii) like systematic reviews, summarising and disseminating research findings, identifying gaps in current literature (Arksey and O'Malley, 2005, Rumrill et al., 2010), and informing research commissioners and policy makers (Anderson et al., 2008). They are particularly valuable for a preliminary exploration of the breadth of research in a particular area prior to any in-depth research.

Scoping reviews are different to systematic reviews in several aspects. They have very broad rather than specific research questions. Inclusion and exclusion criteria are often amended and developed during the review and not exclusively fixed before the start. The quality of studies is usually not assessed and data extraction is not obligatory and detailed (as in systematic reviews). Scoping reviews more often generate a qualitative rather than a quantitative synthesis. Instead of focusing on the quality of studies and conclusions, the scoping reviews' comprehensive purpose is to identify gaps and summarise published material (Brien et al., 2010, Armstrong et al., 2011).

The main weakness of scoping reviews is this lack of quality control of studies (Rumrill et al., 2010, Davis et al., 2009). Quality assessment was, however, recently proposed in scoping reviews as it would provide types and sources of evidence for clinical practice, policy-making and research (Daudt et al., 2013).

The strength of the scoping review is its ability to (i) synthesize the core of a diverse and large volume body of evidence efficiently and cost-effectively (Davis et al., 2009, Rumrill et al., 2010), (ii) assist policy makers and research commissioners (Grant and Booth, 2009), and (iii) employ a systematic, transparent and replicable approach (like systematic reviews) (Grant and Booth, 2009, Armstrong et al., 2011).

The scoping review methodological framework consists of six stages. These are (i) identifying the research question, (ii) literature search, (iii) selection of articles, (iv) charting the data, (v) collating, summarising and reporting, and (vi) optional consultation with stakeholders (Arksey and O'Malley, 2005). In this review I followed the original scoping review framework by Arksey and O'Malley with included

amendments from other authors (Levac et al., 2010, Rumrill et al., 2010, Daudt et al., 2013).

2.2.1 Identifying the research question

The broad research question of this scoping review is 'What is known about informal coercion in mental health care?'

Specific research questions were developed to define aspects of informal coercion for this review (Box 3).

Box 3 Specific research questions for scoping review.

1.	How are informal coercion and its various forms conceptualised? What terminology is used to describe them?
2.	What is the empirical and theoretical background of informal coercion?
3.	How prevalent is informal coercion?
4.	How effective is informal coercion?
5.	How does informal coercion work?
6.	Who experiences informal coercion and under what circumstances?
7.	How do patients, clinicians, and family members perceive and experience informal coercion?
8.	What are the measuring instruments used for informal coercion?
9.	Where are the gaps in existing literature on informal coercion? What are the priorities for research and clinical practice?
10.	What are recommendations for clinical practice and future research?

Following the proposed amendments of the scoping review framework (Levac et al., 2010, Davis et al., 2009, Anderson et al., 2008, Rumrill et al., 2010) I have determined a more specific purpose of the review: to examine the nature and extent of research, including the ethical and conceptual work related to informal coercion, to summarise the current understanding of informal coercion, and to identify gaps in existing literature and key research priorities.

The expected outcomes of the review are (i) the range of study locations, (ii) settings and researchers who conducted studies on informal coercion, (iii) the number of studies conducted, (iii) the range of forms of informal coercion researched, (iv) the diversity of terminology and concepts, (v) the proposed ethical justification and consideration of informal coercion, (vi) stakeholders' experiences, perception and views of informal coercion, (vii) gaps in research, (viii) key challenges for research, and (ix) recommendations for clinical practice and future research.

2.2.2 Literature search

The review protocol and the search strategy were developed prior to the literature search. As research into coercion has increased markedly since the 1980s this scoping review searched publications on informal coercion published between 1 January 1980 and 16 June 2015. The literature search was performed electronically on 16 June 2014 and it was updated on 17 June 2015 for publications between 01 June 2014 and 16 June 2015.

Before the search I scanned the available published literature and developed a keyword list in five categories:

1. *Setting*: mental health services, inpatient and community mental health services, psychiatry.
2. *Diagnosis*: mental (health) illness, psychiatric disorders.
3. *Who*: patients, practitioners, clinicians, nurses, carers, family members.
4. *What*: coercion, compulsion, informal coercion, pressure, persuasion, incentives, leverage (housing, financial, child care, child access, criminal justice sanctions), negotiation, threats, force, social welfare, security welfare

warning, encourage, inducement, influence, covert, supervision, involuntary, non-legislative, negative pressure.

5. *Related to*: therapeutic relationship, alliance, perceived coercion, practice, experience, perception, procedural justice, fairness, effectiveness, measurement, understanding, beliefs, attitudes, emotion, fear, views, motivations, medication, adherence, compliance, persistence, and refusal.

The keywords, their synonyms and terms subsumed (e.g. father, mother, brother for *family members*) were combined by Boolean operators to maximise the breadth of the search in academic databases. To illustrate this The Medline (OvidSP interface) search strategy is presented in Appendix 1.

The choice of electronic databases was decided in consultation with an experienced researcher and a librarian. The search was run in Embase (OvidSP interface), Ovid MEDLINE(R) In-process and other non-indexed citations (OvidSP interface), PsycINFO (OvidSP interface), Web of Science Core Collection (Thomson Reuters interface), and Cinahl (EBSCOHost interface) databases. The literature search was supplemented by a manual search of the reference lists in key papers, regular (Mimas Zetoc, Lancet, DG ME Psychiatry, MBC Direct and Science Direct) email alerts of publications between May 2014 – August 2015, and direct contact with authors.

The search included research and non-research articles in peer-reviewed journals and book chapters regardless of language. Empirical papers included not only quantitative but also qualitative studies. Qualitative studies provide a valuable and rich contribution to the body of evidence and compliment the findings of quantitative studies (Fitzpatrick and Boulton, 1996, Dixon-Woods and Fitzpatrick, 2001, Dixon-Woods et al., 2001). Including qualitative studies in this review is important as they may capture a broader

and more complex picture of informal coercion and address research questions that are not easily researched in quantitative studies. They will also provide key evidence on the experiences and views of different stakeholders. These findings can be used to inform future quantitative studies and systematic reviews (Fitzpatrick and Boulton, 1996, Dixon-Woods and Fitzpatrick, 2001, Dixon-Woods et al., 2001). Publications such as conference abstracts, legal cases, letters, commentary, and case reports were excluded.

2.2.3 Selection of articles

I screened abstracts of all publications identified by the search of electronic databases, reference lists of key publications and selected papers from the list of publications received by email alerts. For selected publications the full text was obtained and reviewed.

Inclusion and exclusion criteria were defined prior to reading abstracts. Publications reporting (i) any form of informal coercion (ii) applied in mental health treatment (iii) of adult age (18-65yrs) patients (iv) with a diagnosis of mental illness (v) by clinicians, family members or anyone else included in their mental health care were included in the review. Informal coercion was, for this review, defined as any form of non-legislated pressure applied to improve patients' adherence to mental health treatment including hospital admission.

Excluded publications were case studies, publications on legal compulsion, drug, alcohol or any other non-mental health treatment for patients with mental health illness (e.g. smoking, physical exercise for patients with schizophrenia), and forensic psychiatric papers.

During this phase I consulted my supervisor regarding additional exclusion criteria. We decided to exclude all publications which reported informal coercion applied in substance addiction treatment (e.g drug and alcohol) of patients with a primary diagnosis of substance abuse. Although substance addiction due to psychoactive substance use is considered as a mental and behavioural disorder in the ICD-10 (World Health Organization, 1992), this group of patients substantially differ from patients with mental illness such as schizophrenia, depression, anxiety, and personality disorder. The nature of these disorders, the characteristics of this population and their treatment are specific. They often have a criminal history and/or are subject to criminal justice sanctions and they are more likely to experience high levels of formal and informal coercion than patients with mental illness (Burns et al., 2011). Because of these distinctive characteristics of population and their treatment, publications with a focus on treatment of substance addictions were excluded from the review.

All decisions on publications selected were primarily made by me. Where there was uncertainty about which study to include I would re-read the paper and discuss it with a colleague in my research team or my supervisor. Several screened abstracts were in English but the full text was in another language. The full text of these publications was translated into English. The quality of studies was not systematically assessed (Arksey and O'Malley, 2005).

2.2.4 Charting the data

Limited classification (e.g. empirical/non-empirical, qualitative/quantitative, clinicians/patients participants) of the data was conducted during the selection of publications. This exercise was valuable as it provided data necessary for grouping and

organising publications during detailed charting. Based on data extracted during reading the full text, selected publications were classified into groups. The grouping of publications helped to identify the nature and range of data for extraction in each group. A detailed data extraction was conducted in separate spreadsheets, one for each group. Accordingly extracted data is organised in a different and specific way in each of four spreadsheets. Extracted data included information such as name of authors, date of publication, publication/study origin, design, study sample, clinical setting, study's sites, aims of study/publication, outcomes, and reported results/conclusions in spreadsheets. At the end of this phase charted data from spreadsheets was summarised in four tables included in this chapter.

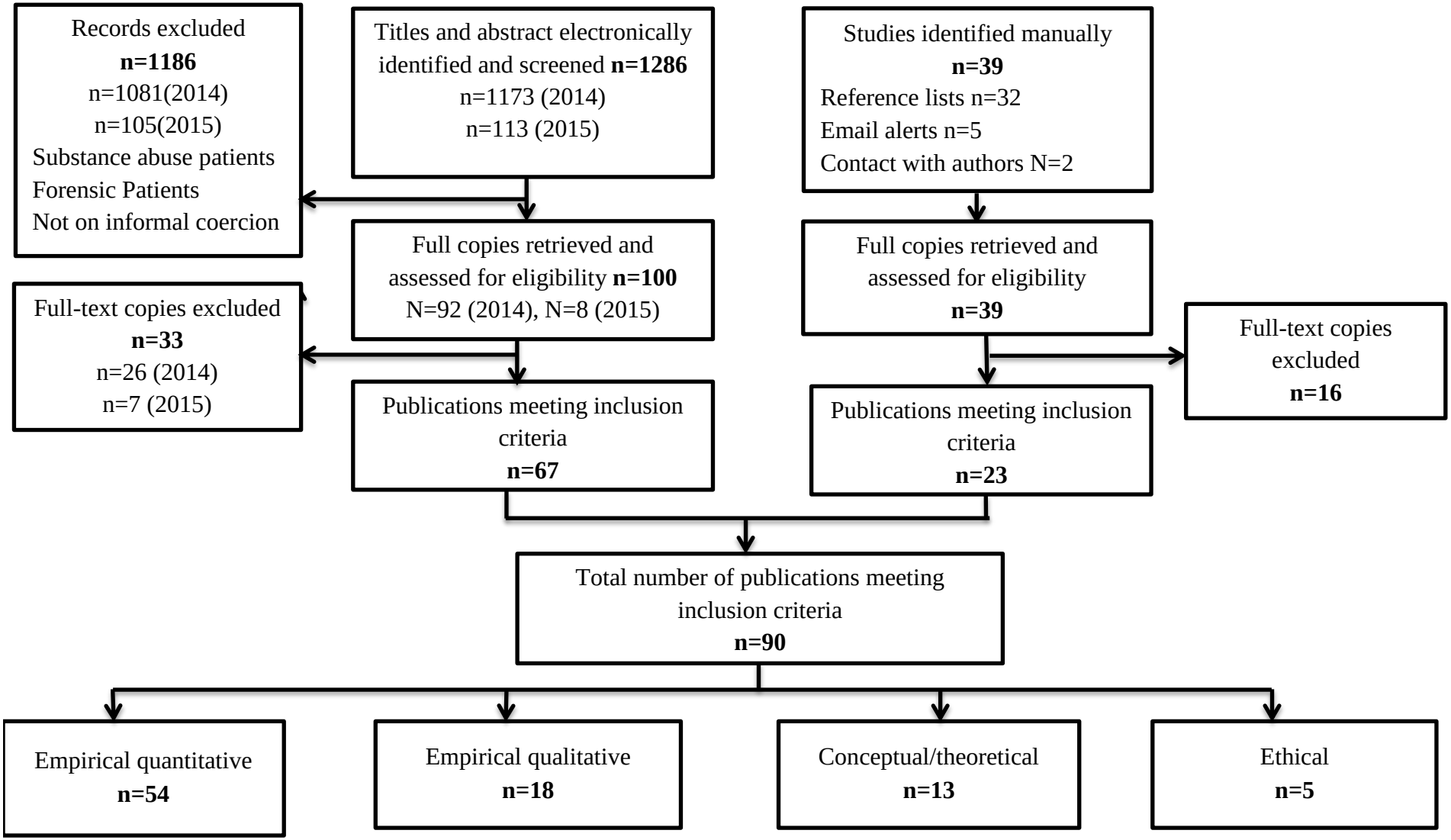
2.2.5 Collating, summarising and reporting

I conducted a narrative synthesis of data in the form of descriptive characteristics of publications, key empirical findings and summarising non-research publications. Extracted data in each spreadsheet was reviewed and common themes identified. During the identification of themes I was guided by specific research questions established at the beginning of the review. This strategy enabled me to identify key gaps in the literature relevant to the defined research questions.

2.2.6 Optional consultation with stakeholders

This phase was not conducted in this scoping review due to limited time and resources.

Figure 2 Overall flow of scoping literature search and selection of publications

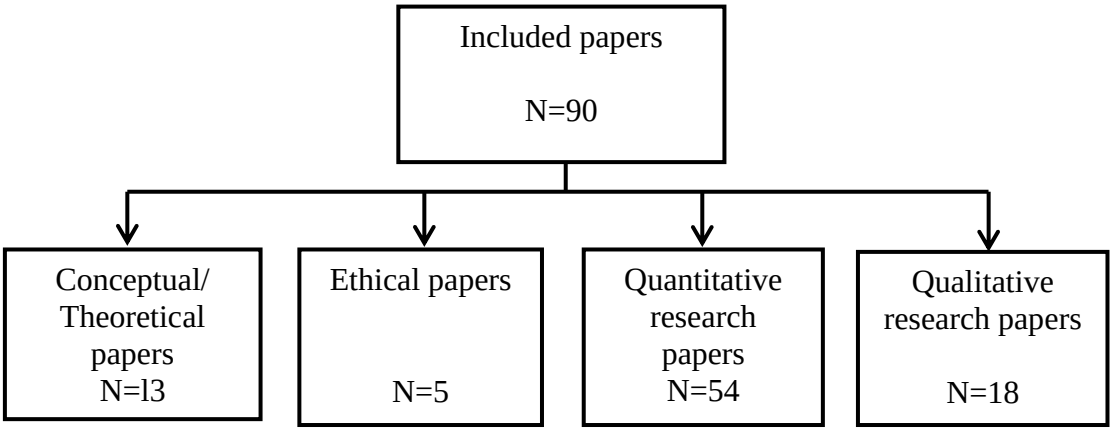


2.3 Results and Discussion

Figure 2 presents a flow diagram of the scoping review. The electronic search identified a total of 1286 publications. The first search in June 2014 produced 1173 and the update in June 2015 identified a further 113. Thirty-nine publications were identified manually through a reference list search of key papers (n=32), email alerts (n=5) and direct contact with authors (n=2). After abstracts for all electronically identified publications were screened, 1186 were excluded because they did not report informal coercion or they included substance abuse or forensic patients. The full text for the remaining 100 publications identified by electronic search and all 39 identified manually were obtained and reviewed. Four papers selected for full text review were not in English. Three were in French and one in German. Papers in French were translated into English by a professional translator and the paper in German was translated by a researcher fluent in German. Only the paper in German was eventually included in the review as the French papers did not meet the inclusion criteria. A total of 90 papers met the inclusion criteria and were included in this review. I grouped them into four groups: (i) empirical quantitative (n=54), (ii) empirical qualitative (n=18), (iii) conceptual/theoretical (n=13), and (iv) ethical (n=5) (Figure 3).

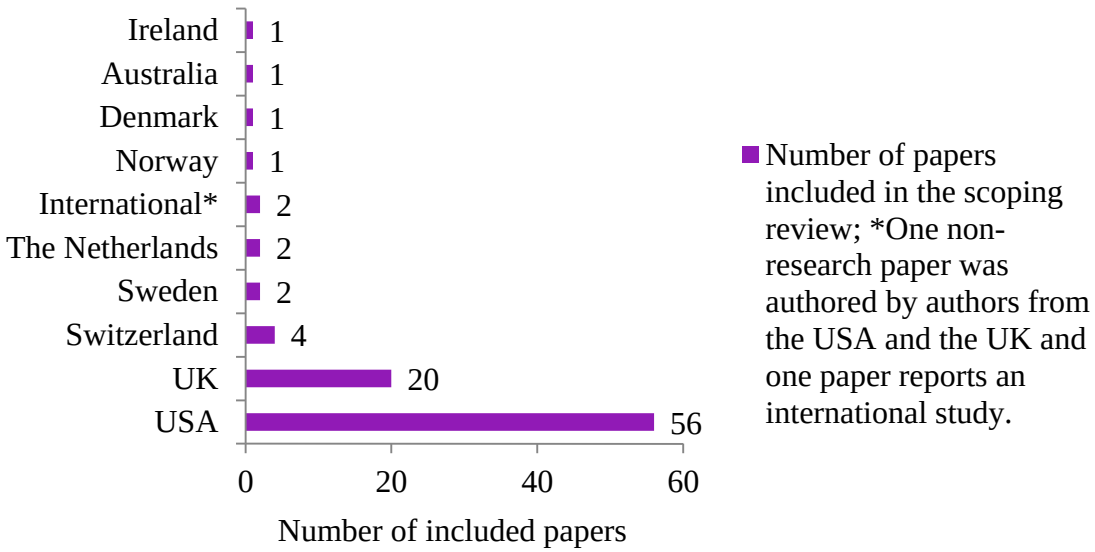
All the publications included were of studies conducted either in the USA (n=56) or Europe (n=34) with no studies from other parts of the world, except one international study paper from Spain with study sites in Europe, North and South America. Figure 4 shows the distribution of publications by country of origin of the study/author.

Figure 3 Categorisation of papers



For each group I will summarise the descriptive characteristics of publications, outline the key concepts applied in the literature, summarise the common themes, and finally identify challenges to clinical practice and gaps in existing literature. In addition, for quantitative studies I will synthesise data regarding the prevalence, predictors and outcomes of reported informal coercion. In this chapter I will use the term *paper* for all the publications included regardless of their type (e.g. an academic article in a peer-review journal or a book chapter).

Figure 4 Country of origin of included papers



2.3.1 Theoretical/conceptual papers

Thirteen papers discuss the definition, forms, history of use, research evidence, ethical aspects, and other conceptual and theoretical issues of coercion (Table 1). Most of these papers originate from the USA (N=10) (Diamond, 1995, Susser and Roche, 1996, Lovell, 1996, Monahan et al., 2001, Allen, 2003, Monahan et al., 2003, Luchins et al., 2003, Monahan and Bonnie, 2004, Bonnie and Monahan, 2005, Lamberti, 2007), one from Sweden (Sjöström, 2006), one from the UK (Molodynski et al., 2010) and one jointly from the USA and the UK (Szmukler and Appelbaum, 2008). One paper is based on observational-ethnographic data collected by the author (Sjöström, 2006) but was classified as conceptual because the data was used to demonstrate various forms of coercive interventions and to discuss the conceptual, theoretical and ethical issues of coercion.

Six of thirteen papers focus on the general concept of coercion and various forms of treatment pressures (Diamond, 1995, Lovell, 1996, Bonnie and Monahan, 2005, Sjöström, 2006, Szmukler and Appelbaum, 2008, Molodynski et al., 2010). Three discuss various forms of leverage (Monahan et al., 2001, Monahan et al., 2003, Susser and Roche, 1996) and four papers focus on individual forms of leverage such as housing leverage (Allen, 2003), financial leverage (Luchins et al., 2003), legal leverage (Lamberti, 2007), and the use of retention of a professional licence as leverage (Monahan and Bonnie, 2004).

Table 1 Informal coercion scoping study - conceptual/ theoretical papers

	Authors	Year	Origin	Service in focus	Focus	Aim of the paper	Summary of outcomes
1.	Diamond	1995	USA	Community care	1. Coercion 2. Forms of coercion 3. Therapeutic relationship	1. Coercion 2. Use of different forms of coercion 3. Current services **(adherence to treatment pressures)**	1. **Coercion is a continuum** (ranging from persuasion through threats and other pressures to compulsion). 2. Coercion and paternalism are not necessary bad. 3. **Changes in AOTs' approach**: i. Traditional approach – paternalistic deciding **for** patients ii. New approach – assisting patients to make decisions for themselves, have control and achieve their own goals. 4. **Effective care** reduces need for coercive interventions. 5. Patients' refusal of treatments may be a sign of treatment failure. 6. **Therapeutic relationship** – long-term and collaborative relationship is crucial for effective care. i. Good therapeutic relationship may lead to patient's acceptance of medication which is important for patient's quality of life. ii. Use of coercion may put therapeutic relationship at risk.
2.	Susser & Roche (book chapter)	1996	USA	Community care for homeless psychiatric patients	1. Leverage 2. Autonomy 3. Coercion 4. Homelessness	Use of coercion and leverage in clinical outreach with homeless psychiatric patients. **(adherence to treatment pressures)**	1. **Majority of clinical practice** relies on use of leverage. Clinical interventions are rarely purely voluntary or involuntary. 2. **Outreach service** – common use of leverage with difficult to engage population. 3. **Forms of leverage** – emotional dependency with clinicians (using threat of change or loss of the relationship), offering incentives, setting limits on incentives or withholding them, financial leverage (delaying access), housing leverage (delays in housing referrals, referrals depending on adherence, threat of losing housing), threat of hospitalisation (subtle and unspoken). 4. Leverage – not always **loss of autonomy**. Patients' reactions on leverage are complex- depend on amount of choice and control, belief system, and personal experience. 5. Good therapeutic relationship – can replace perceived coercive incentives with perceived benefits. 6. Leverage can be a **valuable intervention** in treatment if combined with gentle and supportive interventions. 7. Research on leverage: i. Need to identify all forms of coercion in outreach services. ii. Paucity in research of use of leverage in community care. iii. Need to investigate effectiveness of all forms of leverage.
3.	Lovell (book chapter)	1996	USA	Community care	1. Research of coercion. 2. Gaps in research. 3. Types of social control (coercion, coerce voluntarism, utilitarian compliance, persuasion.	1. Research on the use of coercion in community mental health. 2. Developing broader conceptualisation of coercion. **(adherence to treatment pressures)**	**I. Research on the use of coercion** 1. **Research on coercion** – two ways of research suggested: i. Contextual determinants of coercion. ii. Alternatives to coercion. Outcomes of coercion: Compliance with treatment i. Another form of coercion ('physician control', medical dominance, 'act in accordance with demands, rules, request, orders', tautology). ii. Investigating whether one coercive intervention leads to another. 2. **A social control framework** Continuum of various forms of 'social control' ranging from persuasion to force or from

Table 1 Informal coercion scoping study - conceptual/ theoretical papers

	Authors	Year	Origin	Service in focus	Focus	Aim of the paper	Summary of outcomes
					4. Contextual. determinants of coercion. 5. Determinants of non-coercive practices.		bilateral control or voluntarism (e.g. counselling) to 'pure coercion' (e.g. CTO). Four types of social control: i. **Coercion:** a. Force. b. Physical and emotional coercion (e.g. creating emotional dependency). ii. **Coerced voluntarism:** Threat of negative sanction (e.g. 'you sign or I sign' technique for voluntary hospitalisation). iii. **Utilitarian compliance:** Less direct form of coercion (leverage). Clinicians demand certain behaviour or actions in return for desired resources (e.g. housing, assistance with entitlements, a clean referral to another programme). iv. **Persuasion:** Both clinician and the patients have some control but both must share the same meaning, beliefs or symbolic system. Most interventions lie in between these four types of social control. Two neglected areas in research: the contextual determinants of coercion and the determinants and effects of deliberately non-coercive practices. **II. Contextual determinants of coercion** Getting the big picture – various forms of social control exist in a given context of MH or social services (e.g. intensive case management). Research questions: 1. MH service and funding (e.g. per capita logic; monthly quota of clients in homeless programmes) as coercive context for clinicians forcing them to use coercive interventions. 2. Public fear, prejudice and stigma (e.g. concern about reducing value of private housing if the 'homeless' or 'mentally ill' are in the neighbourhood). 3. The relationship between scarcity of resources and coercive practices (suggestion that more coercion is used in less funded services, unfair distribution of burden and benefits among psychiatric patients, effects of newly deployed resources). **III. Determinants and effectiveness of non-coercive practices** (empowering interventions, encouraging patients' participation and choice). 1. The integration of 'peer' or 'consumers' into services – service user MH service providers would have more similarities with service recipients (e.g. shorter cultural distance) and they may use less coercive interventions. 2. Advance directives – comparison with Ulysses contract. Patient's instructions about treatment in the event of a relapse. Coercive vs. non-coercive interventions will depend on context. Integration of individual, organisational and system levels of analysis will result in a clearer understanding of coercion and its determinants and effects.
4.	Monahan et al.	2001	USA	Community care	1. Forms of leverage. 2. Mandated community treatment.	1. Conceptual framework of various forms of leverage (mandated community treatment). 2. Current knowledge and recommendations for future	1. **Forms of leverage:** i. **Social welfare system leverage** a) *Financial leverage* (representative payees link disbursement of social welfare to avoidance of substance abuse and adherence to mental health treatment). b) *Housing leverage* (landlords' requirements related to treatment adherence or

Table 1 Informal coercion scoping study - conceptual/ theoretical papers

	Authors	Year	Origin	Service in focus	Focus	Aim of the paper	Summary of outcomes
						research and clinical practice. **(adherence to treatment pressures)**	avoidance of substance abuse). ii. **Legal leverage**: a) *Avoidance of prison* ('mental health courts' redirect patients to treatment to avoid prison). b) *Avoidance of hospitalisation* (choice between community treatment and hospital treatment). iii. **Advance directives** (instructions and treatment preferences in case of relapse). Self-imposed. 2. **Limited data from limited studies** on leverage, urgent need for evidence to replace ideology. 3. **Research recommendations**: prevalence, process (procedural justice), outcomes for patients (testing whether leverage is a barrier to seeking treatment and whether it reduces violence) (effectiveness), and legal and ethical issues of leverage.
5.	Allen	2003	USA	Housing programmes for patients with mental illness.	1. Housing programmes. 2. Housing leverage.	1. Description of housing programmes 2. Use of leverage/coercion in housing programmes. **(adherence to treatment pressures)**	**Residential housing** 1. Use of housing leverage is common – no attention to long-term implications. 2. Reasons why not to use housing leverage: it undermines the therapeutic relationship, violates clinicians' ethical principles, it is not as effective as 'housing first' programmes, it violates federal law about integration of people with mental illness. 3. Leveraged housing is not supporting integration of patients in the community. 4. Negative aspects of residential accommodation: segregation of mentally ill patients, replaced institution (such as hospital). 5. Suggests change to housing policy. 6. Call to stop residential accommodation for mental patients. **Independent housing** 7. Would prevent segregation of patients. 8. Is evidence that psychiatric patients can learn skills and live independently? 9. Would prevent use of leverage and consequently require better engagement of mental health services. 10. Psychiatric patients should have choice about their housing like other citizens.
6.	Monahan et al.	2003	USA	Community care	a) Leverage in community mental health care. b) Mental health policy as a context for leverage. c) Leveraged treatment within a framework of health care quality.	1. Context of coerced community treatment. 2. Mandated treatment within the larger conceptual framework of health care quality.	1. **Mental Health Policy as a context of coerced community treatment** Non- or poorly adherent patients often do not benefit from treatment due to their non-adherence. Different institutions or agencies have developed similar strategies (mandates) for non-adherent patients who would otherwise not benefit from treatment due to their non-adherence. 2. **Forms of mandated community treatment:** i. In the social welfare system (money and housing leverages) ii. In the judicial system: a) Avoidance of imprisonment as leverage using mental health courts. b) Avoidance of hospitalisation as leverage via CTO and advance directives. 3. **Mandated treatment within the larger conceptual framework of health care quality**. Coercion in medicine is used in psychiatry, infectious decease, and geriatrics. Quality of care components:

Table 1 Informal coercion scoping study - conceptual/ theoretical papers

	Authors	Year	Origin	Service in focus	Focus	Aim of the paper	Summary of outcomes
							i. ***Patient-centeredness*** – respect for patient autonomy, promoting engagement consistent with abilities, using incentives and disincentives to improve adherence. Leverage reflects 'poor' care but overriding the patients with compromised capacity could be perceived as patient-centered care. The quality of care should consider patients' perceptions of interventions' necessity, respectfulness, and beneficence. ii. ***Safety –*** preventing harm and risk of violence. iii. ***Effectiveness*** – Medications or other interventions that have proved *efficacious* in clinical trials will not be *effective* in practice if patients' compliance is poor. Paucity of research on impact of therapeutic leverage, incentives, disincentives, and on treatment adherence. iv. ***Timeliness*** – Current unnecessary authoritarian services are high in timeliness and low on patient-centeredness. Improving patient-centeredness by interventions perceived by patients as respectful and caring. Lack of evidence on coerciveness of leverage, how it is imposed, and its outcomes. Need for debate on legal and ethical issues.
7.	Luchins et al.	2003	USA	Representative payee (RP) programmes.	1. Financial leverage 2. Representative payee programmes.	Review the evidence on: 1. Helpfulness of representative payees. 2. The impact of RP on the mental health of patients with psychiatric illness. 3. The use of leverage in representative payee relationships.	1. **Using financial leverage** – Only with distribution of patient's discretionary money after spending money on basic needs. 2. **Meeting basic needs** – Main task of RP. Evidence on effectiveness of RP programmes: meet basic needs (e.g. housing and retention of discretionary funds), enhance functioning, improve treatment compliance, and decrease hospitalisation. 3. **Autonomy and financial leverage** – financial leverage is described as non-coercive because leverage is used only for small amounts of discretionary money. RP (meeting basic needs) – may be perceived as violation of autonomy as patients have no choice how to distribute their money (no choice between 'homelessness' and 'shelter'). Differentiation of 'meeting basic needs' money management and 'distribution of discretionary' money of other needs (where leverage is used).
8.	Monahan & Bonnie	2004	USA	Community care for professionals who need license to continue to work.	Using license for professionals as leverage for their treatment of: 1. Substance abuse 2. Mental health illness.	(Un)controversy and widespread use of professional license as leverage.	1. **Professional licensing within mandated treatment** is uncontroversial. Interest in license is not 'right' and holding the licence is highly conditional. 2. **Public interest** – Treatment of substance abuse and mental illness is voluntarily. Securing treatment is in the public interest for safety, protection and trust. 3. **Effectiveness of licencing leverage** – reasons for effectiveness: i. Retains the capacity to make treatment decisions. ii. Quality of treatment. iii. Stronger incentive. iv. Close monitoring 4. **Ethical justification** – unclear for using leverage for people with severe and persistent mental disorders in community settings. Justification is generally based in paternalism. Justification should be effectiveness but currently there is no evidence. 5. **Future research** – should focus on testing effectiveness of using professional license as leverage and application in public health care.

Table 1 Informal coercion scoping study - conceptual/ theoretical papers

	Authors	Year	Origin	Service in focus	Focus	Aim of the paper	Summary of outcomes
9.	Bonnie & Monahan	2005	USA	Community care	1. Using language of contract rather than 'coercion' or 'rights'. 2. Leverage. 3. Mandated community treatment.	Adopting the language of contract to identify 'problematic' forms and aspects of mandated community treatment.	1. **Current debate** – A clash between state power and individual autonomy (forcing patients to adhere to treatment by threatening not to provide something to which patient has a 'right' (e.g. physical liberty, disability benefits or housing). Two problems in a debate: legal and political. 2. **Changing language in the policy debate** – use more accurate 'contract' language. i. Good for empirical research. ii. It has similarity between formal and informal uses of leverage. Clearly language of 'coercion' and 'rights' does not apply to 'informal coercion' but the language of 'contract' can. 3. **Leveraged treatment:** i. It is not always characterised as coercive. ii. Can be understood as the product of negotiation and voluntary agreement.
10.	Sjöström	2006	Sweden	1. Inpatient care. 2. Psychiatric clinic in general hospital.	1. Staff-patient and patient-staff communication. 2. Coercive interventions. 3. 'Coercive, context' 4. 'Awareness context'.	Theoretical analysis of observations collected from ethnographic fieldwork: 1. Clinicians' interventions for improvement of adherence by creating 'coercion context'. 2. Sociologically based theoretical understanding of management of coercion in everyday clinical practice. 3. Interrelation between coercion and (lack of) compliance. **(inpatient treatment pressures)**	**Coercion contexts** – with no use of term 'coercion': 1. Possibility of physical restraints, regulations about ground privileges. 2. **Stalling** – all exit ward doors are locked (voluntary patients cannot leave), avoiding conversation with patients, persuasion, not easy to find another staff member/referring to another staff member). 3. **Awareness contexts of coercion** – unequal distribution of information between patients and clinicians (of relevant legislation, how coercion can be applied, of formal rights). Patients are poorly informed about their legal rights. Patients can react or expect different treatments according to their knowledge. 4. **Strategic use of patients' lack of knowledge** – e.g. treating voluntary patients as involuntary regarding right to leave hospital without permission. Manipulation with information as patient's lack of knowledge of the law is abused. 5. **Twist of the invocation of coercion context** – voluntary patients who want to leave hospital are threatened with compulsory care. Coercion will have different meanings to different people in different situations.
11.	Lamberti	2007	USA	Community care of psychosis patients with criminal history.	1. Prevention of criminal recidivism. 2. Criminal justice leverage.	1. A conceptual framework for understanding and preventing criminal recidivism among patients with psychosis. 2. Recommendations for future interventions to prevent criminal recidivism among psychosis patients. **(adherence to treatment pressures)**	Conceptual framework for understanding and preventing criminal recidivism among patients with psychosis: 1. Many psychosis patients have criminal history. 2. Clinicians blame deinstitutionalisation and fragmented mental health system. 3. Few guidelines for clinicians on how to deal with patients with criminal history. 4. **The suggested framework**: the importance of individual and service-system as a mediator between modifiable risk variables and recidivism. i. Three necessary **elements of intervention for preventing recidivism**: *competent care, access to services and legal leverage*. ii. Criticism of current prevention of criminal recidivism – few use the principle of combining legal leverage with accessible, competent care. iii. Combining legal leverage with accessible, competent care is critical to preventing recidivism among adults with psychotic disorders. iv. **Recommendation for research** – to define and test three intervention elements for future services and legal leverage.

Table 1 Informal coercion scoping study - conceptual/ theoretical papers

	Authors	Year	Origin	Service in focus	Focus	Aim of the paper	Summary of outcomes
12.	Szmukler & Appelbaum	2008	UK & USA	Mental health care	Treatment pressures: 1. Persuasion 2. Personal leverage 3. Inducements 4. Threats 5. Coercion 6. Financial incentives 7. Offers and threats	1. Main forms of pressures aimed at inducing poorly or non adherent patients to accept treatment. 2. Frameworks for justification of treatment pressures. 3. Spectrum of threats, pressures and distinct different types. **(adherence to treatment pressures)**	**Hierarchy of treatment pressures** – definition is based on distinctions of having moral relevance. 1. **Range of pressures:** from persuasion, interpersonal leverage, inducement (offers), threats, to the use of compulsion. 2. Threats and offers: i. term 'coercion' should be reserved for particular types of threat. ii. Distinguishing threats from offers is based on moral baseline and whether 'better off' or 'worse off' compared with moral baseline. iii. Leverage is a threat if it is used for an entitlement. 3. The relationship of coercion to: i. 'unwelcome predictions' (a reasonable prediction of an unwelcome event is not coercive). ii. 'exploitation' (usually not coercive, often unfair advantage of a disadvantaged subject). iii. 'deception' (patient's incorrect beliefs in coercive consequences of non-adherence due to lack of information and clinician's withholding information from patient). 4. Perceived coercion (subjective coercion) can be different to legal compulsion (objective coercion). 5. **Financial incentives** – can be exploitation if patient lacks capacity, and there are many unresolved practical and ethical issues (termination of payment, fairness towards other patients, control of adherence, patient privacy). 6. **Justification** – frameworks on helpful decision-making based on: i. 'capacity' and 'best interests' (soft paternalism) ii. 'paternalism' (hard paternalism) iii. Protection of others – difficult justification of interventions for the protection of others rather that in the health interests of the patients.
13.	Molodynski et al.	2010	UK	Community care	Evidence on: 1. Legal compulsion 2. Informal coercion	Review of current evidence on community legal compulsion and informal coercion. **(adherence to treatment pressures)**	**Current debate**: 1. Arguments for coercion (leaving 'revolving door' patients untreated is not acceptable, impaired capacity, public's fear of crime). 2. Argument against coercion (right to decide about their life, 'freedom', considering patients' views and values to decide what is in their best interest, protection of public is not sufficient reason for detention, requirement for high quality of service ('reciprocity')). **The evidence** – is small but expanding. 1. Informal coercion is common in USA mental health services and can be experienced negatively by patients. 2. Research on leverage and the patient's subjective experience (perceived coercion) is increasing our awareness and understanding of complex issues of informal coercion.

AOT= Assertive Outreach team

Deinstitutionalisation of psychiatry and coercion

The use of coercion in mental health care has changed with deinstitutionalisation leading to an increased use and greater variety of coercive interventions. Before community care was established all (coercive) mental health care was provided in hospital (Diamond, 1995, Molodynski et al., 2010). Community care has expanded day-to-day management to patients' homes (e.g. housing, finance), and collaboration with family, friends, landlords, and employers. Clinicians are now involved in coordinating all parts of a patient's treatment and engaged with a support network thereby bringing increasing pressure on the patient in all major aspects of life and treatment (Diamond, 1995).

Attitudes toward coercion have also changed. Before deinstitutionalisation almost all patients treated in hospital experienced coercion and all care in the community was minimally pressured. There was no interest in the justification of paternalism as the common belief was that the 'doctor knows best' and, as long as the patient was out of hospital, their psychiatric care was considered successful (Diamond, 1995). With the development of community mental health teams, and particularly Assertive Outreach Teams, interest in patient autonomy, civil rights, the appropriate use of coercion and a more collaborative relationship has grown (Diamond, 1995).

The aims of mental health care have changed with deinstitutionalisation. Keeping patients stable and out of hospital is not enough. The aim now is integration and rehabilitation in the community. Without autonomy and empowerment such aims would not be possible (Diamond, 1995) and patient autonomy has become increasingly important (Sjöström, 2006, Szmukler and Appelbaum, 2008, Molodynski et al., 2010). Minimising coercion and a clear justification for when it is used have become

increasingly desirable (Szmukler and Appelbaum, 2008, Molodynski et al., 2010, Allen, 2003).

Contextual determinants of coercion

Contextual determinants of coercion have been described in several papers (Szmukler and Appelbaum, 2008, Lovell, 1996, Monahan et al., 2001, Molodynski et al., 2010, Allen, 2003, Sjöström, 2006). A constant pressure to adhere to treatment is often applied to prevent an impoverished life in dangerous environments with poor social support (Monahan et al., 2003). This pressure can, however, also be seen as a form of a social control (Lovell, 1996). The increased fear for individual or neighbourhood safety (Szmukler and Appelbaum, 2008, Lovell, 1996), the possible negative impact of "mentally ill" neighbours on housing prices and the scarcity of community care due to limited resources may also be reasons for the increased forms of social control in the USA (Lovell, 1996).

Monahan focuses on leverage used with patients who are dependent on welfare services in the USA (Monahan et al., 2001). Housing and financial leverage are commonly used in the USA but are legally ambiguous. Mental health courts for mental health patients in the criminal justice system have been established across the USA (Monahan et al., 2001, Molodynski et al., 2010). Allen criticizes the extensive use of housing leverage in USA residential housing programmes (Allen, 2003). Residential accommodation is conditional on acceptance of community treatment and a patient's behaviour is controlled by housing leverage included in the tenancy lease. Allen supports independent housing where the use of leverage would be more difficult (Allen, 2003).

Sjöström believes that the ever-present possibility of legal compulsion in mental health care creates an unavoidable context for subtle coercion (Sjöström et al., 2011). Disagreement between clinicians and patients about care is the basis for the use of coercion (Sjöström, 2006) with clinicians' broad acceptance of community compulsion (Molodynski et al., 2010).

Coercion as a continuum

It is now widely accepted that coercion exists on a continuum (Diamond, 1995, Szmukler and Appelbaum, 2008, Lovell, 1996, Allen, 2003, Molodynski et al., 2010). Several authors describe a coercion continuum with treatment pressures ranging from the least coercive (e.g. persuasion) to the most coercive (e.g. legal compulsion) (Szmukler and Appelbaum, 2008, Diamond, 1995, Lovell, 1996, Allen, 2003).

Diamond describes the coercion range from friendly persuasion through control of resources to the use of force, with mental health courts at the most coercive end of the continuum (Diamond, 1995).

Lovell describes forms of social control ranging from bilateral control or voluntarism (persuasive techniques such as voluntary counselling) to pure coercion (e.g. CTO or force). They are divided into four groups (i) Coercion, (ii) coerced voluntarism, (iii) utilitarian compliance (access to desirable resources conditioned by adherence), and (iv) persuasion. Most pressures lie somewhere within these four categories with no clear-cut boundaries, but they can be also broadly divided into covert or overt pressures (Lovell, 1996).

Allen also ranges coercion from subtle influence or persuasion to compulsion or force (Allen, 2003). Several papers categorise coercion as overt and covert (Lovell, 1996) or implicit or explicit pressures (Watts and Priebe, 2002).

The most accepted classification is Szmukler and Appelbaum's hierarchy of treatment pressures ranging from persuasion, interpersonal leverage, inducement (e.g. incentives), to threat and coercion (legal compulsion) (Szmukler and Appelbaum, 2008). Persuasion is defined similarly to other authors as the exchange of information and views between patient and clinicians with respect for the patient's value system. Interpersonal leverage is based on the close relationship with the clinician and emotional dependency to demand certain behaviours from the patient to please the clinician and protect the relationship. Inducement explicitly offers rewards for adherence. Threats and legal compulsion are considered coercive.

Coercion and effectiveness of care

Several authors link coercion with the effectiveness of community care (Diamond, 1995, Monahan and Bonnie, 2004, Monahan et al., 2003). For some authors coercion is a consequence of the failure of the mental health care system. Low effectiveness (Diamond, 1995) or low quality (Monahan et al., 2003) of the mental health care system contribute to the patients' refusal of treatment and consequently increase the use of coercion. Diamond believes that the use of coercion will decrease with more effective community mental health care (Diamond, 1995). The justification for coercion should be its effectiveness, but the evidence is weak (Monahan and Bonnie, 2004).

Following the recommendation of the USA Institute of Medicine for patient-centred care, Monahan proposes independent evaluation of the quality of care by examining

patients' views on the necessity, respectfulness and motivation of coercion (Monahan et al., 2003). He highlights the importance of the differentiation of efficacy of medication in clinical trials and their relative ineffectiveness in clinical practice (if the patient is non-compliant). Finding effective interventions for improving adherence is important to improve the effectiveness of medication.

Monahan and Bonnie believe that use of retention of a professional licence as leverage is effective because it is associated with high quality treatment, strengthened incentives and close monitoring (Monahan and Bonnie, 2004).

Lamberti links good quality psychiatric care to good adherence contributing to reduction of criminal recidivism and involuntary hospitalisation for mentally ill patients (Lamberti, 2007). He proposes a combination of good quality care, use of legal leverage, and access to services for the successful prevention of criminal recidivism.

Coercion and adherence to treatment

Coercion is linked to adherence to treatment in all papers. Coercion is applied almost always as a response to perceived problems with adherence (Sjöström, 2006). Both adherence and coercion are often described in the social context of the relationship between clinician and patient (Diamond, 1995, Susser and Roche, 1996, Lovell, 1996, Allen, 2003, Bonnie and Monahan, 2005, Sjöström, 2006, Lamberti, 2007). The problem of compliance starts when one person (patient) does not agree or does not comply with what another person (clinician) is suggesting (Sjöström, 2006, Susser and Roche, 1996).

A patient cannot benefit from treatment if they are non-adherent. Treatment pressures aim to increase beneficence for these patients through increased adherence (Monahan et al., 2003). Adherence is negotiated between clinician and patient, and their therapeutic relationship has an important role in this process (Diamond, 1995, Sjöström, 2006, Susser and Roche, 1996). The same applies to coercion. Different levels of negotiation between clinicians and patients are characteristic of all forms of coercion, particularly informal coercion (e.g. persuasion, leverage, inducement). Poor adherence is not the only reason for coercion, but its improvement is the expected outcome (Lovell, 1996, Lamberti, 2007).

Subtle coercion

Several authors discuss subtle and covert coercion (Sjöström, 2006, Diamond, 1995, Szmukler and Appelbaum, 2008). Coercive interventions are not always overt and obviously recognised as coercive. One example is deception such as the clinician withholding information about the patient's rights or how the system works. Deception is used in hospitals (Sjöström, 2006), community care (Diamond, 1995), and with psychiatric patients in the criminal legal system (Bonnie and Monahan, 2005). Patients are sometimes offered a free choice of housing but their choice is limited to available residential group accommodation or to unaffordable independent accommodation (Diamond, 1995). The exploitation of a vulnerable population may not be coercive but it is unfair, taking advantage of disadvantaged people (Diamond, 1995, Szmukler and Appelbaum, 2008). Patients are often unaware of a coercive context such as locked doors on wards housing voluntary patients or withholding information about their rights (Sjöström, 2006, Szmukler and Appelbaum, 2008).

Leverage

Seven papers analyse the concept of leverage (Susser and Roche, 1996, Monahan et al., 2001, Monahan et al., 2003, Allen, 2003, Luchins et al., 2003, Monahan and Bonnie, 2004, Lamberti, 2007) and four papers address it together with other forms of treatment pressure (Bonnie and Monahan, 2005, Szmukler and Appelbaum, 2008, Lovell, 1996, Molodynski et al., 2010). All the conceptual papers on leverage originate from the USA so its discussion is limited to the USA mental health care system.

In the USA leverage is considered as a form of mandated treatment. Access to desirable goods such as disability benefits and housing (social welfare leverage), or the avoidance of criminal sanctions, or the avoidance of hospitalisation by CTO (legal leverage) are made contingent upon adherence to mental health treatment. As a consequence of non-adherence patients may lose liberty (e.g. imprisonment or involuntary hospitalisation), property, and other valuable interests (Bonnie and Monahan, 2005, Monahan and Bonnie, 2004, Monahan et al., 2001, Monahan et al., 2003, Allen, 2003, Luchins et al., 2003, Szmukler and Appelbaum, 2008, Molodynski et al., 2010).

Financial and housing leverage are particularly controversial (Bonnie and Monahan, 2005, Monahan et al., 2003, Allen, 2003, Luchins et al., 2003). Financial leverage is sometimes exerted by a person who manages the patient's finance. Many psychosis patients in the USA have formally (often involuntarily) appointed representative payees whose main responsibility is to ensure that the patient's basic needs (e.g. rent, utility bills) are paid from the patient's welfare benefits. Therefore financial leverage can be used with only a small amount of discretionary money left after all bills are paid (Luchins et al., 2003, Monahan et al., 2001, Monahan et al., 2003). Financial leverage

is controversial because it is not clear whether it is legal to make access to discretionary money contingent on patient adherence. Discretionary money is given to patients as a welfare benefit and making access to it conditional may be legally problematic. The same applies to housing leverage (Bonnie and Monahan, 2005, Monahan et al., 2003, Luchins et al., 2003).

Many housing programmes in the USA include a condition to adhere to mental health or substance abuse treatment in the tenancy lease. As with financial leverage, it is debatable whether landlords have a legal right to make these requirements (Bonnie and Monahan, 2005, Monahan et al., 2001, Monahan et al., 2003, Allen, 2003). Controversy over welfare leverage in the USA reflects uncertainty over the entitlement of citizens to basic needs such as housing and food (social benefit). In the majority of European welfare countries these entitlements are clearly understood (Bonnie and Monahan, 2005, Monahan et al., 2005).

Most papers describe four forms of leverage. These are housing, financial, criminal justice sanction and avoidance of admission using a CTO. Other forms of leverage such as access to childcare, limiting parental rights, removing patients from the educational system are, however, not described (Szmukler and Appelbaum, 2008). One paper uses a broader concept of leverage which includes other forms of treatment pressures (e.g. incentives) (Susser and Roche, 1996).

Coerciveness

Half of the conceptual papers discuss the coerciveness of treatment pressures in an attempt to define coercive and non-coercive pressures (Susser and Roche, 1996, Bonnie and Monahan, 2005, Monahan and Bonnie, 2004, Sjöström, 2006, Szmukler and

Appelbaum, 2008, Allen, 2003, Luchins et al., 2003). Most of them focus on the coerciveness of leverage. None of the papers provides a simple universal distinction between coercive and non-coercive pressure. Whether pressure is going to be considered coercive is contextually dependent, complex and often ambiguous. Treatment is almost never purely voluntary or involuntary (Susser and Roche, 1996). Pressures such as leverage, persuasion and inducements can be both coercive and non-coercive. CTOs are, however, considered as clearly coercive (Szmukler and Appelbaum, 2008, Molodynski et al., 2010).

Several authors use Wertheimer's differentiation of threats and offers (see page 68 in this chapter) based on the moral (Szmukler and Appelbaum, 2008, Monahan and Bonnie, 2004) or legal (Bonnie and Monahan, 2005) baseline as the framework for deciding whether a particular leverage presents the limitation or extension of choice (Bonnie and Monahan, 2005, Monahan and Bonnie, 2004, Szmukler and Appelbaum, 2008). Threats and legal compulsion are coercive and other treatment pressures (e.g. persuasion, inducement, leverage) can be coercive in certain circumstances (Szmukler and Appelbaum, 2008).

The coerciveness of leverage depends on whether it can be considered as a threat or an offer (Szmukler and Appelbaum, 2008, Bonnie and Monahan, 2005, Monahan and Bonnie, 2004). If the individual's interest (e.g. housing, access to money) is considered as a right or entitlement (moral or legal baseline) then conditioning access to such goods or service by treatment adherence would be seen as a threat and thus coercive. If patients are not entitled to individual goods or services and access to such benefits are dependent on the discretionary decision of authorities or services, the use of leverage

can be understood as an offer or extra benefit (Bonnie and Monahan, 2005, Monahan and Bonnie, 2004, Szmukler and Appelbaum, 2008).

Several papers conceptualised the coerciveness of interventions based on empirical qualitative data. Coercive interventions may be defined as proximal (direct intervention with the body such as depot medication, restraint, seclusion, and detention) and distal (placed away from the body such as housing and benefits). Patients perceive proximal interventions as more coercive. Although patients recognise pressure from distal intervention such as housing leverage, they also acknowledge their benefits. However, the patients' perceptions should always be assessed (Watts and Priebe, 2002, Widdershoven and Berghmans, 2007). Canvin et al. (2013) proposed a broad definition of treatment pressures. Pressures were grouped as 'pressures for treatment adherence', and 'other aspects of a patient's mental health and wellbeing' ('stay well'). Both types of pressures could be leveraged and non-leveraged. Leveraged pressures should meet three conditions: conditionality, a lever, and direct communication. The absence of any of these conditions would categorise the pressure as 'non-leveraged' (Canvin et al., 2013).

As leverage does not always mean a loss of autonomy and if it is applied gently and with a supportive approach it can be a very valuable part of a treatment plan (Susser and Roche, 1996). A patient's perception of the coerciveness of leverage will depend on the level of control and choice they have, personal beliefs and previous experience. Combining coercion and leverage with a trusted therapeutic relationship may result in the patient's acceptance of leverage partly because they see that the clinician genuinely cares (Susser and Roche, 1996). Financial leverage may be considered as a form of control if it is used only for a small amount of discretionary money. Patients may,

however, feel that their autonomy was violated by using most of their entitled disability benefits for basic needs such as paying rent and utility bills (Luchins et al., 2003).

Most interventions can be positioned on a continuum somewhere between coercion and non-coercion with blurred boundaries (Sjöström, 2006). A coercion context is often present in hospital wards despite no use of the term coercion (e.g. locked ward exit doors, regulations about shower times, and avoiding conversations with patients).

Two papers propose changes in the use of leverage or terminology to reduce its coerciveness (Allen, 2003, Bonnie and Monahan, 2005). Allan (2003) proposes use of independent housing instead of beds in group-residential housing with leverage in the tenancy lease. Independent housing programmes would provide patients with the housing they prefer, reduce coercion and initiate use of more constructive interventions for the improvement of adherence (Allen, 2003). Bonnie and Monahan propose a change in the language (terminology) in the debate of treatment pressures. They propose that the term *coercion* should be replaced with the term *contract* (Bonnie and Monahan, 2005). A contract is usually the result of a negotiation between two parties, something that both parties mutually agree. The use of contract would imply more choice when using leverage and highlight the importance of the long-term therapeutic relationship which is an essential part of any contract. That may help identify problematic forms of treatment pressure and provide a fresh approach to the debate between patients and clinicians.

Subjective versus objective coercion

Research into patients' perception of coercion (Hoge et al., 1997, Lidz et al., 1995, Lidz et al., 1998) has inspired several conceptual papers to highlight the importance of the

distinction between objective coercion (e.g. use of legal compulsion such as CTO or involuntary hospitalisation) and patients' subjective perceptions of the coerciveness of treatment pressures (Szmukler and Appelbaum, 2008, Monahan and Bonnie, 2004, Sjöström, 2006, Molodynski et al., 2010). Subjective perception of coercion does not always correlate with applied objective coercion. Patients with voluntary legal status sometimes feel coerced and some involuntary inpatients do not (Hoge et al., 1997, Lidz et al., 1995, Lidz et al., 1998). Szmukler and Appelbaum believe it would be clinically valuable to ask patients about their perception of what clinicians consider as an offer or threat (Szmukler and Appelbaum, 2008). Patients' perceptions may be different to clinicians' intentions and the awareness can initiate constructive discussions between them.

Monahan & Bonnie (2004) compare the use of leverage in community mental health care (predominantly poor, disadvantaged patients) with the retention of a professional licence as leverage in mental health or substance abuse treatment of professionals (well-off, motivated for treatment patients, e.g doctors, psychotherapists) who need a licence to continue to work (Monahan and Bonnie, 2004). Leverage is used with both populations but recipients of treatment may perceive leverage differently because of their different baseline.

One explanation of why patients do not always recognise formal, legal compulsion is because of the complexity of the coercion context (Sjöström, 2006). This may explain the gap between a patient's perception of coercion and what is considered legal compulsion. Sjöström (2006) differentiates between experienced, informal, formal and objective coercion. 'Coerced voluntaries' (voluntary patients who feel coerced into (hospital) treatment) and 'unforced involuntaries' (e.g. involuntary admitted patients

who do not feel coerced as they wanted to be admitted) (Sjöström, 2006) demonstrate the complexity of situations when coercion is used and there is a lack of clarity on what is coercive.

Recommendations

Most conceptual papers have identified a lack of research evidence, particularly on informal coercion. Recommendations largely focus on future research. One of the priorities is evidence on the effectiveness of different forms of treatment pressures, including CTOs and the impact of coercion on engagement and other outcomes (Monahan and Bonnie, 2004, Molodynski et al., 2010).

Research studies should include different stakeholders as they can have very different perspectives. Information from different sources (Lovell, 1996, Sjöström, 2006, Molodynski et al., 2010) and using different methodologies such as triangulation of anthropological (independent first hand data) and quantitative methods (Lovell, 1996, Sjöström, 2006) would be valuable in understanding a complex coercive situation.

It is recommended that research studies should include both objective and subjective measures of coercion, adapt and refine existing measures for use in community treatment, and develop new measures for community coercion (Lovell, 1996, Sjöström, 2006).

The subject of research should be wide, not only leverage or legal compulsion but all forms of treatment pressures (persuasion, personal leverage, inducement, threats, force, legal compulsion) (Sjöström, 2006, Szmukler and Appelbaum, 2008), their context, and different settings (Sjöström, 2006). The subtle forms of coercion, the evaluation of

moral and ethical aspects of coercion and power dynamics in psychiatric practice should also be investigated (Sjöström, 2006, Lovell, 1996).

International comparison of the use and perception of coercion would provide evidence on generalisability of research results, inform debate, and contribute to the general theory of coercion (Sjöström, 2006). Comparison would only be possible if research studies in different countries use similar methodologies and measures, and consider variables specific to their legal and healthcare systems (Molodynski et al., 2010).

There are a few recommendations for policy and clinical practice. Sjöström (2006) proposes including an independent external observer who would support and visit patients in hospital and reflect on everyday practice and the use of coercion (Sjöström, 2006). Lamberti (2007) proposes a combination of criminal sanction leverage, good quality of care, and use of research evidence for reducing both individual and service-system risks of criminal recidivism of psychosis patients (Lamberti, 2007).

In summary, deinstitutionalisation has contributed to the increased use of coercion but also to increased interest for its appropriate use, its justification and the maximising of patient autonomy. Contemporary psychiatry is interested in increasing patients' autonomy, a more collaborative therapeutic relationship, reduction in coercion, evidence of the effectiveness of coercion, and integration and rehabilitation of patients in the community. Coercion is considered as a continuum ranging from persuasion to coercive threats and legal compulsion. The expected outcome of coercion is most often improved adherence, which can also be taken as a sign of good quality treatment. Most treatment pressures are not always coercive but can be both coercive and non-coercive.

Treatment pressures are commonly used but the evidence for their effectiveness is weak. Research on their effectiveness and outcomes is urgently needed.

2.3.2 Ethical papers on informal coercion

I identified five papers on the ethical aspects of informal coercion (Table 2). Grouping the papers into this category was ultimately based on overall judgements. Their distinction from the conceptual/theoretical papers was particularly difficult as several of these also addressed ethical aspects. Almost all the papers in this review addressed the ethical issues to some extent. However only papers with a clearly defined aim related to ethical issues are included in this group. Four of the five papers originated from the UK (Marson et al., 2006, Szmukler, 2009, Dunn et al., 2012, Dunn et al., 2014) and one from Australia (O'Brien and Golding, 2003).

Criticism of paternalism

The traditional paternalistic justification of coercion is challenged in almost all the ethical papers. Several of them propose a broader framework for the justification of coercive interventions in mental health care (O'Brien and Golding, 2003, Dunn et al., 2012, Dunn et al., 2014).

O'Brien and Golding (2003) propose a differentiation of definition from justification of coercive interventions, arguing that the failure to make this distinction in traditional paternalistic justifications has contributed to the use of unjustified interventions (O'Brien and Golding, 2003). Traditional paternalism is focused only on beneficence and non-maleficence, failing to acknowledge other possible justifications such as benefit to others. Paternalism justifies coercion based on an individuals' opinion or

convenience for hospital staff which may not necessarily be beneficial for the patient (e.g. voluntary patients kept in locked hospital wards). Paternalistic justifications are often based on a general lack of capacity instead of situational incapacity, and they ignore the possible exploitation of vulnerable populations (O'Brien and Golding, 2003). O'Brien and Golding expand the justification by consideration of situational incapacity, the harmfulness of the coercive intervention and the use of the least coercive intervention. Dunn at el. (2014) similarly propose the extension of ethical considerations both to the clinician's duty to benefit the individual patient, but also the duty to benefit other individuals, duty to treat patients fairly and to respect patient autonomy (Dunn et al., 2014). His five-step guidance to ethical considerations (Dunn et al., 2014) includes: (i) differentiation of threats from offers, (ii) identification of consequences, (iii) addressing potential exploitation, (iv) fairness, and (v) evaluation of the patient's voluntariness.

Szmukler & Appelbaum contend that paternalism does not address the patient's subjective perception of coercion; the patient's subjective experience does not always reflect the objective coercion identified in paternalism and needs to be further explored (Szmukler and Appelbaum, 2008).

Wertheimer's analysis

Wertheimer's philosophical analysis of coercion in mental health care distinguishes the concept of coercion and its justification (Wertheimer, 1993). His analysis supports the contextual dependency of coercion and the non-existence of a universal definition of coercion. Rather than defining what coercion is, he proposes that it is more important to determine whether the use of coercion can be justified. The definition of *threats* and

offers is the most cited part of Wertheimer's analysis. The recognition of a moral baseline (present situation before the proposal) of a person to whom the proposal is directed is the most important step. The proposal would be coercive (*threat*) if rejection of the proposal would leave the person worse off compared to the baseline situation (before the proposal). Wertheimer accepts a paternalistic justification of coercion for patients with impaired capacity, but only if they substantially benefit. Coercion must have a high probability of success and contain minimal risks. A paternalistic justification would be acceptable if the coercion enhances autonomy in the long term (by liberating the patient from his/her disorder). Retrospective approval of coercion based on patients' gratitude for past coercion is rejected on the grounds that gratitude does not mean that patients consented to coercion. He justifies the use of coercion when a risk of self-harm or harm of others exists (Wertheimer, 1993).

Several ethical papers (O'Brien and Golding, 2003, Szmukler, 2009, Dunn et al., 2012, Dunn et al., 2014) are grounded in Wertheimer's analysis, particularly the distinctions of threats from offers. O'Brien and Golding follow Wertheimer's analysis of (i) the analytical questions focused on the definition, and (ii) the justification of coercion (O'Brien and Golding, 2003). As does Wertheimer, they focus mainly on the justification of coercion leaving the definition very broad. They criticize what they see as the traditional paternalistic approach (Beauchamp and Childress, 2001) for not making a distinction between what coercion is from what justifies it.

Three ethical (Szmukler, 2009, Dunn et al., 2012, Dunn et al., 2014) and several conceptual papers (Szmukler and Appelbaum, 2008, Bonnie and Monahan, 2005, Monahan and Bonnie, 2004, Monahan et al., 2001) draw heavily on Wertheimer's analysis of offers and threats (Szmukler, 2009, Szmukler and Appelbaum, 2008, Dunn

et al., 2012, Dunn et al., 2014). Szmukler (Szmukler, 2009) and Claassen (Claassen, 2007) describe financial incentives used to improve patients' adherence to treatment as an offer, and not as a threat. Compared with the moral baseline (with no offer of financial incentives) a patient would not be worse off if he/she does not accept a financial incentive and if he/she was not threatened with involuntary hospitalisation as an alternative to a financial incentive.

Dunn (Dunn et al., 2012) has built a five step ethical analysis of clinicians' proposals with Wertheimer's threats and offers as his starting point. He differentiates offers as broadening the baseline options for patients whereas threats reduce options. Offers are proposals of additional options that the clinician owes to the patient (professional duties) conditional on the patient's adherence to treatment. Threats, however, would meet professional duties the clinician owes to a patient only if patients adhere to treatment (Dunn et al., 2012).

The ethical justification for leverage requires that it meets a duty to benefit the individual patient, plus the obligation to not harm or leave the patient worse off. The duty to benefit the individual patient should also ensure that (i) the patient does not become dependent on the service, (ii) it does not leave the patient worse off due to conditions imposed by leverage, and (iii) the patient's subjective well-being is not worsened by perceived coercion (Dunn et al., 2014).

Szmukler and Applebaum use Wertheimer's analysis in their hierarchy of treatment pressures to distinguish coercive (threat) leverage from non-coercive (offer) leverage using consequences relative to the moral baseline (Szmukler and Appelbaum, 2008).

Bonnie & Monahan apply this approach in their description of four forms of leverage (housing, financial leverage, criminal justice and avoiding hospitalisation by CTO) (Bonnie and Monahan, 2005). They analyse the ethical justification of each form of leverage based on the 'legal baseline'. The same authors, but in a different paper, use Wertheimer's analysis to justify the use of retaining a professional licence to practice as leverage for health care professionals whose behaviour has put their patients at risk. This is considered as an offer because the baseline situation would be the loss of licence due to unprofessional behaviour (Monahan and Bonnie, 2004). Similarly using different types of leverage in community mental health care was interpreted as both threat and offer depending whether the baseline is understood to be an entitlement or not (Monahan et al., 2001).

Table 2 Informal coercion scoping study – ethical papers

	Authors	Year	Origin	Service in focus	Aim of the paper	Summary of outcomes
1.	O'Brien & Golding	2003	Australia	Mental Health care.	1. Traditional paternalistic justification for coercion practices in MH care. 2. Justification of coercive practice results in cases of unjustified use of coercion.	**1. Coercion** i. ***Broad definition of coercion*** – it recognises the prevalence of coercion in MH care: coercion is use of authority to override the choices of another person. ii. ***Coercion is a continuum*** – ranges from persuasion and manipulation to overt force. iii. ***Negative consequences of coercion***: harm to the patients as it is often against patient interest, limits patient's decision-making. Lowers self-esteem and limits self-determination, undermines trust in therapeutic relationship, leads to disengagement and non-adherence, avoidance of services 2. **Justification of coercion** i. ***Traditional justification of coercion with paternalism*** – justification of coercive interventions by beneficence is rejected. All acts overriding another person's choice are coercive. ii. ***Inadequate traditional justification*:** a) Distinction between a legitimate justification of someone's opinion on justified acts (e.g. hospital wards are locked to benefit nurses). b) Protection of others (e.g. what is good for society is confused with what is good for patient). c) Assumption that mentally ill people are incompetent in everything. Justification should evaluate non-competence in the situation. d) Justification usually covers any form of coercive intervention but it should justify only the least coercive intervention. iii. ***Coercion is wrong***: because the therapeutic relationship and patient autonomy are at risk, and it cannot be justified. iv. ***Justification of coercion used with vulnerable groups*** has potential for exploitation. Persuasion and manipulation of patients' wishes may be coercive. 3. **Recommendations for use and justification of coercive interventions:** i. ***Call for a ban*** on coercion in mental health care. ii. ***Principle of least coercive care*** – suggested with an aim to limit the prevalence and extent of coercion. Coercion is sometimes necessary for justice or beneficence, however the minimum coercion necessary to fulfil our goals should be used. iii. ***Three conditions for justified coercion:*** incompetence of patient in that situation, harm caused by coercion is much less than harm that would be caused by patient's action if coercion would not be used, and use of the least coercive intervention (that would promote good or prevent harm)
2.	Marson et al.	2006	UK	Mental health care of schizophrenia and serious mental illness (SMI).	Clinical and research ethics questions related to financial capacity in clients with schizophrenia and SMI. **(adherence to treatment pressures)**	1. **Conceptual model of financial capacity** in patients with schizophrenia and SMI: based on three assumptions (receiving disability benefits, having someone who manages their finance and comorbid substance abuse) and it is different from a general concept of financial capacity. 2. **Clinical assessment for financial capacity** – poorly understood, no assessment models, unstructured and informal assessments, and often not based on patient financial knowledge or skills per se. 3. **Assignment of RP** i. Should be based on good knowledge, behaviour and financial abilities of the patient. ii. Evidence suggests some positive clinical outcomes of having an RP but it is an ethically complex decision as mandatory RP clearly means loss of autonomy. iii. It is difficult to regain control over own money once an RP is assigned. iv. Limited procedural safeguard with mandatory RP. 4. **Using financial leverage** i. There is no clear, right answer whether RP should be used to leverage treatment adherence. ii. A good RP keeps a balance between professional beneficence and respect for the patient's autonomy.

Table 2 Informal coercion scoping study – ethical papers

	Authors	Year	Origin	Service in focus	Aim of the paper	Summary of outcomes
						5. **Clinician as RP** – possible negative impact on the therapeutic relationship (especially if leverage is used) but evidence does not support it.
3.	Szmukler, G.	2009	UK	1. Community care. 2. Use of financial incentives to improve medication adherence.	The ethical issues of using financial incentives to improve treatment adherence of psychiatric patients.	1. **Justification of financial incentives** – it may be appropriate for a small group of patients. 2. **Financial incentives are an 'offer'** not a 'threat' if threat with involuntary admission was not used. 3. **Three ethical concerns** about financial incentives: i. ***Incommensurable values*** a) Money and patient's considered decision regarding his or her health interests should not be valued on the same metric. Financial incentives may be acceptable for patients with lack of treatment decision-making capacity if this is in their 'best interest'. b) If patient has no treatment decision-making capacity how can he/she have capacity for financial incentives decision? c) Offering financial incentives to patients with decision-making capacity is not ethical as his/her decision on (non)acceptance of medication (in patient's opinion in his/her best interest) is not respected. d) Financial incentives should be stopped when patient regains decision-making capacity. e) Possible refusal of medication after discontinuation of financial incentives. ii. ***Exploitation*** – patients with SMI are severely disadvantaged due to their illness (unemployed, socially excluded). Small sums offered as financial incentive may be substantial for patients. Financial and clinical advantage for patient but also for clinician (rewarding feeling) and mental health system (saving money by reducing need for hospital care). iii. ***Fairness and problems of practical kind*** – appropriateness of the FI is further restricted (unfair not to offer financial incentives to other (adherent) patients, possible non-adherence of other usually adherent patients, impact on therapeutic relationship, inappropriateness for oral medication). 4. Financial incentives intervention is unlikely to take place in mental health care.
4.	Dunn et al.	2012	UK	Community care.	1. Ethical acceptability of threats and offers. 2. Definition of threats and offers in mental health care. 3. Practical guidance for clinicians on ethical acceptability of specific proposals to patients.	1. **Normative approach** of what clinicians should do. 2. **The pre-proposal baseline –** not legal but broader focus on professional duties of care are base to determine the pre-proposal baseline. 3. **Duties of care –** duties clinician has towards a particular patient. They are context-dependent and may be different in different services and between patients. 4. **Threats vs. offers –** identification of the professional duties of care held by clinicians because the nature of these duties will enable identification and differentiation of threats and offers: i. ***Threat* –** clinicians propose to fulfil the duties he/she owes to patients if patients adhere to treatment. ii. ***Offer* –** clinician proposes to extend a patient's range of options. 5. **Threats** with acts which fail to follow the requirements of professional duties of care are wrong, and they are not justified by benefits of adherence to treatment. 6. Making **offers** to patients requires ethical considerations in context of individual patient. 7. **Five step guidance** for clinicians: *1st step: **Threat or offer?*** *D*eciding whether proposal is threat or offer. *2nd step*: ***Consequences* –** Is the offer wise? What are consequences and long-term consequences? And has it a detrimental effect on other patients? *3rd step: **Exploitation* –** Does proposal exploit patients? Whether there are benefits to the health professionals or system if the patient accepts the offer? To separate benefit to the patients from benefits to the professionals and system. *4th step* **Fairness –** Is the offer fair? Also whether the offer represents a good use of healthcare resources. *5th step **Voluntariness* –** Is there is any way that the patient's psychopathology impacts upon his/her agency such that his/her decision to accept the offer would not be a voluntary decision?

Table 2 Informal coercion scoping study – ethical papers

	Authors	Year	Origin	Service in focus	Aim of the paper	Summary of outcomes
5.	Dunn et al.	2014	UK	Community care.	Guidance for clinicians to judge whether it is ethically acceptable to use leverage.	1. **Four ethical duties** for making judgement when considering use of leverage: i. ***The duty to benefit the individual patient*** a) Depends on context (specific factors, considering differences between the needs of a comparable patient within a service). b) Depends on the therapeutic model adopted by services. c) Ensuring that the patient is not harmed, or left worse off (leverage can make a patient dependent on the service, patient may perceive themselves to be always worse off when access to a valued action is conditioned, and subjective wellbeing may be reduced by feeling coerced or threatened). ii. ***The duty to benefit other individuals*** a) Obligation to other patients in services. b) Obligation to a patient's carers and dependents (family). c) Obligation to members of the public (e.g. leverage may lead to potential patients' reluctance to seek help from services). d) Boundaries of the duty to benefit (benefits to themselves, colleagues, others or the system). It is justified only if also brings benefit to the patient. iii. ***The duty to treat patients fairly*** (to treat patients equitably but not necessarily equally; cost effectiveness of leverage is context dependent). iv. ***The duty to respect the patients' autonomy*** (leverage is an attempt to influence patient's behaviour but patient has a choice; autonomy is not impaired because leverage does not reduce possibility of free choice). 2. Consider these four ethical duties, and judgment on ethical acceptability of the particular leverage should be conducted for each individual case.

Ethical complexity

Several papers warn that there is no straightforward, clear, or indeed sometimes no right answer for whether coercion is ethically acceptable (O'Brien and Golding, 2003, Marson et al., 2006, Dunn et al., 2012, Dunn et al., 2014). The ethics of financial leverage by representative payees, for example, is cited as lacking any clear answer (Marson et al., 2006, O'Brien and Golding, 2003). The complexity of mental health care defeats traditional justification, and requires more than paternalism offers. The least coercive intervention is rarely 'clear cut' in day-to-day ethical decision making (O'Brien and Golding, 2003). The complexity is increased by multiple communications and the relationships between different stakeholders (Dunn et al., 2012). Dunn's proposed guidance for the ethical consideration of leverage (Dunn et al., 2014) proves difficult when weighting different outcomes and balancing duties pointing in opposite directions. It can prove very difficult to assess their importance in individual contexts, and even to assess the consequences in the broader context of care.

Acceptability of coercion

All the ethical papers consider coercion is generally not desirable. O'Brian and Golding (2003) call for a ban on the use of coercive interventions in mental health. To minimise unjustifiable use of coercion they suggest that an individual justification should be provided for each coercive intervention with each individual patient (O'Brien and Golding, 2003). Coercion, they argue, should be avoided as it destroys patient's self-esteem, limits decision-making and self-expression as a full person, plus it is a threat to the therapeutic relationship. Dunn considers threats unacceptable as they prevent the maintenance of what he calls 'clinicians' professional duties' (Dunn et al., 2012).

While all the authors generally agree that coercion is wrong they disagree about the coerciveness of particular treatment pressures. Szmukler and Appelbaum believe that using leverage undermines patient autonomy (Szmukler and Appelbaum, 2008). Dunn (Dunn et al., 2014), however, accepts that leverage limits (or manipulates) patients' choices, but believes it does not impact on autonomy because the patient still has a choice to decide between options conditioned by the leverage. Similarly, he (Dunn et al., 2012) disagrees with Szmukler (Szmukler, 2009) that financial incentives are not ethically acceptable for the majority of psychiatric patients because they have autonomy to accept or reject the offer.

Context dependent ethical considerations

Most of these ethical papers highlighted the important issue of the context dependent justification of coercion. One particular coercive intervention may be justifiable for a specific patient in a particular service and a particular situation, but not for a different patient with the same intervention, or the same patient in a different situation, and so forth. Ethical justifications have to be conducted for each specific patient, context, service and intervention. If lack of capacity is the justification for coercion, the patient has to be incompetent for the specific situation where coercion would be used. Having mental illness and impaired capacity does not mean incapacity in everything, or in all situations (O'Brien and Golding, 2003).

Dunn uses this principle more broadly with his 'professional duties of care' (Dunn et al., 2012). The moral baseline is the professional duties of care rather than the legal rights of patients. Professional duties are different for different patients and in different services, and are also context dependent. Accordingly clinicians should consider each

proposal in the context of a particular service and particular patient (Dunn et al., 2012). Clinicians should first clarify their general duties toward patients, review their institutional and therapeutic culture and adjust them to meet the individual patient's needs. In this framework all proposals can potentially be either threats or offers, depending on the specific service and the individual patient (Dunn et al., 2012). Consequently all four ethical duties proposed by Dunn should be considered each time leverage is considered (Dunn et al., 2014). Szmukler, for example, proposes that financial incentives should be stopped when a patient regains capacity and that judgment will depend on the situation, services and capacity of the individual patient (Szmukler, 2009). There is no an algorithm proposed for an ethical justification of pressures including coercion. The whole process of following the recommended guidance is required each time a clinician intends to use pressure (Dunn et al., 2012, Dunn et al., 2014).

Exploitation

The risk of exploitation is a common theme in these papers. O'Brien and Golding challenge the justification of paternalism with mentally ill patients because of a persistent potential for exploitation (O'Brien and Golding, 2003). The use of authority to override a person's choices is always coercive regardless of whether it is used with an autonomous person or a person with reduced autonomy. O'Brian and Golding reject the traditional paternalistic distinction between a simple justification of coercion with a non-autonomous person (weak paternalism) from the more difficult justification of coercion with an autonomous person (hard paternalism). They argue that using coercion with an autonomous person cannot be justified by paternalism (e.g. beneficence) (O'Brien and Golding, 2003).

Szmukler criticizes the use of financial incentives to improve medication adherence as potentially exploitative (Szmukler, 2009). This potential arises because patients are very disadvantaged due to their mental illness and therefore very poor. Consequently patients may be unable to refuse what is to them a large sum of money. Financial incentives would be also interpreted as potentially exploitative if their purpose is to reduce hospital admissions or generate professional esteem (as from publishing a paper about the project) even if it is advantageous for clinicians (or service) or the patient (Szmukler, 2009) .

In Dunn's five-step guidance the third step is a judgment whether the proposal exploits a patient. Benefits for the patient must be distinguished from benefits to the clinicians and the system (Dunn et al., 2012).

Capacity and autonomy

It is not surprising that most ethical papers address patients' capacity and autonomy, and the way they relate to each other. Evidence of benefit and a patient's impaired capacity is not considered an adequate justification for coercion. Paternalism is usually justified on the grounds that a patient with impaired decision-making capacity is unable to make the decisions for him/herself. O'Brien and Golding suggest that even patients with impaired competence can benefit from exercising autonomy which brings a sense of personal control and an improvement in decision-making skills (O'Brien and Golding, 2003). Clinicians should, therefore, choose the least coercive intervention with the most benefit for the patient. Capacity is decision dependent and coercion should be related to capacity in the specific situation (O'Brien and Golding, 2003).

The clinical assessment of financial capacity is usually based on the psychosocial and treatment history, not on the patient's financial skills or knowledge (Marson et al., 2006). Assigning a representative payee should be based on a good knowledge of the patient and his/her financial abilities. Marson et al., however, do not offer clear conclusions about whether it is ethical for a representative payee to use financial leverage, only very general suggestions for finding a good balance between beneficence and respect for a patient's autonomy (Marson et al., 2006).

Financial incentives may be appropriate for patients with decision-making impairment because it may be in their "best interest". Szmukler questions the likelihood that the patient with impaired capacity for treatment decision-making has full capacity for financial decision-making (Szmukler, 2009). The justification for offering financial incentives should consider both capacities. There are three possible scenarios: (i) a patient lacks both capacities (for treatment decision-making and for financial transaction decision-making), offering financial incentives would be ethically unjustified; (ii) a patient has both capacities, offering financial incentives would reflect an unethical lack of respect for a patient's decision to reject medication; and (iii) it would, therefore, be ethically justified to offer financial incentives only to patients with treatment decision-making impairment but with no impairment in their financial decision-making capacity (Szmukler, 2009).

In contrast, Dunn argues that offering financial incentives to a person with a lack of capacity in treatment decision-making would not be a breach of the "duty of care" for severely ill patients (Dunn et al., 2012). Financial incentives do not damage the voluntariness of patients' decision-making. The patient still has a (limited) choice to make a decision to accept or to reject financial incentives (Dunn et al., 2012).

Benefits to others

Three papers address the issue of benefits to others from coercion. However, there are different opinions about the justification of such interventions. O'Brian and Golding are clear that justifying coercion for the protection of others is never acceptable as what is beneficial for society is not necessarily beneficial for the individual patient (O'Brien and Golding, 2003). Similarly Szmukler proposes that it would be exploitative to offer financial incentives in order to benefit the mental health system by reducing hospital admissions or the clinician being professionally rewarded for it (Szmukler, 2009). In contrast Dunn and colleagues propose that clinicians are ethically responsible for benefit to other individuals (Dunn et al., 2014). This includes other patients, their carers, family members and dependants, members of the public (e.g. potential future patients). Dunn also warns about the potential for exploitation when considering benefits to others (Dunn et al., 2014).

Recommendations

Two papers give general recommendations for clinicians' ethical consideration of potentially coercive interventions (Szmukler, 2009, Marson et al., 2006) and three papers provide guidance to clinicians in a more structured, detailed and practical manner (O'Brien and Golding, 2003, Dunn et al., 2012, Dunn et al., 2014).

The general aim to reduce the prevalence of coercion may be achieved by the principle of least coercive care, careful ethical consideration and justification with an aim of minimal diminution of patient autonomy (O'Brien and Golding, 2003, Marson et al., 2006, Dunn et al., 2012, Dunn et al., 2014). Justification is context dependent. Before

applying coercion clinicians should carefully consider each situation in the context of each individual service for each individual patient (Dunn et al., 2012, Dunn et al., 2014, O'Brien and Golding, 2003, Szmukler, 2009, Marson et al., 2006). In the process of the ethical justification of coercion clinicians should use all the knowledge they have about the patient (Marson et al., 2006, Szmukler, 2009), consider the possible consequence of the intervention (Szmukler, 2009, Marson et al., 2006, Dunn et al., 2014) and the patient's possible emotional reactions after regaining capacity (Szmukler, 2009).

When deciding about the use of coercion clinicians should find a balance between beneficence and respect for patient autonomy (Marson et al., 2006, O'Brien and Golding, 2003, Dunn et al., 2014). If threats are considered not acceptable the distinction between threats and offers is of central significance (Dunn et al., 2014, Szmukler, 2009, Szmukler and Appelbaum, 2008, O'Brien and Golding, 2003). Clinicians should first determine whether his/her proposal to a patient is a threat or an offer. This process should start with identification of the patient baseline situation (before proposal) (Szmukler, 2009, Szmukler and Appelbaum, 2008, Dunn et al., 2012) which can be considered through the lens of the clinicians' professional duties of care (Dunn et al., 2012). A comparison of the patient baseline with the consequences of rejection of a clinician's proposal would determine whether the patient would be worse off (threat) or not (offer).

As offers (e.g. financial incentives) can be damaging or exploitative for one patient but beneficial for another, they have to be individually justified each time the clinician uses them (Dunn et al., 2014, Szmukler, 2009, Szmukler and Appelbaum, 2008). By the individual justification of offers clinicians would avoid unwise and unfair treatment

(Szmukler, 2009, Szmukler and Appelbaum, 2008, Dunn et al., 2014), exploitation and undermining voluntariness (Dunn et al., 2014, Szmukler, 2009).

Justification need not be limited to the consequences for an individual patient (e.g. benefits) (Dunn et al., 2014, O'Brien and Golding, 2003) but can be extended to the benefits to others. Clinicians should, however, ensure that the justification of coercion for the benefit of others should always include the benefit for the individual patient (O'Brien and Golding, 2003, Szmukler, 2009, Dunn et al., 2014).

An important aspect of the ethical consideration of coercion is communication with patients. Clinicians should inform the patient about the intention to use coercion, explain the reasons, discuss the consequences (including emotional reactions), and clarify misunderstandings and possible impacts on the therapeutic relationship (Dunn et al., 2014, Szmukler, 2009, Marson et al., 2006).

It seems that in the 21st century psychiatric paternalism is not considered to offer a convincing ethical justification of coercion. Recent ethical papers offer expansions of options for ethical considerations. They tend to offer more detailed and structured guidance to clinicians. Proposed ethical justifications are context sensitive, aim to minimise coercion, benefit the patient and if possible others, avoid exploitation, minimise reduction of short-term and increase long-term autonomy.

Table 3 Informal coercion scoping study – empirical quantitative studies

	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
MacArthur study coercion papers											
1.	Litz et al.	1995	USA	Cross-sectional	1. Patients recently admitted to hospital a) voluntary b) involuntary c) various diagnosis	n=157	1. Inpatients. 2. Two hospitals in two USA states.	1. Determinants of patients' perception of coercion. **(admission pressures)**	1. Mixed methods: a) audiotaped structured interviews b) semi-structured interviews with admitted patients; coded transcriptions 2. Medical record data	1. Rates of pressures (persuasion, force, threats, inducements) 2. Perceived coercion (PC) 3. Negative pressures scale scores 4. Procedural justice scale scores 5. Associations between PC, procedural justice, positive and negative pressures and legal status	1. 54% reported pressures (38% persuasion, 19% force, 9% threats, 4% inducements). 2. Persuasion and inducements were collapsed to POSITIVE PRESSURES. 3. Threats and force collapsed to NEGATIVE PRESSURES. 4. Procedural justice, negative pressures and legal status were associated with PC. 5. Only procedural justice was associated with PC at both sites and both voluntary and involuntary patients. Procedural justice is the strongest predictor of PC. 6. Negative pressure and procedural justice scales were added to PC scale in the AES.
2.	Hoge et al.	1997	USA	Cross-sectional	1. Patients recently admitted to hospital a) voluntary b) involuntary c) various diagnosis	n=157	1. Inpatients. 2. Two hospitals in two USA states.	1. Rates of 'coerced voluntaries'. 2. Rates of 'un-coerced involuntaries'. 3. Timing and sources of coercion. 4. Behaviours and processes leading to perceived coercion. 5. Patients' eligibility for legal protection. **(admission pressures)**	1. Mixed methods: a) audiotaped structured interviews b) semi-structured interviews with admitted patients; coded transcriptions 2. Medical record data	1. Rates of 'coerced voluntaries'. 2. Rates of 'un-coerced involuntaries'. 3. Rates of reported pressures (persuasion, inducement, threats, force). 4. Sources of pressures. 5. Timing of pressure. 6. Coercive strategies. 7. Legal protection criteria.	1. Voluntary patients reported lower PC than involuntary patients. 2. 10% of legally voluntary patients felt coerced. 3. 35% of legally involuntary patients reported low or no coercion. 4. 18% of involuntary patients were not aware of their legal status. 5. Both voluntary and involuntary patients reported the same number of influence attempts regarding admission. 6. Reported pressures: i. Voluntary patients: 46% persuasion, 4% inducements, 9% threats and 3% force. ii. Involuntary patients: 32% persuasion, 5% inducements, 9% threats and 40% force. 7. Sources of pressures were similar for voluntary and involuntary patients: i. more individuals with formal relationships (police, therapists, admitting clinicians) ii. less with informal relationships (family, friends). 8. Timing of pressures:

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	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
											i. Voluntary patients experienced almost all reported pressures for admission prior to arrival to hospital. ii. Involuntary patients reported almost equal number of pressures (a) prior to hospital, (b) pressures that continued in hospital, and (c) pressures occurred only in hospital. 9. Possible reasons for 'un-coerced involuntaries': i. possibility of free transport for involuntary patients, ii. cognitive impairment of patients at time of admission (decision-making capacity), and iii. belief in better (involuntary) treatment. 10. Eligibility of legal protection – for 'coerced voluntaries' pressures were applied by family and/or clinicians prior to coming to hospital. These informal pressures are not (and probably will not be) regulated by law and these patients are deprived of legal protection.
3.	Litz et al.	1997	USA	Cross-sectional	1. Patients (various diagnosis). 2. Clinicians. 3. Others (e.g. family members) present at admission.	n=171 cases of admission	1. Inpatients. 2. Two hospitals in two USA states.	1. Validity of patients' reports of events at hospital admission. **(admission pressures)**	1. Mixed methods: a) audiotaped structured interviews. b) semi-structured interviews with admitted patients; coded transcriptions. 2. Medical record data.	1. Researcher-coded coercion-related behaviours 'most plausible factual account' (MPFA). 2. Comparison between AEI coercion-related behaviour reported by patients, clinicians and others involved in admission with researcher coded MPFAs.	1. Using only one source of data provides limited and inaccurate data. 2. Patient reports on experienced coercion-related behaviours highly correlated with researcher coded MPFAs (inter-subjective account of how much and what type of coercion-related behaviours occurred). 3. Patient data appear to be superior to family's or clinician's. 4. Clinicians were better source of data only for reported force. 5. Discrepancies between patient reports and MPFAs were not related to patient characteristics. Contextual factors may explain these discrepancies.
4.	Litz et al.	1998	USA	Longitudinal, follow-up (admission to 1 month after hospital discharge)	1. Patients (various diagnosis). 2. Clinicians. 3. Others (e.g. family	n=171 cases of admission	1. Inpatients 2. Two hospitals in two USA states	Predictors of PC. **(admission pressures)**	1. Mixed methods: a) audiotaped structured interviews b) semi-structured interviews with	1. Association of PC scores with patient and admission process characteristics. 2. Comparison of used	1. Predictors of PC: legal force, given orders, threats, 'show of force'. Force and negative pressures (threats and orders) induce PC, persuasion does not. 2. Difference between study sites in used patterns of pressure.

Table 3 Informal coercion scoping study – empirical quantitative studies

	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
					members) present at admission.				admitted patients; coded transcriptions 2. Medical record data.	pressures between study sites. 3. Common combinations of pressures.	3. Force appears with negative symbolic pressures (NSP) 4. NSP often occur in combination with positive symbolic pressures (PSP) 5. PSP often exist with no NSP.
5.	Lidz et al.	2000	USA	Longitudinal, follow-up (admission to 1 month after hospital discharge).	1. Patients (various diagnosis). 2. Clinicians. 3. Others (e.g. family members) present at admission.	n=171 cases of admission	1. Inpatients. 2. Two hospitals in two USA states.	1. Sources of coercive behaviours (pressures). 2. To test how different sources of pressures relate to PC. **(admission pressures)**	1. Mixed methods: a) audiotaped structured interviews. b) semi-structured interviews with admitted patients; coded transcriptions. 2. Medical record data.	1. Identified groups of people involved in admission. 2. Rates of negative-symbolic pressures and force (force, threat, orders and deception) used by various sources.	1. Responsible clinician was involved in all cases, in 63% of cases second health-care staff, in 57% family and friends, in 34% police and security, and other individuals in 10% of cases. 2. In 70% of cases if police or security were present negative-symbolic pressures were used: by admitting clinicians in 33%, by other health-care staff in 23%, and by family and friends in 20% of cases. 3. Force was used less by family and friends (12%) than admitting staff (33%) and other health-care staff (29%). Police and security used force the most (42%). 4. Using force (by admitting clinicians) and NSP (by other admitting staff and family and friends) had the strongest effect on perceived coercion of non-Black patients. 5. Clinicians have dominant role in predicting perceived coercion, police and security staff have a minor one. 6. Although family and friends have used coercive pressures in a small number of cases, in comparison with evaluation immediately after admission, retrospective evaluation of admission after discharge suggests that role of family and friends in PC may be important. 7. Correlation between PC at admission and PC one month after discharge r=0.76.
MacArthur study (leverage) papers											
6.	Monahan et al.	2005	USA	Cross-sectional, multi-centre.	Community patients (various diagnosis).	n=1011	1. Community service. 2. Five USA states.	1. Rates of four types of leverage (housing, financial, criminal sanctions, avoidance of hospital via CTO).	Structured interview.	1. Leverage rates (housing, financial, criminal sanctions, avoidance of hospital via CTO).	1. Leverage rates: 44-59% patients reported lifetime experience of leverage. Average is 50%. Money leverage 7-19%, CTO 12-20%, criminal sanctions, 15-30% and housing 23-40%. 2. Variation in rates between sites.

Table 3 Informal coercion scoping study – empirical quantitative studies

	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
								2. Associations of leverage rates with patient characteristics **(treatment adherence pressures)**		2. Associations of leverage rates with patient characteristics.	3. Multivariate associations for any leverage: younger age, more severe, disabling and longer lasting psychopathology, multiple hospital readmissions and intensive outpatients service use.
7.	Van Dorn et al.	2005	USA	Cross-sectional, multi-centre.	Community patients (various diagnosis).	n=1011	1. Community service. 2. Five USA states.	1. Patient perception of effectiveness and fairness of leveraged treatment. 2. Associations of patient characteristics with perception of effectiveness and fairness. 3. Relationship of fairness and effectiveness. 4. Association of fairness and effectiveness with barriers to seek treatment. (**treatment adherence pressures)**	Structured interview.	1. Index of effectiveness 2. Index of fairness 3. Associations of effectiveness and fairness with: a) patient characteristics (predictors). b) barriers to seek treatment (outcome). c) perceived coercion. 3. Correlation between fairness and effectiveness.	1. Majority of patients perceived leverage to be both fair (55-69%) and effective (48-60%). 2. Effectiveness and fairness is highly correlated (R=0.50). 3. Multivariate associations: i. Perceived coercion and insight into illness with both fairness and effectiveness. ii. Number of hospitalisations with fairness. iii. Years in treatment and appointment reminders with effectiveness. 4. Patients with psychosis and perceived barriers to care viewed leverage as unfair when controlling for effectiveness. 5. Patients who experienced less coercion and had better insight believed that they benefit from formal and informal sanction to adhere treatment. 6. Negative associations between perceived coercion and both the fairness and effectiveness of leverage. 7. Perceived barriers to care impact the evaluation of fairness of leverage.
8.	Angell et al.	2006	USA	Two-stage development and validation of a measuring instrument.	MH clinicians.	n=271 AOT clinicians; n=44 MacArthur study clinicians	1. AOT clinicians at conference. 2. MacArthur leverage study clinicians (AOTs and CMHTs).	1. Reliability and construct validity of the new Adherence Strategies Measure (ASM). 2. Rates of use of different types of adherence strategies. 3. Contexts in which different strategies are used. (**treatment adherence pressures)**	Two-stage structured interviews (one with each group).	1. Reliability and validity indicators 2. Hierarchy of coerciveness. 3. Proportion of reported types of adherence strategies	1. ASM items reflect different degrees of pressure applied and it may be used to measure this construct. 2. ASM has good reliability (0.83) and person separation (2.3) indictor. 3. ASM were correlated with clinicians' perception of patient adherence (r=0.52, p<0.001). 4. Large variation in degree of applied pressure: AOT report all pressures and CMHT less frequent in all pressures 5. AOT clinicians do not use coercive strategies intensively and they prioritise less coercive strategies (e.g. persuasion).

Table 3 Informal coercion scoping study – empirical quantitative studies

	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
9.	Appel-baum & Redlich	2006	USA	Cross-sectional.	Community patients (various diagnosis).	n=120	1. Community service. 2. Two CMHTs in two USA states.	Use of leverage for patients' with limited decision making capacity. **(treatment adherence pressures)**	Structured interviews with patients.	Associations of treatment decision making capacity with: 1. Reported leverage 2. Patient characteristics.	1. Impaired capacity was not significant predictor of any of the forms of leverage. 2. Schizophrenia patients had lower 'understanding' scores then those with major depression. 3. Patients with schizophrenia and less medication compliant were less likely to have experienced the criminal justice system leverage.
10.	Appel-baum & Redlich	2006	USA	Cross-sectional, multi-centre.	Community patients (various diagnosis).	n=1011	1. Community service. 2. Five USA states.	1. Identity of person who provide assistance with money. 2. Predictors of financial leverage use. 3. Impact of financial leverage on patients. **(treatment adherence pressures)**	Structured interviews with patients.	1. Rates of representative payee identity. 2. Associations of RP identity with reported leverage rates and other patient outcomes. 3. Associations of finance leverage and patients. characteristics. 4. Associations of financial leverage with other forms of leverage and patients' outcomes.	1. 31-53% had RP. 2. 7-19% reported financial leverage in the last 6 months with current or recent RP. 3. Rates identities of RP varied between sites between 8-82 for clinicians. 4. Identity of RP has no impact of rates of reported financial leverage. 5. Patients were more satisfied and felt less pressure to adhere to treatment if RP was a family member. 6. Multivariate final model of financial leverage predictors: substance abuse, frequent hospitalisations, non-relative money manager. 7. Financial leverage vs. other forms of leverage and patient outcomes: experiencing other forms of leverage, experiencing multiple leverages, and perceived coercion, less autonomy, and belief in effectiveness of money leverage to keep them in treatment.
11.	Redlich & Monahan	2006	USA	Cross-sectional, multi-centre.	Community patients (various diagnosis).	n=1011	1. Community service. 2. Five USA states.	1. Prevalence of 'general pressures'. 2. Sources of 'general pressures'. **(treatment adherence pressures)**	Structured interviews with patients.	1. Rates of 'general pressures' 2. Comparison with leverage rates 3. Combined 'general pressure' and leverage rates 4. Association of general pressures with leverage rates 5. Associations of 'general pressures' with adherence and perceived coercion 6. Sources of 'general	1. 41-55% reported 'general pressures' in the last 6 months and 30-50% experienced pressure such as "someone told them to go hospital". 2. 50% felt at least one pressure, 20% six and more. 3. Prevalence of 'general pressures' is similar to lifetime leverage experience (44-59%) and more than last six months' leverage experience (22%). 4. 55-62% experienced some pressure (combined the last 6 months of leverage and general pressures). 5. Correlation housing leverage last 6 months and general pressures $r=0.32$, $p<0.01$; for other leverages correlations were insignificant. 6. The most frequent type of 'general pressure' involved hospitalisation (27-33% and 18-35%). 7. Source of 'general pressures': clinicians (50%),

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	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
										pressures' 7. Associations with patient characteristics	case managers, family (28%), friends, housing officers. 10% self-imposed pressure. 8. Predictors of leverage and 'general pressures' are similar: being younger than 44yrs, severe MH disorder, more symptoms, lower level of functioning, substance abuse issues, more prior hospitalisations.
12.	Redlich et al.	2006	USA	Cross-sectional, multi-centre.	Community patients (various diagnosis)	n=1011	1. Community service. 2. Five USA states.	1. Predictors of criminal justice leverage. 2. Outcomes of criminal justice leverage. **(treatment adherence pressures)**	Structured interviews with patients.	Association of criminal justice leverage with: 1. Patient characteristics. 2. Outcomes: a) Perception of coercion b) Treatment adherence. c) Satisfaction. d) Perception of effectiveness.	1. Predictors of criminal justice leverage: male, younger than 44yrs, history of multiple hospitalisations, and receiving community treatment for longer than 20 years. 2. No difference in perceived coercion between patients who experienced criminal sanction leverage and those who did not experience any leverage. 3. Criminal sanctions leverage experience was not associated with treatment adherence and satisfaction, or perceptions of coercion and mandate effectiveness.
13.	Clark-Robbins et al.	2006	USA	Cross-sectional, multi-centre.	Community patients (various diagnosis).	n=1011	1. Community service. 2. Five USA states.	1. Predictors of housing leverage. 2. Sources of housing leverage. 3. Patient perception of effectiveness of housing leverage. **(treatment adherence pressures)**	Structured interviews with patients.	Associations of housing leverage with: 1. Patient characteristics. 2. Outcomes: a) Perception of effectiveness. b) Satisfaction. c) PC.	1. Predictors of housing leverage: 'special' housing, group homes, history of hospitalisations, male gender and social support for treatment (e.g. care-coordinator). 2. Source of housing leverage: housing landlords (43%), clinicians (|29%), family (11%), self (9%). 3. Associations of housing leverage with outcomes: i. Increases patients' PC, lessens sense of autonomy and has association with perception of its effectiveness. ii. No association with satisfaction with the treatment. 4. 50% less chance to experience housing leverage if patients live in their own home. 5. Patients experiencing housing leverage are three times more likely to experience other types of leverage.

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	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
14.	Van Dorn et al.	2006	USA	Cross-sectional, multi-centre.	Community patients (various diagnosis).	n=1011	1. Community service. 2. Five USA states.	1. The link between receipt of leveraged community treatment and reasons for avoiding or delaying treatment. 2. The potential moderating effect of social support on the association between experiences of mandated treatment with barriers to seek treatment due to fear of involuntary admission or forced treatment. **(treatment adherence pressures)**	Structured interviews with patients.	1. Rates of leveraged treatment related barriers to seek treatment. 2. Non-leveraged treatment related barriers' rates. 3. Moderating effect of social support.	1. 32-46% reported barriers of fear of forced treatment. 2. 64-76% reported at least one barrier not related to leveraged treatment. Mean number of barriers 1.6-2.3 (range 0-7). 3. 44-59% patients experienced at least one type of leveraged treatment. 4. Patients who experienced multiple leveraged treatment (3 and more leverages) were more likely to report barriers to seek care than those who did not report any leverage. 5. Social support moderates the relationship between multiple leverages (3-4 forms) and barriers related to leveraged treatment. Patients reporting social support and one or 3-4 leverages were less likely to report mandated related barriers to care. 6. 41-55.9% reported not having experienced any of the four types of leverage, 25-36% reported one type of leverage, 10-19% two types of leverage, 6-8% three or four types of lifetime leverage. 7. 39-61% indicated that they could count on family or friends 'most of the time'.
15.	Swartz et al.	2006	USA	Cross-sectional, multi-centre.	Community patients (various diagnosis).	n=1011	1. Community service. 2. Five USA states.	1. Lifetime rates. 2. Correlates of avoiding hospitalisation via use of CTO or related civil-court-ordered outpatients treatment. **(treatment adherence pressures)**	Structured interviews with patients.	1. Rates of avoiding hospitalisation via CTO leverage. 2. Predictors of avoiding hospitalisation via CTO leverage. 3. Outcomes of avoiding hospitalisation via CTO leverage. 4. Outcomes of reported experience of multiple leverage.	1. 12-20% of patients reported avoiding hospitalisation via CTO or related civil –courts ordered treatment leverage. 2. Predictors of avoiding hospitalisation via CTO leverage: living in staffed residential settings, receiving assistance with community treatment, reporting poor social support, co-occurring substance use problems, poor psychosocial functioning, a recent history of violent behaviour, higher rates of prior hospitalisation, more involuntary hospitalisation, and recent police ensures during MH crises. 3. Nearly ¾ of patients who reported avoidance of hospitalisation via CTO leverage or related civil court orders also reported experiencing other forms of leveraged treatment 4. Outcomes of multiple leveraged treatment: high perceived coercion and poor satisfaction with treatment.

Table 3 Informal coercion scoping study – empirical quantitative studies

	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
											5. Outcomes of avoiding hospitalisation via CTO leverage alone (with no other types of leverages): more reported satisfaction with treatment, less PC, previous hospitalisations, episodes of violence, and symptoms.
16.	Appel-baum & Redlich	2006	USA	Cross-sectional, multi-centre.	Community patients (various diagnosis).	n=1011	1. Community service. 2. Five USA states.	1. Sources of financial assistance. 2. Predictors of financial leverage use. 3. Impact of financial leverage on patients. **(adherence to treatment)**	Structured interviews with patients.	1. Rates of RP and their identities. 2. Rates of financial leverage. 3. Predictors of financial leverage. 4. Outcomes of financial leverage (PC and perception of effectiveness of financial leverage). 5. Outcomes of various identities of money managers.	1. 31-53% patients reported ever having RP and 69-92% of them had RP at time of the study or in the last 6 months 2. 4-15% of the whole sample and 13-29% among those who ever had RP reported financial leverage. 3. Predictors of financial leverage: substance abuse, history of multiple hospitalisation (more than 3) (the strongest clinical predictors), having an RP who is not a non-parent/spouse relative. 4. Outcomes of financial leverage: experience of other forms of leverage, reported PC and pressure to adhere to treatment, and perceived effectiveness of financial leverage. 5. Family members as money managers appeared to provoke fewer negative feelings, were more satisfied, and reported less pressures to adhere to treatment compared with patients who had a non-family member as RP.
17.	Swanson et al.	2006	USA	Cross-sectional, multi-centre.	Community patients (various diagnosis).	n=1011	1. Community service. 2. Five USA states.	Associations between recently committed violence and different types of recent leverage. **(adherence to treatment)**	Structured interviews with patients.	1. Rates of violence in the last 6 months. 2. Rates of experienced leverage in the last six months. 3. Associations of recent violence rates with experience of different forms of leverage.	1. 18-21 % recently committed violent crime. 2. 41-56% of the full sample reported no leverage (period when experience occurred is not reported). 3. Social welfare leverage (housing & financial) reported by 16-26%, legal leverage (criminal justice leverage or avoiding hospitalisation via CTO) by 11-17% and all types by 13-19%. 4. 73% of patients who reported violence experienced leverage. 5. 50% of patients who did not report serious violence experienced leverage. 6. Leverage was significantly more common among patients who reported committing violence. 7. Multivariate model: i. Reporting legal leverage was significantly more common among patients who reported serious violence than among those who did

Table 3 Informal coercion scoping study – empirical quantitative studies

	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
											not report it. ii. Participants who reported any physically assaultive behaviour were more likely to report any leverage compared with no leverage. iii. Neither form of leverage alone was associated with any reported physically assaultive behaviour. iv. Predictors of social welfare leverage alone: white, 4 or more prior hospitalisations, more than 3 community MH visits per month. v. Predictors of legal leverage: younger age, male gender, longer time in treatment (21 yrs and more), four or more prior hospitalisations and not taking medication voluntarily. vi. Predictors of all measured forms of leverage: younger age, male gender, poorer clinical functioning, more years in treatment, more frequent hospitalisation, higher frequency of outpatients visits, and negative attitudes towards medication adherence. 8. Voluntary adherence to medication may be a moderator of effect of violence on experience of leverage. Among patients who did not voluntarily take medication, reporting minor assaults was associated with reported legal leverage.
18.	Angell et al.	2007	USA	Cross-sectional.	Community patients (various diagnosis).	n=201	1. Community service. 2. One CMHT in one USA state.	Effects of payeeship and reported financial leverage on the patient-provider relationship. **(treatment adherence pressures)**	Structured interviews with patients.	1. Rates of financial leverage in patients with RP. 2. Rates of financial leverage among patients with clinician RP. 3. Predictors of having clinician as RP. 4. Mediating effect of financial leverage on relationship with RP (and therapeutic relationship.	1. 53% had payee or money manager and 79% of them had a clinician payee. 2. Predictors of having a clinician as payee: co-occurring psychosis and substance abuse disorder, low functioning and lower insight. 3. 40% of those with a clinician's payee reported financial leverage. 4. Predictors of reporting financial leverage: younger age and more server symptoms. 5. Financial leverage was found to mediate the effects of payeeship on conflict in the case management relationship. 6. Patients with clinician payees (compared to those with a relative or friend payees or no payees) reported more conflict in the case management

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											relations but there was no difference in their bond scores.
19.	Buch et al.	2007	USA	Cross-sectional, multi-centre.	Community patients (various diagnosis).	n=187 (subsample of patients with children younger than 16).	1. Community service. 2. Five USA states.	Rates of patient's perception of childcare leverage (not experience) in the period six months prior to the interview. **(treatment adherence pressures)**	Structured interviews with patients.	1. Rates of 'general pressure' related to childcare (perception that their right to visit or custody of children would be at risk due to non-adherence to treatment). 2. Source of 'general pressure' related to childcare.	1. N=36 (19%) patients perceived that they may lose right to visit children or child custody due to non-adherence. 2. 32 (89%) reported only one perceived source of childcare pressure. 3. Family members are the most prevalent source of general pressure related to childcare at 42% and the next most frequent source (28%) was social services.
20.	McNiel et al.	2013	USA	Cross-sectional.	Community patients (various diagnosis).	n=198	1. Community service. 2. Two community MH clinics in one USA state.	Relationship of different aspects of the treatment relationship, such as: a) working alliance b) psychological reactance, and c) perceived coercion with treatment adherence and satisfaction in a group of patients at risk of experiencing leverage. **(treatment adherence pressures)**	Structured interviews with patients.	1. Rates of recent leverage (last six months). 2. Association of adherence to treatment with patient characteristics and recent leverage rates. 3. Association of satisfaction with treatment and patient characteristics. 4. Association of treatment relationship with adherence, leverage and satisfaction.	1. 37% patients reported leverage within the last 6 months. 2. Better adherence to medication was associated with higher perceived coercion, better attitude towards medication (DAI), symptom severity (BPRS), substance abuse (CAGE). No association with reported leverage. 3. Better adherence to appointments was associated with symptom severity (BPRS) but not with other variables. 4. Satisfaction with treatment was associated with better therapeutic relationship, lower reactance and less perceived coercion. 5. The results suggested the value of considering the treatment relationship in understanding treatment participation of patients who are at risk of experiencing leverage.
North Carolina RCT study papers											
21.	Hiday, et al.	1997	USA	Cross sectional, (RCT's baseline data	Involuntary patients awaiting discharge from	n=331	1. Inpatients. 2. One psychiatric hospital and	1. Contraction and validation of the Negative pressure and Procedural inequity	Structured interviews with patients.	1. Negative pressure and Procedural inequity (exclusion) scales.	1. PC had bimodal distribution. 2. Perceived coercion varied among involuntary inpatients. 3. 41% involuntary patients perceived little or no

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	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
				analysis).	hospital on CTO or voluntary community treatment. (severe MH disorder; mostly psychosis)		psychiatric units in three general hospitals in one county.	(exclusion) scales. 2. Relationship between perceived coercion, negative pressure and procedural inequity scales. 3. Relationship of patient characteristics with three scales. **(treatment adherence pressures)**		2. Perceived coercion, negative pressures and procedural justice scales scores. 3. Correlation between perceived coercion, negative pressures and procedural justice. 4. Predictors of perceived coercion, negative pressures and procedural justice.	coercion. 4. 23% perceived no admission process exclusion, 27% perceived a high level of inequity or process of exclusion (no 'voice') at admission. 5. 25% perceived no negative pressures (threats and force) at admission. 6. Predictors of perceived coercion, negative pressures and process exclusion: white ethnic background, female gender, unmarried status and higher education. 7. Perceived coercion is predicted by negative pressure and procedural injustice (using threats, force and having little voice or validation at admission). 8. Perceived coercion, negative pressures and procedural injustice are highly positively correlated with each other.
22.	Elbogen et al.	2003	USA	Longitudinal, 12 months follow-up (analysis of non-randomised RCT data).	1. Patients (involuntary awaiting hospital discharge, severe MH disorder; mostly psychosis). 2. Family members carers. 3. Clinicians	n=258 patients n=258 family carers and clinicians (n of each family carers and clinicians samples not reported)	1. Inpatients. 2. One psychiatric hospital and psychiatric units in three general hospitals in one USA state. 3. Mixed inpatients & outpatients at 12 months.	1. Rates of use of money 'warnings' by clinicians and family. 2. Predictors of money 'warnings'. **(treatment adherence pressures)**	1. Interviews at a) baseline b) 12 months with: a) patients b) clinicians c) family members. 2. Data from medical record	1. Rates of money 'warnings'. 2. Difference in reported 'general pressures' related to finance and money 'warnings' rates between patients, clinicians and family members. 3. Association of money 'warnings' rates and PC with patient characteristics.	1. 37% had someone managing their finances. 2. 76 (30%) patients reported 'general pressures' related to finance. 3. 14% family carers and clinicians reported using money 'warnings'. 4. Predictors for both money leverage and perceived coercion: Black, having someone who manages money, having other forms of forced treatment.
23.	Elbogen et al.	2003	USA	Longitudinal, 12 months follow-up (analysis of non-randomised RCT data).	1. Patients (involuntary awaiting hospital discharge, severe MH disorder; mostly psychosis).	n=258 patients	1. Inpatients 2. One psychiatric hospital and psychiatric units in three general hospitals in	Effects of multiple forms of leverage: two legal mechanisms (CTO and representative payee RP) on: 1. Perceived coercion. 2. Treatment adherence. **(treatment adherence**	1. Interviews at a) baseline b) 12 months with: a) patients. b) clinicians c) family members.	1. Rates of CTO. 2. Rates of RP. 3. Rates of combination of CTO and RP. 4. Outcomes of CTO and RP with adherence to	1. 71% medication non-adherent (last 4 months). 2. 25% had neither CTO nor RP. 3. 18% had RP only and 33% had CTO only. 4. 24% had both RP and CTO. 5. No difference in perceived coercion between group with neither mechanism (CTO or RP) and group with one legal mechanism (only CTO or RP).

Table 3 Informal coercion scoping study – empirical quantitative studies

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					2. Family members carers. 3. Clinicians.		one USA state. 3. Mixed inpatients & outpatients at 12 months	**pressures)**	2. Data from medical records.	treatment and perceived coercion.	6. Experience of multiple leverage (RP+CTO) was associated with higher perceived coercion compared with those with neither CTO nor RP. 7. Groups with only RP and both RP and CTO had higher perceived coercion than those with no leverage. 8. Patients with multiple leverages (both CTO and RP) were more likely to report finance leverage than patients with neither CTO nor RP, or only one of legal mechanisms. 9. Perceptions of coercion related to different forms of leverage may be mediated by treatment adherence. 10. Greater number of forms of leverages was associated with higher perceived coercion among non-adherent patients but not among adherent patients.
North Carolina schizophrenia study papers											
24.	Swartz et al.	2003	USA	Cross sectional, at the end of a longitudinal observational study.	Schizophrenia patients and clinicians.	n=104 patients n=85 clinicians.	1. Patients: community patients. 2. Clinicians: a) community MH centres b) psychiatric ward of general hospital c) local private psychiatric practice. 3. One region, one USA state.	Clinicians' and patients' evaluation of the effects of treatment pressures on potential barriers to seeking mental health treatment **(treatment adherence pressures)**	Interviews with: 1. Patients. 2. Clinicians.	1. Barriers to seeking treatment rates. 2. Associations of barriers in treatment seeking with patient characteristics and experience of treatment pressures.	*Clinicians' reports:* 1. 78% believed that legal pressures keep patients in treatment. 2. 81% disagreed that involuntary community treatment increase barriers to seek treatment. *Patients reports:* 3. 63% reported history of involuntary hospitalisation. 4. 36% reported barriers to seeking treatment due to fear of coercive treatment. 5. Delay in treatment seeking due to fear of involuntary hospitalisation (27/28%); and fear of forced medication (26/27%). 6. Housing leverage and CTO were not associated with reported barriers. 7. Univariate predictors of perceived barriers in treatment seeking: history of involuntary hospitalisation, reported criminal sanction leverage, currently RP arrangement, reported warning or reminders related to consequences of

Table 3 Informal coercion scoping study – empirical quantitative studies

	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
											medication and appointment non-adherence, high perceived coercion, being married/cohabiting. 8. Multivariate predictors of barriers: history of involuntary hospitalisation and recent warnings or reminders about consequences of treatment non-adherence.
25.	Swartz et al.	2004	USA	Cross sectional, at the end of a longitudinal observational study.	Schizophrenia patients.	n=104	1. Community patients. 2. Several regional public mental health clinics.	1. Perception of the fairness and effectiveness of treatment mandates and pressures. 2. Associations of perceived fairness and effectiveness of pressured treatment with different patient characteristics. (**treatment adherence pressures)**	Interviews with patients.	1. Perceived fairness and effectiveness rates. 2. Relationship between fairness and effectiveness. 3. Associations of perception of fairness and effectiveness with patient characteristics.	1. 62% patients reported treatment pressures as effective and 55% as fair. 2. Fairness and effectiveness were highly correlated (r=0.53). 3. Multivariate predictors: i. *Higher effectiveness*: less dangerous environment, fewer total symptoms, endorsed a biopsychosocial model of disease ethology, and higher insight. ii. *Lower fairness*: more barriers to care, higher levels of symptoms, higher PC, lower insight, and marginal association with biopsychosocial model.
26.	Elbogen et al.	2005	USA	Cross sectional, at the end of a longitudinal observational study.	Schizophrenia patients.	n=104	1. Community patients. 2. Several regional public mental health clinics.	Patients' opinion about RP use of disability fund to attempt to improve treatment adherence. **(treatment adherence pressures)**	Interviews with patients.	1. Different opinions on effectiveness of financial leverage rates. 2. Multivariate predictors of useful financial leverage.	1. 58 (56%) had RP. 2. 81% perceived legal pressures as effective for treatment adherence. 3. 65% perceived financial leverage as not effective. 4. Multivariate predictors of 'helpful money leverage': lower education than high school, no substance abuse, belief that other pressures are helpful, feeling free in making treatment decisions. 5. Potential mediators between financial leverage and perceived coercion: therapeutic alliance with RP, care and respect. 6. Financial leverage used with highly-educated schizophrenia patients may lead to low self-esteem and self-efficacy which can have negative effect on outcomes and adherence to mental health services.
MacArthur assertive outreach teams study with clinicians											
27.	Moser & Bond	2009	USA	Cross sectional.	AOT clinicians.	n=153 practition-ers.	1. 23 assertive outreach teams.	1. Prevalence of agency control across assertive community	Survey of clinicians.	1. Rates of use of various agency control.	1. Use of agency control varies across sites. 2. Most frequent agency control practices: intensive medication monitoring (56% of caseload) and RP

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	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
						n=23 teams.	2. One USA state.	treatment teams. 2. Team-level variation in use of agency control. 3. Benchmarks. **(treatment adherence pressures)**		2. Associations of agency control practice with programme, practitioner and patient characteristics.	(58% of caseload). CTO and agency supervised housing were used for minority of cases. 3. Predictors of agency control: i. *Patient caseload*: a higher percentage of patients on the caseload with a schizophrenia spectrum disorder was associated with using RP and intensive medication monitoring. ii. *Programme*: lower quality of basic clinical services (e.g. assessment and treatment planning) was associated with greater use of agency-supervised housing. iii. *Clinician*: practitioner education was negatively associated with both representative payeeship and intensive medication monitoring.
28.	Moser & Bond	2011	USA	Cross sectional.	AOT clinicians.	1. n=122 clinicians. 2. 23 teams.	1. 23 assertive outreach teams. 2. One USA state.	1. Frequency of use of restrictive practices in AOTs. 2. Relationship between restrictive practices rates and clinician characteristics. **(treatment adherence pressures)**	Structured interviews with clinicians.	1. Rates of reported use of restrictive practices. 2. Associations of rates of restrictive practices with clinician characteristics, team and patients' characteristics. 3. Community Mental Health Practices Scale developed and validated.	1. 88% of practitioners reported less than occasional use of restrictive practices. 2. Most frequent was medication monitoring (60-86%). Threat with hospitalisation was less common (4%). 3. Very restrictive practices were rarely reported. 4. Predictors of increased use of restrictive practices: clinicians with pessimistic attitudes, less education, shorter job tenure in AOT and less schizophrenia patients on caseload. Fidelity to AOT model and substance abuse of patients were not associated with frequencies of restrictive strategies use.
Other studies											
Studies on financial incentives											
29.	Claassen et al.	2007	UK	1. Survey. 2. Longitud-inal pilot study on use of financial incentives.	1. Managers of assertive outreach teams AOT). 2. Patients with diagnosis of psychosis.	1. n=70 teams/ managers 2. n=5 patients.	1. 70 assertive outreach teams in England. 2. Community patients in one assertive	1. Attitude towards practice of financial incentives (FI) to improve adherence in assertive outreach teams. 2. Possible ethical	1. Postal survey of AO teams and their managers. 2. Offering FI after each received depot medication and collecting	1. Rates of returned survey responses. 2. Descriptive statistic on proportion of objections FI, reasons for concerns.	*AOT survey* 1. 47% response rate to survey. 2. None of participating AOTs were using FI. 3. Most attitudes towards the FI practice were negative or unethical. 4. 76% objected FI, 17% had no objection. 5. 42% had concerns that FIs are unethical.

Table 3 Informal coercion scoping study – empirical quantitative studies

	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
							outreach team in London.	problems associated with direct financial incentives. 3. Pilot study of using financial incentives with psychosis non-adherent patients. **(treatment adherence pressures)**	data from medical records.	3. Reported clinicians' ethical concerns. 4. Adherence and rehospitalisation of patients in FI pilot programme.	6. Specific concerns: possible coercion (8%) and negative impact on the therapeutic relationship (9%). *Piloting financial incentives with five patients* 1. Out of five patients studied, four accepted the offer of money and had improved adherence, three remained without hospital admission since entering the scheme. 2. One patient asked for incentives to be increased, when that was declined he remained in the programme.
30.	Claassen et al.	2007	UK	Cross sectional.	Managers of assertive outreach teams (AOT).	n=70 teams/ managers.	70 assertive teams in England.	Analysis of ethical concerns in survey of AOT managers regarding use of FI for non-adherent patients. **(treatment adherence pressures)**	Postal survey (self-reported questionnaire).	1. Rates of reported ethical concerns in a survey. 2. Analysis of clinicians' ethical concerns and their description.	1. 53/70 reported one or more ethical concerns regarding use of FI. 2. Several team managers used strong words to denote their concerns (horrified shock). Four categories of concerns (and 11 unspecified concerns): i. N=5 concerns related to valid consent and refusal (issue of patients' consent and risk for impaired capacity to make an informed decision. ii. N=31 described FI as psychiatric paternalism related to coerced community treatments (possible coercion, autonomy and detrimental impact on therapeutic relationship). iii. N=4 issues with resource allocation (amount of money, frequency, risks for adherent patients). iv. N=2 organisational relationship issues (including all involved clinicians, voluntary involvement and documented agreement with managerial support).
31.	Burton et al.	2010	UK	Systematic review.	Studies on effectiveness of FI on increased treatment adherence in people with SMI.	n/a	Community mental health treatment.	Effectiveness of financial or material incentive in improving treatment adherence in people with SMI. **(treatment adherence pressures)**	A systematic review of studies published between 1950 and 2008.	1. Number of published articles on effectiveness of FI in psychiatric treatment. 2. Evidence of effectiveness of FI for adherence to	1. 14 articles were identified. 2. Three studies on adherence to psychiatric treatment and one on physical exercise. 3. Ten articles used incentives for adherence to substance misuse treatment. 4. FI was associated with an increase in adherence in all studies. 5. The effect was not always maintained after

Table 3 Informal coercion scoping study – empirical quantitative studies

	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
										treatment.	incentive was withdrawn. 6. Existing evidence suggests that FI may improve treatment adherence in severely mentally ill patients. 7. Very few studies on psychiatric treatment.
32.	Staring et al.	2010	The Nether-lands.	Pilot study on use of FI, longitudinal 12-month follow-up.	1. Community patients with schizophrenia. 2. Clinicians. 3. Family members.	1. n=5 patients 2. n clinician unknown. 3. n=2 family members.	One assertive outreach team.	Piloting: 1. Intervention of FI. 2. Measuring effectiveness of FI by measuring adherence. 3. Hospitalisations during the intervention period. 4. Experiences of patients, clinicians and family members. **(treatment adherence pressures)**	1. Offering FI to patients for received depot medication. 2. Interviews with patients, clinicians and family members (short questionnaire).	Number of received depots, number of hospitalisations, responses in the applied questionnaire	*Patients* 1. Improved adherence from 44% to 100% during intervention (all patients) and only one hospitalisation. 2. Money was spent on cigarettes, household products and one on cannabis. 3. Cash is preferable than vouchers or tickets. 4. None non-participating patient asked to be paid or complained about unequal treatment. 5. Issues of a coercive nature of FI reported. 6. Money was perceived as too small incentives. 7. Attitudes toward FI: N=2 perceived FI as a voluntary and non-coercive, N=2 perceived FI as coercive. *Family member carers* 1. Supported FI as an intervention. 2. Cash was preferable than vouchers. *Clinicians* 1. Patients never asked about more money. 2. Two patients had repeatedly asked for their depot injections sooner than scheduled which was always declined. 3. No negative impact on therapeutic relationship was reported.
33.	Priebe et al.	2013	UK	Cluster RCT, 12 months intervention follow-up.	1. Psychosis patients 2. Poor or no adherence to anti-psychotic depot medication.	1. n=141 patients 2. n=73 clusters (teams)	1. Community patients. 2. 73 CMHTs and AOTs in England.	Effectiveness of offering financial incentives to patients with psychotic disorders in improving adherence to maintenance treatment with antipsychotics. **(treatment adherence pressures)**	1. Offering financial incentives (£15) for each received depot injection. 2. Data collection from medical records. 3. Clinical Global Impression rates (CGI) from clinicians.	1. Proportions of received depot injections. 2. Patients with ≥95% adherence. 3. CGI scores. 4. QoL socres. 5. Adverse events.	1. Data available for N=131 patients. 2. Average adherence. 3. Adherence to treatment was higher in the intervention group representing on average 11.5% greater adherence (p=0.003). 4. ≥95% adherence was higher in the intervention group (28%) than in the control group (5%) (p=0.003). 5. QoL scores higher in intervention group. 6. No difference in clinician rated CGI.

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									4. Quality of life (QoL) interviews with patients.		
All other papers											
34.	Gardner et al.	1993	USA	Cross sectional, psychometric analysis.	1. Psychiatric patients. 2. Any diagnosis.	Two samples: 1. n=161 2. n=50	1. Inpatient. 2. Two wards.	Development and validation of Admission Experience Interview and Admission Experience Survey. **(admission pressures)**	1. Mixed method. 2. Structured interview. 3. Semi-structured interview.	1. AEI and AES scales. 2. Psychometric characteristics of AEI and AES. 3. AES Perceived Coercion (PC) scale.	1. Coherent responses on coercion experiences in both scales. 2. AES and AEI – high internal consistency on PC scale, sensitive and internally consistent measures. 3. PC can be used separately from AEI. 4. PC has bimodal distribution.
35.	Hoge et al.	1993	USA	Cross sectional.	1. Psychiatric patients (any diagnosis). 2. Family members. 3. Clinicians.	1. n=43 patients. 2. n=18 family members /friends. 3. n=40 clini-cians 4. Three focus groups.	*Interviews* 1. Inpatients at admission. 2. Two psychiatric hospitals. *Focus groups:* 1. Community patients. 2. Former patients. 3. Clinicians from a hospital. 4. Clinicians from community MH centres.	1. Stakeholders' experience of coercion. 2. Conceptualisation of coercion. 3. Measures coercion. 4. Providing range of the mechanisms of the admission process. 5. The language used to describe coercive experiences. 6. Variety of ways to investigate coercion. **(admission pressures)**	Mixed method: 1. Structured and semi-structured interviews. 2. Focus groups.	1. Reported pressures. 2. Perceived coercion (PC). 3. Decisional burden regarding hospitalisations.	1. *Pressures* i. Patients reported less pressure than family and clinicians. ii. Persuasion and threats were common, inducement rare and force was reported by only a few participants. iii. Stakeholders' reports varied in quality and number of details (events prior to admission were unknown to clinicians, patients varied in details). 2. *Perception of coercion*: i. PC complex, does not reflect only perception of an act. ii. PC is related to: perception of fairness, relationship with person who applies coercion, perception of motives of that person, and a chance to 'have a say'. iii. PC can be influenced by gap in memory or knowledge and variation in sensitivity to objective pressures (or denial). 3. *Decisional burden*: i. Patients preferred having responsibility for decision about admission. ii. Involuntary patients objected to the need for hospitalisation.

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											iii. No difference between involuntary and voluntary patients in perception of pressure at admission. iv. Clinicians preferred third-party admission decision-making for involuntary patients. Decisions for involuntary patients were more difficult than for voluntary. 4. Disinterested raters can reliably rate level of pressure and preferences, and provided choice to patients from interview transcripts. 5. *Focus groups*: i. Descriptive language used rather than terms 'pressure' and 'coercion'. ii. Stakeholders vary in perception of admission and coercive hospitalisation. 6. Including (i) different stakeholders (patients, clinicians, family members), (ii) combined methods (qualitative and quantitative), and (iii) use of specific forms of pressures such as persuasion, threats, inducements, force are necessary for understanding of coercion.
36.	Rogers, A.	1993	UK	Cross sectional.	Psychiatric community patients.	1. n=412 patients. 2. n=54/412 patients with open-ended questions.	1. Community patients. 2. MIND (MH charity). 3. Community social and health services.	1. Perceived coercion: a) at admission. b) during hospital stay among previously 'voluntary' admitted patients'. 2. Perception, beliefs and circumstances of legally 'voluntary' patients reported pressure. 3. Comparison of views on admission, treatment and services between legally voluntary patients who perceived their treatment voluntary and those who felt under pressure.	Mixed methods: 1. Qualitative semi-structured interviews. 2. Quantitative, survey (structured and semi-structured interviews) of patients recruited to a large MIND survey (68%) and in various community statutory social and health services.	1. Rates of legally voluntary patients who perceived admission as voluntary and those who didn't. 2. Association of rates of feeling pressured with patient characteristics. 3. Perceived coercion among those who felt voluntary and those who did not. 4. Sources of pressures. 5. Time point when pressure perceived. 6. Rates of forms of pressures.	1. 44% (N=183) legally voluntary admitted patients in the past felt their admission was not voluntary. 2. *Predictors of 'coerced voluntaries':* female gender, younger age, single status and diagnosis of schizophrenia. 3. *Perceived coercion* of admission and treatment less reported by 'non-coerced voluntaries' (21%) than 'coerced voluntaries' (80%). 4. *Sources of coercion* – most common psychiatrists, then GPs and nurses. 5. *Multiple sources* of pressure were common (e.g. clinician and family). 6. Patients varied in perceived coercion. 7. *Time point of feeling pressured*: at referral, at admission, after admission when attempted to leave. 8. *Forms of pressure*: i. Threats with detention most common. ii. Force and leverage, and threats were used for admission but also as gentle persuasion.

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								(admission pressures)		7. Outcomes of perceived coercion.	9. *Outcomes of 'coerced voluntaries' treatment*: negative about treatment and low satisfaction. 10. Distinction between voluntary and involuntary patients is blurred. Coercion should be seen as a continuum, figures on involuntary patients are underestimated.
37.	Lidz et al.	1993	USA	Cross sectional.	1. Patients. 2. Clinicians. 3. Family members. 4. Others involved in process of admission assessment.	n=405 cases of assessment.	Psychiatric emergency assessment room (inpatients) in one hospital.	1. Forms of pressures. 2. Rates of pressures during assessments. 3. Persons who has control in assessment process. **(admission pressures)**	Mixed method: 1. Observation of emergency room assessment. 2. Quantitative 3. Qualitative.	1. Identified pressures from transcripts used with patients at assessment. 2. Rates of pressures. 3. Sources of pressure.	1. Six identified pressures: persuasion/giving reasons, threats to admit, other threats, legal force to admit, other forces. Inducements/promises not identified. 2. The most prevalent persuasion. 3. Clinicians and patients are not equal. Clinicians have legal power. 4. Context is important as persuasion can be coercion if in coercive context (security guard present).
38.	Hurley Cogswell (book chapter)	1996	USA	Cross sectional.	1. Patients: a) Patients with representa-tive payee. b) With SMI. c) Homeless or at high risk of becoming homeless. 2. Representa-tive payee.	1. n=82 patients. 2. n=21 clinician s.	1. Community patients. 2. One downtown area.	1. Patients' perception on: a) money management. b) housing choice. c) medication compliance. d) 'life in general'. 2. Clinician's perceptions of control. **(treatment adherence pressures)**	Structured interviews with patients and staff.		*Patients' perceptions* 1. Money management: i. 50% patients had RP and less than 10% managed money themselves. ii. Complaints about money management: disbursement schedule for spending money, lack of control over their money. 2. Medication compliance: i. ¾ of adherent patients were taking medication because it is beneficial (not because of a doctor, counsellor, or their payee). ii. Common reasons for non-adherence were side effects and unhelpful medication. iii. Doctors' insistence on medication adherence make patients think that they will hospitalise them, provide more education or information on medication, deny programme privileges, or do nothing if they stop taking medication. 3. 'Life in general' and clinician payees: i. Almost ¾ of patients report full autonomy about life decision-making. They were more than 'somewhat satisfied with their level of decision-making'. ii. ¾ of clients prefer to make decisions about their life most of the time. 20% prefer control

Table 3 Informal coercion scoping study – empirical quantitative studies

	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
											some of the time because of history of making bad decisions and they need some assistance. 4. Attitudes toward payees (clinicians): i. Majority 'more than satisfied' with their relationship. ii. Few reported disliking control over money and not being able to get money or information when they wanted it. *Staff perception of control:* 1. Most perceived collaborative relationship and a good balance of decision-making authority. 2. Low rates of needed and actually exercised authority. 3. Perception of too little authority with substance use/abuse behaviours, personal hygiene, housekeeping practices, personal spending habits and medication compliance. None reported too much decision-making authority.
39.	Cascardi, & Poythress	1997	USA	Cross sectional.	Patients referred to a crisis stabilization unit by the court for involuntary evaluation with possibility to be admitted both voluntary and involuntary.	n= 120 (50% voluntary and 50% involuntary admitted).	1. Inpatients after admission. 2. Crisis Stabilisation Units. 3. Two community mental health centres in one USA state.	1. Experience of admission among voluntary and involuntary admitted patients. 2. Experience in the community (e.g. with family, police) prior to admission. 3. Comparison of experience prior to admission and in hospital. 4. Relationship of locus of control and psychiatric symptoms with PC. **(admission pressures)**	Individual interviews with patients.	1. Perceived coercion, negative pressure and procedural justice scores. 2. Locus of Control (LOC) score. 3. Severity of symptoms. 4. Associations between above variables. 5. Comparison of voluntary and involuntary admitted patients. 6. Predictors of PC.	1. Legal status, procedural justice end negative pressures are related to PC. 2. Involuntary patients felt more negative about admission (less respected, less fairness and taken less seriously, and more threats, force and PC). 3. Predictors of PC: community and hospital process, community and hospital negative pressures, legal status, and education. 4. Patient perceived more coercion if more persuasion and promises were used by psychiatrist.
40.	Ries & Comtois,	1997	USA	Cross sectional.	Clinicians most knowledgeable about RP programme	n=41	1. CMHTs with licence to provide RP programme.	1. Agency's self-reported philosophy and practices of benefits management	Postal survey (self-reported questionnaire)	1. Rates of RP services. 2. Rates of patients receiving RP	1. 30 (73%) teams provided RP services. 2. Mean number of patients with RP in team was 57 (62%). One third had a dual diagnosis. 3. 62% of RPs were clinicians and 38% were

Table 3 Informal coercion scoping study – empirical quantitative studies

	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
					provided by their CMHT.		2. One USA state.	by representative payees. 2. Linking of the form and frequency of benefits disbursement to patients' behavioural functioning. **(treatment adherence pressures)**		services. 3. RP identities. 4. Rates of linking of benefits management and patients' behaviour. 5. Associations of linking finance management with organisation characteristics.	financial staff. *Links between finance management and patient behaviour (substance abuse, money management skills, treatment attendance and functioning* 4. Disbursement was most tightly linked to money management skills, then to substance abuse and functioning, and least tightly to treatment attendance. *Agency support and reported practices* 5. Teams moderately supportive of linking benefits to patients' behaviour. 6. Predictor of reported linkage practices: philosophical support, larger programmes.
41.	Ries & Comtois	1997	USA	Longitudinal, 3-month follow-up.	1. Patients with dual diagnosis of SMI and substance abuse. 2. Patients enrolled in dual disorder programme.	n=275	1. Community patients. 2. One CMHT.	1. Administration of payee (RP) programme. 2. Comparison of patient characteristics of payee and non-payee participants. 3. Limitations of RP programme. **(treatment adherence pressures)**	Collection of data from medical record.	1. Predictors of inclusion in the RP programme. 2. Outcomes of contingent-type of financial management.	1. Predictors of receiving RP programme: men gender, schizophrenia, history of multiple hospitalisations, more psychiatric symptoms, substance abuse and functional disability. 2. Patients with RP received nearly twice the amount of outpatients' service contacts as non-payees. 3. Outcomes of contingent type of financial management: better compliance, more contact with service but more symptoms – multidimensional.
42.	Draine & Solomon,	2001	USA	Cross sectional	1. Newly assigned psychiatric patients on parole or probation 2. Their parole or probation officers	1. n=250 patients 2. n=250 parole/probation officers	1. Community services 2. Two specialised psychiatric probation and parole units for MH patients 3. One USA state,	1. Use of threats with imprisonments. 2. Associations of threats rates with patient and officers characteristics. **(treatment adherence pressures)**	Interviews with probation/parole officers and patients on probation or parole	1. Threats use rates. 2. Associations of threats rates with: 1. Level of disability 2. Poor adherence 3. Dangerousness 4. Officer's collaboration with MH service.	1. Threats with imprisonment used with 66% patients. 2. Attempted inpatients psychiatric hospitalisation used with 14%. 3. Collaboration with MH workers used with 56% patients. 4. Routine supervision used with 82% patients. 5. Predictors of increased use of threats: officers' collaboration with MH workers and attempted hospitalisation. 6. Predictors of less use of threats: older patients with thought disorder and in an acute phase.
43.	Hanrahan et al.	2002	USA	Cross sectional.	Clinicians knowledgeable about RP programmes.	n=95	1. 95 CMHTs with RP programme services.	1. Use of representative payee programme in community mental health centres.	Survey.	1. Rate of CMHTs providing direct RP programme. 2. Characteristics of	1. 59% of CMHTs provided RP programmes directly to patients. 2. More than 30% of patients with intensive services received RP and they were more likely to receive

Table 3 Informal coercion scoping study – empirical quantitative studies

	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
							2. One USA state.	2. Characteristics of RP programmes provided. 3. Criteria used for allocating RPs to patients. **(treatment adherence pressures)**		patients related to CMHR provided RP programme. 3. Rates reported financial leverage.	RP if it was provided directly by CMHT and not by family or friends. 3. 76% of programmes provided services to patients under mandate. 4. 32 programmes (71%) made access to discretionary money moderately contingent on improvements in substance abuse. 5. 29 (62%) of programmes reduce access to discretionary money when substance abuse was at level of dependence. 6. In 26 (55%) of programmes access to discretionary money was moderately dependent on adherence to treatment.
44.	Bonsack, & Borgeat	2005	Switzer-land	Cross sectional.	Psychiatric patients (various diagnosis).	n=87	1. Inpatients present in hospital. 2. One psychiatric hospital.	1. Perceived coercion at admission among voluntary and involuntary admitted patients. 2. Associations of perceived coercion with legal status and perceived need for admission. **(admission pressures)**	Survey (self – completed questionnaire with structured and open-ended questions).	1. PC among voluntary and involuntary patients. 2. Comparison of voluntary and involuntary patients in pressured admission, social pressures for admission. 3. Patients views on need for admission. 4. Reported improvement in MH illness during hospitalisation and relation to PC.	1. 34% patients involuntary admitted; majority with psychosis. 2. *Voluntary patients*: 29% perceived admission not entirely voluntary, and 4% perceived it involuntary. 3. *Involuntary patients*: 44% reported admission was voluntary. 4. *Pressured admission*: 75% of all patients reported pressure at admission; no difference between voluntary and involuntary patients. 5. Voluntary patients perceived more pressure from family and friends, compared with involuntary. 6. *Perceived need for admission*: 61 (72%) of patients were aware that they needed admission, 11 (13%) thought they did not need it and 13 (15%) of them did not know. Voluntary patients were more likely to believe they needed admission. 7. *Improvement*: reported by 11% of voluntary and 40% involuntary patients. Reports of improvement were not associated with perceived coercion, perceived need for admission, or with time in hospital. 8. *Perceived coercion* was not associated with time in hospital or perception of necessity of admission.

Table 3 Informal coercion scoping study – empirical quantitative studies

	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
45.	Davidson & Campbell	2007	UK	Longitudinal, quazi-experimental; 18-month follow-up.	Community patients (from AOT and CMHT) with various diagnosis; patients' care coordinators.	1. n=41 patients. 2. n=60 care coordina-tors	1. Community services. 2. Two newly established AOTs in one NHS trust. 3. One CMHT in two NHS trust areas. 4. Northern Ireland.	1. Effectiveness of AOT approach for treatment of patients with severe and enduring mental health illness. 2. Comparison of AOT model with the standard CMHT care. **(treatment adherence pressures)**	Structured interviews at baseline, 9 and 18 months with: 1. Patients 2. Their care-coordinators	Comparisons: 1. AOT with CMHT patients. 2. Three time points within groups a) PC scores. b) Therapeutic limit setting rates. c) Poor engagement. d) Duration of hospitalisation e) Imprisonment.	*Perceived coercion* 1. AOT group had higher PC scores than the CMHT group at baseline but PC was lower at 9 and 18 months. AOT care reduced PC in time. 2. The CMHT group had similar PC scores at all time points. 3. *Therapeutic limit setting* (verbal guidance, contingent on withholding, money management, invocation of external authorities and enforced hospitalisation) was lower in AOTs than in CMHT and it was significant in all three time points. 4. *Poor engagement* of AOT patients at baseline (newly established AOTs) improved during follow-up but CMHT engagement did not improve. The groups overall difference in all three time points. 5. *Duration of hospitalisation* reduced in the AOT over time; in the CMHT no change. 6. *No imprisonment* in the AOT group but there were three in the CMHT group.
46.	Clark Robbins et al.	2009	USA	Cross sectional.	Residents of housing programmes with SMI.	n=136 1. n=59 'housing-first' 2. n=77 'supportive housing'	1. Residents with MH illness. 2. 3 'housing-first' programmes. 3. 2 'supportive housing' programmes.	Relationship of type of housing programme with: 1. An explicit requirement to adhere to MH or substance abuse treatment. 2. Perceived coercion. 3. Satisfaction with housing? **(treatment adherence pressures)**	Interviews with residents of housing programmes.	Association of type of programme with: 1. Requirement to adhere to treatment (housing leverage). 2. Perceived coercion. 3. Satisfaction with housing.	1. Housing – first programmes use less housing leverage (mental health and/or substance abuse treatment adherence for obtaining or retaining housing) compared with supportive housing. 2. No difference in satisfaction with housing. 3. Housing-first use less housing leverage but does not endorse substance use.
47.	Jäger & Rössler, (in German)	2009	Switzer-land.	Cross sectional.	Psychiatric patients (various diagnosis).	n=187	1. Inpatients. 2. Community patients. 3. One hospital.	1. Prevalence and risk factors of leverage to improve treatment adherence. 2. Attitudes of psychiatric patients towards leverage. **(treatment**	Structured interviews with patients.	1. Prevalence of housing, financial, criminal sanction, childcare and any form of leverage. 2. Univariate and multivariate associations of 4	1. *Prevalence:* 29% reported leverage (19% housing, 3% financial (8% subsample with someone managing finance), 11% criminal sanction (27% subsample under probation, arrested or convicted), 7% childcare leverage (29% subsample with children <16 and 19% subsample with children). 2. *Univariate predictors* i. Housing leverage – single, schizophrenia,

Table 3 Informal coercion scoping study – empirical quantitative studies

	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
								adherence pressures)		forms of leverage with patient characteristics. 3. Positive attitude on effectiveness of leverage among patients with and without reported leverage.	history of involuntary legal status and multiple admissions, > 12 years of illness duration, more severe symptoms and better functioning. ii. Financial leverage – no significant associations. iii. Criminal sanctions leverage – substance abuse, history of involuntary legal status, history of multiple admissions. iv. Childcare leverage – diagnosis of schizophrenia, history of involuntary hospitalisations and multiple admissions. v. Any leverage – single, substance abuse, schizophrenia diagnosis, history of involuntary legal status and multiple hospitalisations, >12 years of duration of illness, more severe symptoms and better functioning. *3. Multivariate associations* i. Housing leverage – single, psychosis. ii. Criminal sanctions leverage – substance abuse, history of involuntary status and multiple admissions. iii. Childcare leverage – male gender, schizophrenia. iv. Any leverage – single, substance abuse, history of involuntary status and history of multiple admissions. *4. Positive attitude on helpfulness of leverages:* *i.* 34% for housing, 45% for financial leverage, 39% for childcare, and 70% for criminal sanction. ii. No difference between patients with and without reported leverage.
48.	Jaeer & Rossler	2010	Switzer-land.	Cross sectional.	Psychiatric patients (various diagnosis).	n=187	1. Inpatients. 2. Community patients. 3. One hospital.	1. Perceived coercion. 2. Appraisal of the fairness and effectiveness of the treatment. **(treatment adherence pressures)**	Structured interviews with patients.	1. Rates of leverage. 2. Associations of leverage rates with PC, insight, fairness and effectiveness.	1. 29% reported leverage 2. *Leverage associations*: i. Higher PC and lower perceived fairness. ii. No associations with effectiveness. There must be another factor which mediates this association. *3. Insight associations:*

Table 3 Informal coercion scoping study – empirical quantitative studies

	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
											i. Higher fairness and effectiveness. ii. No association with PC. *4. Schizophrenia associations:* i. Perceived coercion. ii. No associations with fairness and effectiveness *5. Perceived coercion associations:* Most types of leverage, coerced voluntarism, a main diagnosis of schizophrenia and experience with involuntary hospital admission. 6. Fairness and effectiveness were highly correlated with each other. 7. Substantial proportion of the sample reported little or no coercion.
49.	Wong et al.	2010	USA	Cross sectional.	1. Patients with SMI in housing programmes. 2. Supported independent living housing (SIL) programmes staff.	1. n=432 patients 2. n=27 members of staff	1. Community patients. 2. 27 residential supported independent living programmes. 3. One county in one USA state.	1. Mechanisms of structural leverage in SIL programmes for persons with SMI. 2. Relationship of housing leverage with discontinuance of programme participation among SIL residents. **(treatment adherence pressures)**	1. Structured interviews with staff of housing programmes. 2. Collection of data on patient residents from housing programmes database.	1. Rates of various leverages included in housing lease. 2. Association of leverages and programmes' 'ownership of houses with risk to be excluded from housing programme. 3. Association of patient characteristics and risk of exclusion from housing programmes.	1. Leverage through Rules and Regulations: i. Non-adherence to medication (59% programmes). ii. Psychiatric (44%), physical (37%), or substance abuse (59%) treatment non-adherence iii. Stringency of programme generally unregulated in a market rental lease: (consuming alcohol (52-59%), threatening suicide (48%), other self-destructive behaviours (56%). iv. Testing for substance abuse (all but 4 used testing for drugs, 63%). v. Saving money for future use (19%). vi. Participation in housing or community meetings (30% programmes). 2. Both ownership of houses by a programme and stringency of programme response towards behaviours are associated with higher risk to exit the programme. No associations with patient characteristics. 3. Housing programme restrictions may be in conflict with tenant's rights, consumer choice, consumer control and empowerment.

Table 3 Informal coercion scoping study – empirical quantitative studies

	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
50.	Burns et al.	2011	UK	Cross sectional.	Patients with diagnosis: 1. Psychosis. 2. Non-psychosis. 3. Substance abuse patients.	n=417	1. Community services. 2. CMHTs. 3. AOTs. 4. Methadone clinics. 5. One MH NHS Trust. 6. Two counties in England.	1. Prevalence and patterns of leverage across four differing clinical samples. 2. Associations of patient and treatment characteristics with leverage rates. **(treatment adherence pressures)**	Structured interviews with patients.	1. Housing, financial, criminal sanction and childcare leverage rates. 2. Associations of leverage rates with patient characteristics. 3. Comparison of leverage rates with MacArthur study rates in the USA	*1. Prevalence:* i. 35% reported lifetime leverage (63% substance misuse, 33 and 30% in the psychosis samples and 15% in the non-psychoses sample. ii. Housing leverage (24%) and criminal sanctions (15%), financial leverage (2%) and childcare access leverage (8%). iii. 12% multiple leverage (mostly the substance abuse group (33%). iv. Rates varied across the clinical groups. Substance misuse group reported the highest level of leverage, higher than the USA group (63% compared with 51%). 2. *Predictors of lifetime leverage*: i. Any leverage: history of multiple admissions, substance misuse diagnosis and lower insight. ii. More than one type of leverage: independent accommodation, substance misuse diagnosis and a history of imprisonment. iii. In the mental illness group (substance abuse excluded) leverage was associated with increasing severity of illness. 3. *Comparisons with the MacArthur study*: lifetime leverage rates in the UK are lower than in the MacArthur study but patterns of different forms of leverage rates are similar.
51.	Katsakou et al.	2011	UK	Longitudinal, 1-month follow-up.	Legally voluntary admitted patients.	1. n=270 quantita-tive *2. n=36 qualita-tive*	1. Inpatients. 2. Nine acute wards in two hospitals in London.	1. Associations of patient characteristics and PC at admission (baseline). 2. PC at one month among voluntary patients who felt coerced at admission. 3. Factors associated with PC during treatment. 4. *Qualitative study-experiences leading to perceived coercion at*	Mixed method: 1. Structured interviews after admission and at one month. *2. In-depth semi-structured interviews at three months after admission.*	1. PC at voluntary admission. 2. PC one month after admission 3. Associations of PC at admission with patient characteristics. 4. Associations of PC at one month with patient characteristics. 5. *Experiences leading to perceived*	1. 91 (34%) felt coerced at admission. 2. No associations of PC with patient characteristics. 3. 28 (50%) who felt coerced at admission also felt coerced after one-month hospital treatment. 4. PC at one month was reduced for patients who increased treatment satisfaction. *Qualitative study* *1. 23 of 36 felt coerced at admission and 13 did not.* *2. Experiences leading to perceived coercion:* *i. Voluntary patients who felt coerced at admission viewed hospital treatment as not helpful or believed that other non-hospital and/or non-medication treatment would be more beneficial.*

Table 3 Informal coercion scoping study – empirical quantitative studies

	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
								admission and during one month treatment. **(admission pressures)**		*coercion and not perceived coercion at admission.*	ii. *At admission: majority reported no control over their admission and treatment, no-choice, no involvement in treatment decision-making and were lacking information, feeling threatened, would be detained involuntarily if resist admission, had not enough time to reflect, felt overwhelmed, bewildered and pushed into accepting admission, did not feel respected or cared for, staff were often rude or abrupt.* iii. *During hospital treatment: patients felt they have to comply with not clearly explained or negotiated hospital rules, staff often used understandable technical language, and they felt devalued and coerced.* *3. Experiences not leading to perceived coercion for patients who did not feel perceived at admission:* i. *Belief in necessary hospital treatment and safety, and hospital would offer the intensive treatment and recovery in a safe environment.* ii. *Participating in the admission and treatment process by asking for admission themselves and actively making treatment (and admission) decisions.* iii. *Perceived being respected, supported and cared for, empathetic staff genuinely interested in them.* *4. Shared experiences among coerced and non-coerced patients:* i. *Coerced patients: perceived benefit from treatment, involvement in care and having supportive and caring staff.* ii. *Non-coerced patients: perceived non-beneficial aspect of treatment, non-inclusion in the treatment decision-making, and some disrespectful and uncaring staff.* iii. *Overall, the coerced group reported more negative experiences and non-coerced group perceived more positive aspects in their admission and treatment.*

Table 3 Informal coercion scoping study – empirical quantitative studies

	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
52.	Manuel et al.	2013	USA	Cross sectional.	Clinicians from assertive community teams.	n=239	34 AOTs in New York state.	Interventions and the use of intrusive strategies to improve engagement, manage problem behaviours, and reinforce positive behaviours among patients. **(treatment adherence pressures)**	Self-administered survey.	1. Rates of intrusive strategies, positive inducements, verbal guidance, medication monitoring, money management, conditional involvement, use of hospitalisation and report to authorities. 2. Associations of reported strategies with clinician and organisational characteristics	1. Significant variations between teams in types of interventions used. 2. Continuum of pressures: The most common were less intrusive strategies, (i) positive inducement, (ii) verbal guidance than more intrusive (hospitalisation). 3. Interclass correlation found for all strategies. 4. Predictors of use of more intrusive strategies: higher education, staff role (team leaders and speciality staff use more inducements, psychiatrist and nurses use more medication management, nurses use more verbal guidance), ethnicity (White), leadership (team leaders use more hospitalisations), demoralised climate (stressed clinicians), and more stigmatising beliefs (negative perceptions of MH illness).
53.	Jaeger, M. et al.	2014	Switzer-land.	Cross sectional.	MH clinicians.	n=39	1. Inpatients. 2. Four acute wards. 3. One psychiatric hospital.	1. Recognition of different levels and forms of formal and informal coercion. 2. Attitude towards treatment pressures. **(treatment adherence pressures)**	Self-reported questionnaire with vignettes.	1. Development of 'Knowledge on coercion questionnaire'. 2. Recognition of various levels and forms of coercive pressures. 3. Approval rates of coercive interventions. 4. Association of attitudes to treatment pressures with their knowledge and recognition. 5. Association of clinician characteristics with knowledge and attitudes to treatment pressures.	1. Developed 'Knowledge on Coercion 'questionnaire with vignettes. 2. *Recognition*: Good recognition of lower levels; higher levels of coercion underestimated. 3. *Attitudes vs. recognition of pressures*: i. Approval of coercive intervention is related to recognition of level of coercion, particularly informal coercion. ii. Clinicians who agree with persuasion and leverage were underestimating their coerciveness whilst those who did not agree with persuasion and leverage were overestimating their coerciveness. iii. Intervention with higher levels of coercion was less accepted but legal compulsion was equally accepted by all. 4. *Knowledge vs. attitude:* Knowledge of coercive practices was not associated with attitude towards coercive intervention. 5. *Clinician characteristics*: Not associated with knowledge or attitudes. 6. In setting with more legal compulsion clinicians show lack of knowledge and ability to identify informal coercion. Interactions with higher degrees of informal coercion are underestimated

Table 3 Informal coercion scoping study – empirical quantitative studies

	Authors	Year	Study location	Study design	Study population	Sample size	Service setting	Aims of the study	Study methods	Study outcomes	Main findings
											and less accepted than intervention with lower level of coercion.
54.	O'Donog-hue et al.	2014	Ireland	Cross sectional.	Voluntary and involuntary patients.	n=161	1. Inpatients. 2. Three psychiatric hospitals.	1. Proportion of voluntarily admitted patients with levels of perceived coercion reported by involuntary patients. 2. Demographic and clinical characteristics of voluntarily admitted patients with high perceived coercion. **(admission pressures)**	Structured interviews with patients.	1. Voluntary patients reporting PC. 2. Associations of PC among voluntary patients with patient and treatment characteristics. 3. Voluntary patients reporting positive and negative pressures. 4. Associations of PC with reported pressures, procedural justice, and functioning.	1. 18 (22%) of voluntary admitted patients reported levels of PC similar to involuntary admitted patients. 2. Voluntary admitted patients with higher PC had more severe positive psychotic symptoms (bizarre behaviours and hallucinations), were treated on a secure/locked wards, and were brought to hospital under MHA. 3. 50 (60%) of voluntary admitted patients reported positive pressures at admission and 12 (15%) negative pressures. 4. PC was associated with more pressures at admission. 5. PC at admission was moderately associated with more negative pressures during admission, but not positive pressures. 6. Multivariate associations of PC – lower procedural justice and marginally the level of functioning.

CTO = community treatment orders

MH = mental health

PC = perceived coercion

RP = representative payee

CMHT = community mental health team

AES = admission experience survey

FI = financial incentives

SIL = supported independent living

NSP = negative symbolic pressures

PSP = positive symbolic pressures

MHA= Mental Health Act

2.3.3 Current evidence: quantitative studies

I identified 54 papers reporting evidence of informal coercion from quantitative studies (Table 3). Of those papers 32 report findings of studies conducted with psychiatric patients, nine with clinicians or other professionals, eight with both patients and clinicians and five with patients, clinicians and family members. Three quarters of the papers (N=40) originate from the USA, eight from the UK, four from Switzerland and one each from Ireland and the Netherlands. The findings published in these 54 papers, however, originate from 29 studies (or samples recruited) as several studies were reported in more than one paper. One study in the USA reported findings in 15 papers included in this review, one study in five, two studies in three, and three studies produced two papers. The remaining 22 studies have one paper each. Of these papers one was published in German (Jäger and Rössler, 2009) and one as a book chapter (Cogswell, 1996).

A significant increase in coercion research stemmed from the establishment of the MacArthur Research Networks on Mandated Community Treatment and on Mental Health and the Law in the USA in the late 1980s. Thirty-two papers included in this review were published by members of these research networks. Growing interest in formal and informal coercion among researchers outside of the USA has resulted in well-established and productive research groups in Australia, Canada, New Zealand, The Netherlands, Scandinavia, and the United Kingdom.

In this section I summarise published evidence of what is known about the prevalence and outcomes of informal coercion with attention to issues of perceived fairness and effectiveness, the use of financial incentives and the source of coercion. Findings

presented in percentages are accompanied with absolute numbers when available. The studies described were conducted in community settings if not otherwise specified.

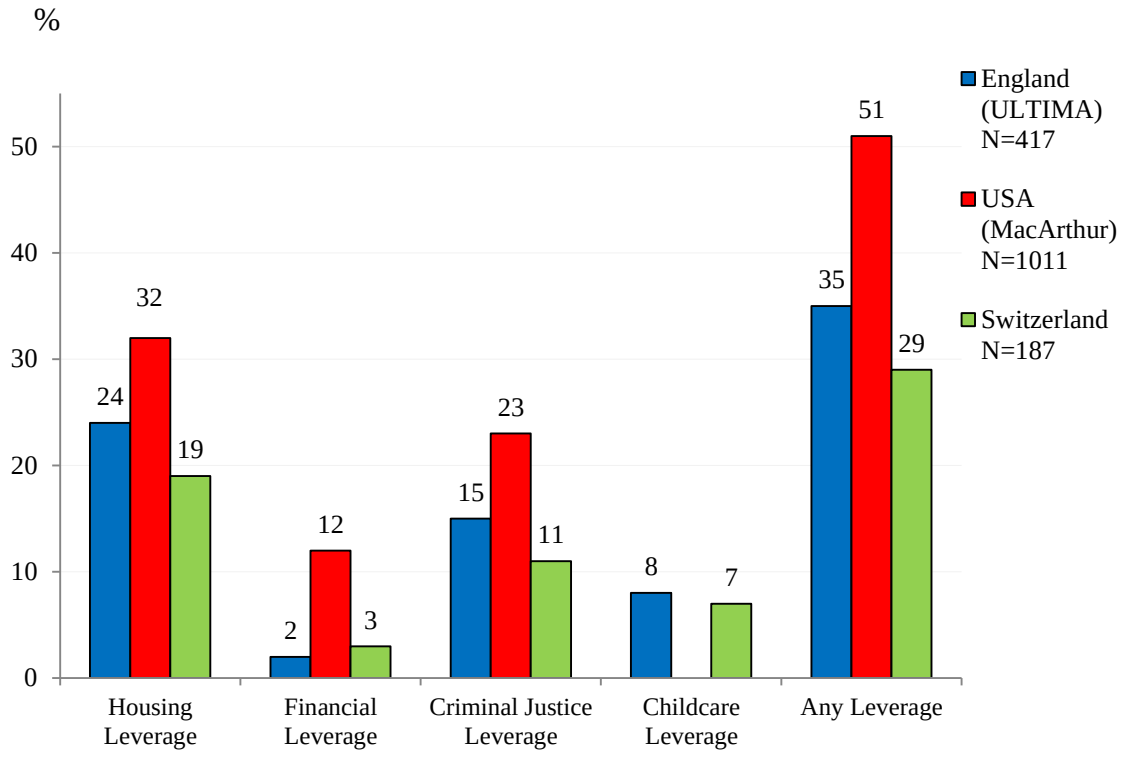
2.3.3.1 Prevalence of informal coercion

Leverage is probably the most researched form of treatment pressure, yet there are only three published studies on its frequency (Monahan et al., 2005, Burns et al., 2011, Jaeger and Rossler, 2010). The first and the largest study was of lifetime leverage (money, housing, criminal justice and avoidance of hospitalisation) in US public mental health services conducted by the MacArthur group (Monahan et al., 2005). This was a cross-sectional study with 1011 community psychiatric patients recruited from five sites in different states. Between 44% and 59% of patients reported lifetime experience of leverage, with an average of 51% (n=519). Housing leverage was the most prevalent at 23-40% (n=312) followed by criminal justice leverage at 15-30% (n=230), financial leverage at 7-19% (n=121), and avoidance of hospitalisation at 12-20% (n=150) (Monahan et al., 2005). Variation in the prevalence of different leverages between sites was significant and probably reflected the different programmes and services available. These findings suggest leverage may be more common than legal compulsion (Monahan et al., 2005).

The ULTIMA study (Burns et al., 2011) replicated the MacArthur study in England including 417 patients from four discrete clinical groups. These were psychosis patients from assertive community treatment teams (ACT or AOT (assertive outreach teams)), psychosis patients from standard community mental health teams (CMHT), non-psychosis patients from CMHTs, and substance abuse patients receiving methadone or subutex treatment. The prevalence of lifetime leverage was significantly lower at 35%

(n=145) than in the USA but the pattern was similar (Figure 5). Housing leverage was the most common at 24% (n=98), followed by criminal justice leverage at 15% (n=62). Childcare and financial leverage had very low rates in the ULTIMA sample at 8% (n=34) and 2% (n=10) respectively. When the childcare leverage rate was removed (it was not recorded in the MacArthur study), the difference between the two studies was even larger at 31% in England and 51% in the USA (Burns et al., 2011). The ULTIMA clinical groups varied markedly with the substance abuse sample having the highest rates 64/101 (63%). This exceeded the highest rates in the USA sites. Psychosis patients recruited from AOTs had a similar rate to psychosis patients from CMHTs, 33% and 30% respectively. The lowest rates were in the non-psychosis CMHT sample 17/113 (15%). The substance abuse sample had the highest rate for each form of leverage. Multiple forms of leverage were reported by 51 patients (12%) in the ULTIMA sample; more than half of these were from the substance abuse group (Burns et al., 2011).

Figure 5 Leverage rates in England, the USA and Switzerland



A Swiss study recruited 187 patients from both community (69, 37%) and inpatient (118, 63%) settings (Jäger and Rössler, 2009, Jaeger and Rossler, 2010). Of these 38% were involuntary. The inclusion criteria and data collected were very similar to the MacArthur (Monahan et al., 2005) and ULTIMA (Burns et al., 2011) studies using the same questionnaire. The Swiss patients reported the lowest prevalence for lifetime leverage at 29% (n=54). The pattern of prevalence of different forms of leverage was similar to that in the MacArthur and ULTIMA studies as shown in Figure 5. The most prevalent was housing leverage at 19% (n=36) followed by criminal justice leverage at 11% (n=20), childcare leverage at 7% (n=13) and financial leverage at 3% (n=6) (Jaeger and Rossler, 2010, Jäger and Rössler, 2009).

The lower prevalence of lifetime leverage in European studies may reflect differences in clinician attitudes, in social welfare and legal systems, or a combination of the two. In Europe housing and disability benefits are considered as entitlements whereas in the USA they may be determined by treatment adherence in specific programmes. Similarly individuals with SMI in the UK are often redirected to the mental health system before they enter courts and therefore the leverage is neither noted nor recorded (Griffin et al., 2002). Variation across the different US states (Bonnie and Monahan, 2005, Monahan et al., 2005) may also reflect different legal practices and treatments.

Recent or current (last 6 months) experience of housing leverage was assessed in the MacArthur study and 162 (12-18%) patients reported this for leverage related to treatment adherence, while 298 (26-35%) reported leverage related to substance abstinence (Robbins et al., 2006). In a study of 27 USA supported housing programmes teams, Wong et al. (Wong et al., 2010) found that in 16 (59%) teams tenants could be excluded for non-adherence to medication, relapse, or alcohol and drug use. In 17

(63%) teams testing tenants for drug and alcohol use was regular practice. It is not clear whether this is consistent with legislation on tenants' rights.

Financial leverage is probably the most researched form of leverage and most of the literature originates from the USA. Elbogen and colleagues (Elbogen et al., 2003b) reported the first figures on the prevalence of financial leverage in 258 patients with psychosis from a trial (Swartz et al., 1999b) of involuntary community treatment. Fewer patients (37%) reported having someone who had ever (formally or informally) managed their finance than in the MacArthur study 519 (51%) (Monahan et al., 2005) and in the ULTIMA study 165 (40%) (Burns et al., 2011), and 24% had their disability benefits paid to a representative payee. Almost 30% (76 patients) reported experience of financial leverage, much higher than in any other studies (Burns et al., 2011, Monahan et al., 2005, Jaeger and Rossler, 2010, Jäger and Rössler, 2009). This may reflect the characteristics of a sample selected for compulsory treatment (Elbogen et al., 2003b).

Surprisingly few patients in the two European studies reported financial leverage, with 2% in England (ULTIMA) and 3% in Switzerland compared to 12% in the USA (MacArthur). The leverage rates among those who ever had someone to manage their money were also much higher in the USA sample at 121/519 (32%) than in the English one 10/165 (6%) (Monahan et al., 2005, Burns et al., 2011).

Reported recent financial leverage (last six months) rates vary. Appelbaum and Redlich (Appelbaum and Redlich, 2006b) found that 7-19% of 321 patients with a current representative payee in the MacArthur study and 14-27% of 390 with someone who manage their money reported recent financial leverage. The highest financial leverage

rates were amongst those with clinicians as money managers (Appelbaum and Redlich, 2006b, Angell et al., 2007). In the study with 54 CMHTs with money management programmes for patients in the USA, 32 teams (71%) made access to discretionary money conditional on reducing substance abuse, and 29 (62%) teams would limit access to money for patients with substance abuse dependency. In 26 (55%) teams financial leverage was linked to treatment adherence (Hanrahan et al., 2002).

Lifetime childcare leverage was only directly investigated by the English and Swiss studies (Burns et al., 2011, Jaeger and Rossler, 2010, Jäger and Rössler, 2009). Bush and Redlich (Busch and Redlich, 2007) reported that 36 (19%) of 187 patients in the MacArthur study with underage children felt that their custody or contact with children had been leveraged in the last six months.

Redlich & Monahan (Redlich and Monahan, 2006) reported rates of recent (last six months) 'general pressures' in the MacArthur study (n=1011) and compared them with specific pressures. 'General pressures' were related to 'feeling' that someone would take or admit the patients to hospital, stop them seeing or having custody of children, inform the authorities of non-adherence, and deny access to money. This is different to leverage where the contingency has to be explicit. The prevalence of recent general pressures was similar (482, 41-55%) to that of lifetime leverage experience (519, 44-59%) (Monahan et al., 2005) but higher than recent leverage rates (227, 22%) (Redlich and Monahan, 2006). The most prevalent 'general pressures' were related to hospitalisation (362, 27-43%) and housing (175, 15-21%). Much less frequent were those related to childcare (49, 3-7%) and employment (48, 2-10%). Multiple 'general pressures' were common with 20% of patients reporting six or more (Redlich and Monahan, 2006).

The prevalence of other forms of treatment pressures were reported in several papers with inpatients in the USA. Persuasion was the most prevalent form of pressure. In the study with voluntary and involuntary inpatients 54% of 157 patients reported pressures at admission. Thirty eight percent of patients experienced persuasion, 19% force, 9% threats, and 4% inducements (Lidz et al., 1995). Voluntary and involuntary patients reported a similar number of pressures. Among 91 voluntary patients 42(46%) reported persuasion, 4(4%) inducements, 8(9%) threats and 3(3%) force. In the involuntary (n=66) group 21(32%) reported persuasion, 3(5%) inducements, 6(9%) threats and 26(40%) force. Among involuntary patients significantly more reported force (Hoge et al., 1997). In a small study with 43 inpatients, 18 family members and 40 clinicians, patients reported fewer pressures than family and clinicians (Hoge et al., 1993). In contrast, clinicians and family members of community patients in the Elbogen et al. (Elbogen et al., 2003b) study reported applying less money warnings than was reported by patients. In 405 assessments for admission researchers observed 551 pressures of which 333 (60%) were persuasion, 28 (5%) threat of commitment, 3 (1%) other threats, 100 (18%) attempt to commit and 87 (16%) force (Lidz et al., 1993).

Several studies report clinicians' rates of use of treatment pressures. Significant variations of rates between study sites were found, as with patients (Manuel et al., 2013, Moser and Bond, 2009). Eighty-eight percent of AOT clinicians in the USA reported that they use restrictive strategies less than occasionally (Moser and Bond, 2011). The most used strategies were intensive medication monitoring for 56% and representative payee for 58% of their caseload, CTO and housing leverage (Moser and Bond, 2009) and threats (Moser and Bond, 2011) were rarely used. All clinicians from CMHTs and AOTs in the study in the UK (Davidson and Campbell, 2007) reported using treatment pressures during the 18-month follow-up period. AOT clinicians

reported a significantly lower number and frequency of restrictive strategies than CMHT clinicians. These were measured on the Therapeutic Limit Setting Scale (Neale and Rosenheck, 2000) with mean scores ranging from 8.97-9.94 (AOT) and 10.78-13.74 (CMHT) at baseline, 9 months and at 18 months (Davidson and Campbell, 2007). Manuel and colleagues adapted the scale into the Limit–Setting and Engagement Strategies Scale (Manuel et al., 2013). AOT clinicians preferred using positive inducement (mean 2.94) and verbal guidance (mean 2.94). More restrictive strategies such as hospitalisation and reporting patients' non-adherence to authority (e.g. to a judge), were less frequently used (mean 2.43 and 2.02 respectively) (Manuel et al., 2013). In another study in the USA AOT clinicians reported significantly higher rates of using 15 identified strategies than those from CMHTs. More AOT clinicians, however, endorsed persuasion related strategies (e.g. pointing out harmful consequences of non-adherence (90% AOT vs. 68% CMHT), discussing medication side effects with patients (85% AOT vs. 53% CMHT) than threats (16% AOT vs. 3% CMHT) and involuntary admission (32% AOT vs. 6% CMHT). Rates were higher in the AOT group for all 15 strategies (Angell, 2006).

2.3.3.2 Predictors of informal coercion

Reported associations between lifetime leverage rates and patient characteristics are inconsistent. The MacArthur study reported that lifetime experience of any leverage was significantly more likely in younger patients (<44 years), those with lower functioning, longer illness, a history of multiple hospitalisations and a high frequency of contacts with community services. Multiple hospitalisations and lower functioning were significant predictors of all forms of leverage (Monahan et al., 2005). The ULTIMA and the Swiss study failed to find the same set of predictors and only multiple

hospitalisations was a significant predictor in all three studies. It is unclear whether this is due to a greater sample size and variation in clinical characteristics in the MacArthur study. ULTIMA patients with a substance abuse diagnosis and lower insight were more likely to report lifetime leverage. Those with a substance abuse diagnosis who had a history of imprisonment and those who were living in independent accommodation were more likely to report multiple forms of leverage. In the ULTIMA mental illness group (when substance abuse patients were excluded) lifetime experience of leverage was associated with greater illness severity (Burns et al., 2011). In the Swiss study patients who were single, with substance abuse, a history of involuntary status and multiple admission were more likely to report a lifetime experience of any leverage (Jäger and Rössler, 2009).

Several studies have found that specific forms of pressures were more frequent in patients with adherence problems, poor functioning or severe symptoms (Neale and Rosenheck, 2000, Elbogen et al., 2003a, Monahan et al., 2005, Angell et al., 2007). Using data from 120 MacArthur study patients Appelbaum and Redlich found no strong association between decisional capacity and reported leverage (Appelbaum and Redlich, 2006a). This contradicts clinicians' common justification that relies on impairment in decision-making capacity. This was however a small sample with a retrospective study design that measured capacity and leverage rates at the same time.

'General pressures' were found to have similar predictors as lifetime leverage in the MacArthur study (Redlich and Monahan, 2006, Monahan et al., 2005). Patients who were younger than 44 years, had SMI, more severe symptoms, poor functioning, and comorbid and historical substance abuse were more likely to report 'general pressures'.

A group of papers have investigated predictors of specific forms of leverage. More than a third of quantitative empirical papers (Appelbaum and Redlich, 2006b, Appelbaum and Redlich, 2006a, Redlich and Monahan, 2006, Robbins et al., 2009, Redlich et al., 2006, Swanson et al., 2006, Angell et al., 2007) use data from the MacArthur study and several (Elbogen et al., 2003b, Elbogen et al., 2003a, Swartz et al., 2004, Swartz et al., 2003a) are from other studies (Swartz et al., 1999b, Swartz et al., 2003c) conducted by the same group. One study was from Switzerland (Jäger and Rössler, 2009). The associations between patient characteristics and lifetime housing leverage were inconsistent in US studies with only male gender being regularly identified. Other predictors were being single (Jäger and Rössler, 2009), diagnosis of psychosis (Jäger and Rössler, 2009, Monahan et al., 2005), more severe symptoms, lower functioning, history of multiple hospital admissions, increased number of contacts with services, longer time in treatment (Monahan et al., 2005), experience of living in special housing or group homes, and having social support for treatment (Robbins et al., 2006). Patients who lived in their own homes or in "housing-first" accommodation were less likely to report housing leverage than those in supported or subsided housing (Robbins et al., 2009, Robbins et al., 2006).

Having a representative payee or financial guardian does not necessarily mean experiencing financial leverage. Multiple hospitalisations and substance abuse were common predictors of financial leverage in the MacArthur study (Monahan et al., 2005, Appelbaum and Redlich, 2006b). Other significantly associated characteristics were male gender, diagnosis of psychosis, lower functioning, and lower levels of insight (Monahan et al., 2005). In patients with financial management those with a parent or a partner/spouse managing their finance were more likely to report financial leverage (Appelbaum and Redlich, 2006b). Generally poor functioning characterised by drug

abuse, lower insight and multiple hospitalisations predicted financial leverage. Similarly in a survey with CMHT clinicians in the USA frequency and form of disbursement of money to patients were significantly linked to patients' finance management skills, substance abuse, functioning and treatment adherence and these associations were greater in larger teams (programmes) (Ries and Dyck, 1997).

Elbogen and colleagues found that Black patients, those whose finances were being managed, and those who experienced other forms of leverage were more likely to report financial leverage or "money warnings" (Elbogen et al., 2003b). It appears that patients are more likely to be exposed to financial leverage within a coercive context of other leverages.

Criminal justice leverage was consistently associated with younger age (Draine and Solomon, 2001, Monahan et al., 2005, Redlich et al., 2006). Two analyses of MacArthur study data found it was associated with male gender, over 20 years of treatment and a history of multiple hospitalisations which was also a significant predictor in the Swiss study on leverage (Redlich et al., 2006, Monahan et al., 2005, Jäger and Rössler, 2009). More criminal justice leverage was also reported by patients with substance abuse problems (Monahan et al., 2005, Jäger and Rössler, 2009) and history of involuntary treatment (Jäger and Rössler, 2009). In a study of 250 psychiatric patients on probation or parole in the USA fewer threats were reported by those with more severe thought disorder and by those in an acute episode (Draine and Solomon, 2001). Analysis of the MacArthur study data by Swanson and colleagues (Swanson et al., 2006) found that a combination of violence and non-adherence is likely to impact on the prevalence of reported criminal justice leverage. A history of serious violence was a significant predictor of criminal justice leverage and any assaultive behaviour

was a predictor of both criminal justice and social welfare leverage. Voluntary adherence may moderate the relationship between violence and the use of leverage (Swanson et al., 2006).

Avoidance of hospitalisation leverage by the use of community compulsion was more likely to be reported by patients with poor functioning and a history of hospitalisation in the MacArthur study and the expanded data analysis by Swartz et al. (Monahan et al., 2005, Swartz et al., 2006). The latter also found that various factors were positively associated with the reported avoidance of hospitalisation leverage via community compulsion: living in staffed residential accommodation, recent contact with services, dissatisfaction with social support, substance abuse, recent violent behaviour, and recent contact with police (Swartz et al., 2006).

In the study with AOT clinicians in the USA, clinicians with pessimistic attitudes, lower education, shorter duration of employment in AOT and a lower quality of basic clinical services were associated with increased use of restrictive strategies (Moser and Bond, 2011) and agency control (e.g. supervised housing or using representative payee) (Moser and Bond, 2009). The number of patients with schizophrenia on the caseload was associated inconsistently (positively (Moser and Bond, 2009) and negatively (Moser and Bond, 2011)) with frequency of use, restrictive strategies or agencies control. In another study with AOT clinicians more intrusive strategies were associated with a higher education level of clinicians, staff role, white ethnicity, demoralised (stressed) clinicians and negative perceptions of mental health illness (Manuel et al., 2013).

Overall, therefore, there is little consistent evidence from empirical studies on predictors of informal coercion. From what does exist it appears that more disabled patients with a history of multiple hospitalisations, intensive contact with services, substance abuse and poor functioning are more likely to report various forms of leverage.

2.3.3.3 Outcomes of informal coercion

Perceived coercion

Subjective reports of coercion are accepted as a main indicator of treatment coerciveness for patients (Newton-Howes and Stanley, 2012, Szmukler and Appelbaum, 2008, Lidz et al., 1995). Patients' perceived coercion can be considered a 'side effect' of coercive psychiatric interventions (Newton-Howes and Stanley, 2012) yet little is known about whether informal coercion reduces or increases patients' experience of coercion. Identifying the least coercive forms of informal coercion and factors associated with patients' perception of coercion may enable clinicians to use more effective interventions with less unwanted impact on patients' perception of their influence and control in treatment decisions. Here I present what is known about the perceived coerciveness of informal coercion.

Development of an instrument to measure perceived coercion (Gardner et al., 1993) enabled researchers to investigate patients' perception of the coerciveness of both legal compulsion and informal coercion. Gardner et al. developed two scales to measure perceived coercion: The MacArthur Admission Experience Interview (AEI) and the MacArthur Admission Survey (AES) (Gardner et al., 1993). The AES or MacArthur *Perceived Coercion Scale* is a structured scale of five questions regarding influence,

control, choice, freedom, and whose idea it was to come to hospital. Two additional subscales (*negative pressures* and *procedural justice*) were later included in the AES and were adapted (Lidz et al., 1995, Hiday et al., 1997) and validated for use in community settings (Hiday et al., 1997, Swartz et al., 1999a, Gardner et al., 1993).

Research findings showing that between 4% and 34% (Bonsack and Borgeat, 2005, Hoge et al., 1997, O'Donoghue et al., 2014, Kjellin et al., 2006, Iversen et al., 2002, Katsakou et al., 2011) of voluntary patients in the USA and Europe feel coerced, and between 29% (Bonsack and Borgeat, 2005) and 44% (183/412) (Rogers, 1993) did not feel entirely voluntary at admission stimulated research on informal coercion. These patients are often called *coerced voluntaries* in the literature. They also report a similar number (Hoge et al., 1997) and perception (Hoge et al., 1993, Bonsack and Borgeat, 2005, O'Donoghue et al., 2014) of pressures regarding admission as involuntary patients. They are more likely to be young, single and female with a diagnosis of schizophrenia (Rogers, 1993), have more severe positive psychotic symptoms and involuntarily arrived at hospital (O'Donoghue et al., 2014). Many voluntary patients who feel coerced at admission continue feeling coerced one month later (Lidz et al., 2000, Katsakou et al., 2011). These findings are evidence that legal status is not the only measure of coercion.

Patients recruited in a trial of community compulsion in the USA (Swartz et al., 1999b) were more likely to report high levels of perceived coercion when other forms of leverage were used along with ‘money warnings’ (financial leverage) (Elbogen et al., 2003b). Patients from the same study who were either only under community compulsion or only had a representative payee did not differ in the level of perceived coercion from those with neither (Elbogen et al., 2003a). However, patients with both

community compulsion and representative payee were more likely to report perceived coercion compared with those with neither. Similarly, patients with a representative payee and those with both community compulsion and representative payee were more likely to report higher perceived coercion than those with no reported financial leverage (Elbogen et al., 2003a). A relationship between multiple leverages and perceived coercion was also found in the MacArthur study by Appelbaum and Redlich (Appelbaum and Redlich, 2006b). Patients felt more coerced but they also felt that financial leverage was effective. It seems that the experience of multiple rather than single forms of financial leverage is associated with perceived coercion.

Housing leverage was strongly associated with perceived coercion and patients in the MacArthur study who reported housing leverage were more likely to report other forms of leverage (Robbins et al., 2006). In another analysis of this data set, patients who reported multiple forms of leverage were more likely to report barriers to help-seeking because of a fear of coercive or involuntary treatment (Van Dorn et al., 2006). Experience of previous coercive treatment may act as a barrier to current help-seeking behaviour and risk disengagement (Van Dorn et al., 2006, Swartz et al., 2003a).

In the Swiss study on informal coercion by Jäger and Rössler patients who reported any lifetime leverage were more likely to report higher perceived coercion and lower perceived fairness of treatment (Jaeger and Rossler, 2010). Perceived coercion was associated with most forms of leverage, coerced voluntarism, a history of involuntary hospitalisation, and a diagnosis of schizophrenia (Jaeger and Rossler, 2010). The experience of different forms of leverage appears to be an important predictor of perceived coercion.

Several studies investigated associations of perceived coercion with other forms of treatment pressures. Legal force (involuntary status), orders, threats, show of force (presence of police) were associated with perceived coercion at admission. This was found to be especially so if applied to non-black inpatients (Lidz et al., 2000), and by clinicians in Irish (O'Donoghue et al., 2014) and USA studies (Lidz et al., 2000, Lidz et al., 1998, Cascardi and Poythress, 1997). Patients were more likely to perceive coercion at admission if they experienced more pressures (O'Donoghue et al., 2014).

A good therapeutic relationship is generally accepted as crucial for successful psychiatric treatment and adherence (Johansson and Eklund, 2003). Procedural justice as measured in the MacArthur AES Perceived Coercion scale (Gardner et al., 1993) assesses patient experience of having a 'voice' in treatment decisions and this is likely to be fostered by a good therapeutic relationship. Procedural justice reduces perceived coercion at hospital admission (Hoge et al., 1993, Lidz et al., 1995, Monahan et al., 2005, Cascardi and Poythress, 1997).

Community patients in a US study (Swartz et al., 2003c) who perceived financial leverage as coercive were more likely to report poor relationships with family members or clinicians who applied that leverage (Elbogen et al., 2005). In the MacArthur study perceived coercion and reported barriers to help-seeking led to reduced perceived effectiveness and fairness of the leverages used (Van Dorn et al., 2006). Patients treated with respect and fairness recognise the positive side of pressures and sometimes express gratitude (Lidz et al., 1995, Van Dorn et al., 2005). It seems that transparent communication about the purpose of leverage and motives for coercion (Hoge et al., 1993, Lidz et al., 1998), a good relationship with the person who applies coercion (Hoge et al., 1993), and fair treatment (Hoge et al., 1993, Lidz et al., 1995) can reduce

the perception of coercion and enhance recognition of the value of leverage as reported in the Swiss study on informal coercion (Jaeger and Rossler, 2010). Support, respect and consideration of patients' views by those who apply financial leverage may reduce the negative effects of it. Current evidence overall suggests that the experience of multiple pressures increases perceived coercion but procedural justice and good therapeutic relationships may reduce it.

Clinicians' perception of coercion is poorly investigated in quantitative studies. One study in Switzerland found that clinicians' approval of persuasion and leverage were associated with an underestimation of the coerciveness of these pressures. Clinicians who did not approve these pressures tended to overestimate their coerciveness. Treatment pressures on the more coercive end of the continuum (e.g. threats) were less accepted than persuasion and leverage (Jaeger et al., 2014). Angell developed and tested a scale for the assessment of formal and informal strategies by clinicians (Angell, 2006). Clinicians perceived items related to lower levels pressures (e.g. persuasion) as less coercive than those on the higher end of the pressure continuum such as threat (Angell, 2006).

Other outcomes of informal coercion

Little is known about the effectiveness of informal coercion on treatment adherence. Two analyses of the MacArthur study data set, one of any leverage (McNiel et al., 2013) and one of criminal justice leverage (Redlich et al., 2006), failed to find any association with adherence to medication and appointments.

Associations between leverage and satisfaction with services have been investigated in several studies. Patients who reported housing leverage in the MacArthur study did not

differ in satisfaction from patients who did not (Robbins et al., 2006). Housing programmes with leverage included in the tenancy did not differ in satisfaction with housing from 'leverage free' (housing-first) programmes in the USA (Robbins et al., 2006). 'Any' leverage (McNiel et al., 2013) and criminal justice leverage (Redlich et al., 2006) were not associated with satisfaction with services assessed in the MacArthur study. However, satisfaction was lower in those who reported lifetime multiple leverages alongside community compulsion (Swartz et al., 2006). Leverage in independent housing programmes in the USA appeared to reduce patients' stability, making them more likely to leave (Wong et al., 2010). A weak effect was found for informal coercion as a barrier to help-seeking in the USA study of patients with schizophrenia. Patients with a history of involuntary hospitalisation and recent warnings about poor adherence were more likely to report barriers to treatment (Swartz et al., 2003a).

Financial leverage acted as a mediator for increased conflict in the therapeutic relationship in the analysis of a subsample from the MacArthur study (Angell et al., 2007). Having clinicians controlling patient finances is not disruptive for the therapeutic relationship in itself, but may become so if a patient feels pressured to adhere to treatment by it (Angell et al., 2007).

Currently there is no evidence that the use of any leverage is associated with adherence or satisfaction with treatment, and only weak evidence for other outcomes. Most studies had methodological problems and their cross-sectional designs precluded establishing causality.

Perceptions of fairness and effectiveness of treatment pressures

A person's perception of coercion appears to be affected by their beliefs about the fairness of their treatment (Monahan et al., 1995), although there are only a handful of studies explicitly investigating this perception of fairness. Two validated scales have been developed – an index of fairness and an index of effectiveness. The perception of fairness and effectiveness of treatment are strongly correlated (r=0.50-0.53) (Van Dorn et al., 2005, Swartz et al., 2004, Jaeger and Rossler, 2010). Patients who perceive pressures as effective will probably see them also as fair (Swartz et al., 2004). As the perception of the fairness of treatment can minimise perceived coercion, prioritising pressures perceived as effective by patients may reduce perceived coercion.

Elbogen and colleagues found that 68 out of 104 (65%) patients with schizophrenia in the USA perceived financial leverage as an unhelpful tool for keeping them well (Elbogen et al., 2005). In contrast, the majority of patients from the same study and patients with a broader range of diagnoses in the MacArthur study perceived pressures as fair (55-69%) and effective (48-62%) (Swartz et al., 2004, Van Dorn et al., 2005). Greater insight was associated with perceived fairness in the Swiss study (Jaeger and Rossler, 2010) and the two US studies (Swartz et al., 2004, Van Dorn et al., 2005). Lower perceived coercion and more previous hospitalisations were significant predictors of fairness in Van Dorn et al.'s analysis of the MacArthur study data set (Van Dorn et al., 2005). These were not tested in the other studies. Better insight was also found to be a predictor of perceived effectiveness in two USA studies (Swartz et al., 2004, Van Dorn et al., 2005), but there was no consistency in other identified associations (Elbogen et al., 2005, Swartz et al., 2004, Van Dorn et al., 2005).

Fairness and effectiveness were not related to lifetime treatment pressures including avoidance of hospitalisation via community compulsion in the Swiss study and one US study of schizophrenia patients (Swartz et al., 2004, Jaeger and Rossler, 2010). This is at variance with previous findings that a history of involuntary treatment makes patients less positive about their care (Kaltiala-Heino, 1996). Single rather than multiple forms of leverage and adherence reminders predicted perceived effectiveness of pressured treatment in the Van Dorn analysis (Van Dorn et al., 2005) of the MacArthur study data set. The relationship between experienced informal coercion and perception of fairness and effectiveness may be moderated by other factors.

Better insight and low levels of perceived coercion seem to be important for a positive evaluation of the effectiveness and fairness of treatment pressures including legal compulsion. Patients who believe that they are ill and need treatment and who feel free to make treatment decisions are likely to see treatment pressures as beneficial. Although insight may not affect perceived coercion, increasing it may lead to an improved acceptance of pressure(s).

The relationship between formal and informal coercion

With the introduction of community compulsion and the widespread use of informal coercion in the community (Burns et al., 2011, Monahan et al., 2005, Jaeger and Rossler, 2010, Jäger and Rössler, 2009) differences between hospital and community treatments may be diminishing (Godin, 2000) . For instance, if a severely ill patient in the UK rejects their appointment an assertive outreach worker may continue to visit. Avoidance of treatment, as in hospital, may be almost impossible (Watts and Priebe, 2002). Little is known about the relationship between legal compulsion and informal coercion in community mental health care. There is no evidence for whether legal

compulsion increases or decreases the use of informal coercion. A clear rationale for both can be made. On the one hand clinicians may use more informal coercion with patients under legal compulsion because of a paternalistic mind-set. On the other hand legal compulsion may suffice to keep the patient adherent so other forms of pressure may not be needed with less informal coercion used. In the one published study exploring this, Elbogen and colleagues found that having a representative payee while receiving treatment under community compulsion both increased adherence and the chance of an individual reporting financial leverage and perceived coercion (Elbogen et al., 2003a).

Financial incentives to improve adherence to treatment

A growing interest among clinicians and academics in the use of financial incentives in mental health has been evident in the last decade (Highton-Williamson et al., 2015, Burton et al., 2010, Claassen et al., 2007, Priebe et al., 2010a, Priebe et al., 2013, Staring et al., 2010, Claassen, 2007, Szmukler, 2009). There is some evidence that such interventions improve adherence to antipsychotic medication in community care in the UK (Priebe et al., 2013). The idea of 'paying' psychiatric patients for taking their medication generally provokes strong responses among clinicians in the UK (Claassen et al., 2007, Priebe et al., 2010b) and debates on its ethics among academics (Szmukler, 2009, Szmukler and Appelbaum, 2008, Claassen, 2007, Priebe et al., 2010b, Burns, 2007b). Practical considerations also contribute to the controversy (Claassen et al., 2007, Priebe et al., 2010b, Szmukler and Appelbaum, 2008). Although many clinicians in the UK initially object to them (Claassen, 2007, Claassen et al., 2007), those who have used financial incentives in their practice often become convinced of their benefits (Highton-Williamson et al., 2015). The predicted ethical and practical dilemmas

(Claassen, 2007, Claassen et al., 2007, Szmukler, 2009, Priebe et al., 2010b) occurred surprisingly infrequently during two pilot studies in Europe (Claassen et al., 2007, Staring et al., 2010), and only in a minority of cases (Highton-Williamson et al., 2015) during the only randomised controlled trial in the UK (Priebe et al., 2013). The intervention group who received a financial incentive in this trial improved their adherence to depot medication significantly with 28% achieving full adherence. While no difference was found in clinician reported clinical outcomes, self-reported quality of life improved significantly in the intervention patients (Priebe et al., 2013).

2.3.3.4 Sources of informal coercion

With deinstitutionalisation and the development of community mental health care the number of professionals involved in each patient's care has expanded. Patients are in contact with a range of other services to assist them to stay well, to minimise risk, and to promote an integrated and meaningful life. To achieve this, a variety of pressures may be employed.

Little is known about who applies pressures as only a handful of studies have investigated the sources. Mental health clinicians appeared the most important source of pressures. Negative symbolic pressures (show of force, threat, orders and deception) were used by admitting clinicians in 33% of 171 observed admissions, by other staff in 23% of cases and by family and friends in 20% of cases. Force was applied mostly by police and security (42% of cases), less by admitting clinicians (33%) and other hospital staff (29%), and rarely by family and friends (12%) (Lidz et al., 2000). Voluntary and involuntary inpatients did not differ in the sources of pressures at admission. More pressures, particularly force, were used by those in a formal

relationship with patients (e.g. clinicians, police, therapists) than those in an informal relationship (e.g. family, friends) (Hoge et al., 1997).

Most housing leverage was applied by landlords (43%) and clinicians (29%), with less by family (11%). Some (9%) was self-imposed by patients who believed they would lose their accommodation if non-adherent (Robbins et al., 2009). The analysis of 'general pressures' from the MacArthur study found the major source was mental health clinicians or other medical staff (49%). However, almost a third was imposed by family members (29%), with just 12% and 5-6% by housing officers and legal and social services (Redlich and Monahan, 2006). As with housing leverage (Robbins et al., 2009), 10% of 'general pressure' was self-imposed (Redlich and Monahan, 2006).

More *coerced voluntaries* (64%) felt that their clinicians rather than family and friends (36%) employed pressures at admission in the study in the UK (Rogers, 1993), but another study in Switzerland found that voluntary patients perceived more pressure from family and friends when compared with involuntary inpatients (Bonsack and Borgeat, 2005). These findings of multiple sources including self-imposed pressures are consistent with Canvin's qualitative study (Canvin et al., 2013).

Some authors consider that having multiple social sources of pressure has benefits (Canvin et al., 2013, Van Dorn et al., 2006). Those who apply the pressures may also provide vital social support. Negative effects of treatment pressures may be reduced by the benefits of such social support. However more research is clearly needed to understand the prevalence and impact of multiple sources of treatment pressures.

2.3.3.5 Implications and recommendations

Research into informal coercion should include the whole continuum of treatment pressures, rather than just leverage, which currently dominates the literature. The development of useable research instruments is necessary to make international comparisons possible. In addition methodologies need to allow international comparisons despite differences in social welfare, legal, and political systems. Future studies should try to include as many different stakeholders (e.g. clinicians, patients, general public, family members) as possible to capture and better understand their differing experiences. The investigation of organisational factors associated with the use of informal coercion would contribute to understanding the observed wide variations between study sites. Lastly, as perceived and actual coercion do not always match, subjective and objective sources of data are both essential.

Pressures are applied to achieve clinical and social ends and research is needed to test their effectiveness. Identifying the most effective forms of informal coercion and those who may benefit most would inform clinical practice. Identification of the causal impact of informal coercion seems unlikely at present as the random assignment of different forms of informal coercion is enormously difficult.

It is an accepted aim of mental health services to minimise the use of coercion. Pressure to adhere to treatment comes from multiple sources such as family members and housing officers but clinicians are a major source (Robbins et al., 2009, Redlich and Monahan, 2006, Hoge et al., 1997, Lidz et al., 2000). The current evidence of widespread informal coercion in community practices needs to be addressed in the training and education of clinicians and requires attention from policy makers.

Research evidence should be included in the development of guidelines and safeguards need to be evolved to ensure pressures are not applied inappropriately or unlawfully.

The evidence suggests that the negative consequences of coercive pressures can be significantly reduced by the clinicians' approach to their patients. Transparency, encouraging the patient to express their views and take some control, listening to the patient's suggestions, and striving for collaborative decision-making all help. Full information about both the benefits and risks of treatment, and clear information about rights should serve to minimise negative effects on relationships.

2.3.3.6 Summary

Perhaps the most important finding of this review is that informal coercion is so widely used in community mental health care. The most researched form of informal coercion is leverage. The 50-plus quantitative empirical papers included here, however, are derived from a limited number of samples and a small number of countries.

Data on the prevalence of informal coercion is still limited. Only a handful of studies in the USA (Monahan et al., 2005, Elbogen et al., 2003b) and in Europe (Burns et al., 2011, Jaeger and Rossler, 2010, Jäger and Rössler, 2009) reported the prevalence of five forms of leverage. Prevalence of other forms of informal coercion and that in other countries with different social welfare, mental health and legal systems is unknown. Various forms of leverage are often used together (Elbogen et al., 2003b, Burns et al., 2011, Appelbaum and Redlich, 2006b).

Evidence on the predictors of reported informal coercion is not strong. A history of previous multiple hospitalisations, lower functioning, substance abuse and severity of

mental illness were common predictors for various forms of informal coercion. While informal coercion is routinely used it is still not known whether it is effective. Informal coercion is not legislated for or regulated by any policy, consequently the legality of its use is not always clear.

The generalizability of current evidence is limited. Results vary between different sites such as hospitals, community mental health teams, catchments areas, states, and countries. With the exception of the MacArthur study, participants are recruited from only one or two sites or service catchment areas. Study samples and sites were usually not selected randomly and different recruitment strategies were used.

There are also a number of additional methodological problems with the studies reported. Retrospective, cross-sectional designs and the use of non-concurrent measures have limited the interpretation of causality of associations, potentially masked real undetected associations, and increased the risk of false associations. Results are mostly based on patient self-report with no confirmation from clinicians or any objective measure of treatment pressures. However, patient self-reports have been found to correlate highly with researchers' observations (Lidz et al., 1997b) although informal coercion is rarely recorded in medical records. Statistical analyses were often made difficult by skewed and problematic variables and the practice of dichotomisation was commonly used at the cost of reduced information.

The terminology in this field remains unclear and inconsistent which makes operationalization of measures and comparisons difficult. Terms such as 'mandated community treatment', 'leverage', and 'informal coercion' have been used interchangeably. Broader definitions (Szmukler and Appelbaum, 2008)(Szmukler and

Appelbaum, 2008, Canvin et al., 2013) have recently been proposed to cover a continuum of various treatment pressures.

2.3.4 Qualitative papers

There are 18 qualitative studies identified in this review (Table 4). Seven studies were conducted in the UK, six in the USA. One paper originates from each of Denmark, Norway, Sweden, and the Netherlands and one report is an international qualitative study. In seven studies the participants were psychiatric patients, in six clinicians, two studies were conducted with patients and clinicians, one with patients, clinicians and patient family members, one with various stakeholders in mental health care and one with mental health court judges in the USA. Eleven studies collected data through individual qualitative interviews, five conducted focus groups, one applied both focus groups and individual interviews, and one was based on both ethnographic observations and individual interviews.

Unlike many quantitative papers on informal coercion almost all qualitative studies recruited their own samples of patients. In addition to qualitative study reports three papers address conceptual issues of coercion based on qualitative data and they are also included in the summary of conceptual/theoretical papers (Canvin et al., 2013, Watts and Priebe, 2002, Widdershoven and Berghmans, 2007).

Table 4 Informal coercion scoping study – empirical qualitative studies

	Authors	Year	Study location	Study method/ design	Study population	Sample size	Service setting	Aims of the study	Analysis method	Findings
1.	Bennett et al.	1993	USA	1. Semi-structure 2. Open-ended questions interview 3. Up to 48 hours after admission	1. Psychiatric patients. 2. Voluntary and involuntary 3. Subgroup of mixed methods study.	n=70	1. Inpatients. 2. Two hospitals in two USA states.	1. Patient perception of the morality of attempts by family members, friends and MH professionals to influence them regarding admission. 2. The morality of the pressured admission process. **(admission pressures)**	Thematic analysis.	Three morality-related themes based on perceived coercion experiences: 1. **Inclusion** in admission decision-making has moral importance: i. Having 'voice', giving own perspective, expressing and explaining, and being taken seriously ('validation'). 'Having no say-so' was the most coercive aspect of the admission. ii. Persuasion was perceived as: a) Inclusion of patients in decision-making. b) Feeling valued as patients' opinions and concerns mattered. c) Absence of persuasion can produce anger as no one tried and rather used 'no choice' approach. iii. Some patients did not want to be included in decision-making. 2. **Motivation** – Perceived coercion of admission was influenced by patient's interpretation of others' motives which depended on the relationship with them. i. Evaluation of others' motives – involvement of others (particularly relatives and friends) was a sign of care. No involvement can make patients angry and disappointed. Clinicians were expected to be motivated to do everything in the patient's best interest. ii. Effects of evaluation of others' motives – perceived coercion or moral evaluation of other people's behaviour depended on perception of whether other people are concerned or caring. Fair behaviours were perceived as expression of care and concern. 3. **Good faith** – perceived coercion is influenced by patient's belief that others' behaviour was based on 'good faith', based on: i. Qualification: Relatives are qualified by character and experience, clinicians by expertise. Patients were willing to accept 'pressure' as 'help' if they believed that pressure was a sign of concern. ii. Deceit: lying about patient's behaviour, asking but not waiting for an answer, promises that cannot be carried out. Rarely reported, not acceptable. iii. Respect: to be treated as anyone else and with respect. Lack of respect results in perceived coercion.
2.	Lützen	1998	Sweden	In-depth interviews.	Experienced psychiatric nurses.	n=10	1. Inpatient care 2. One psychiatric hospital.	1. Sensitivity of nurses towards patients' needs. 2. Strategies taken with patients with limited or	Constant comparative analysis.	1. **Problematic incidents**: patients who want to leave hospital, refuse medication, to wash, to eat (or eat too much), with self-destructive behaviour, who cannot express own needs. 2. **Subtitle coercion** – judging patients' competency, acting strategically, modifying the meaning of autonomy, justifying coercive strategies and ethical reflection.

Table 4 Informal coercion scoping study – empirical qualitative studies

	Authors	Year	Study location	Study method/ design	Study population	Sample size	Service setting	Aims of the study	Analysis method	Findings
								impaired decision-making capacity. 3. Justification of strategies taken. **(adherence to hospital treatment pressures)**		3. **Difficulties** – in maintaining the principle of autonomy, avoiding a physical force, and finding other strategies (subtle coercion). 4. **SUBTLE COERCION** is 'an interpersonal and dynamic activity, involving one person (or several) exerting his or her will upon another' (helping, persuading, deciding for, encouraging, trading-off, manipulation). Components: i. *Judging patients' competency* – based on interpretations and opinions. Often rely on intuition. ii. *Acting strategically* – making decisions for the patients and dealing with this (rationally). iii. *Modifying the meaning of autonomy* – nurses acknowledged the patients' right to make choices. Ward routines impose restriction on the patients' autonomy (e.g. fixed rules). Nurse may believe that they make a decision in the best interest of the patient, but decisions are in the best interest of the nurse. iv. *Justification of coercion strategies* – in the best interest of the patients. Range from subtle coercion to overt coercion. v. *Ethical reflection* – nurses recognise the ethical meaning of own actions and the power imbalance. Decisions to act on behalf of the patients were consistently weighed against the possibility of destroying a trusting relationship. 5. **Two moral imperatives** – to protect the patients from harm and to uphold the principle of self-choice. 6. **Overt coercion** – threat, physically restraining, restraining by giving injection by force, mechanically restraining and locking doors. Overt coercion was perceived as a last resort!
3.	Godin	2000	UK	1. In-depth interviews. 2. Qualitative part of a mixed method study.	Community Mental Health Nurses (CMHTN).	n=20	1. Community mental health services (CMHT). 2. Different geographic areas of the UK.	Power imposed upon mental health patients in community by community mental health nurses. **(treatment adherence pressures)**	Not reported	1. CMHTN perceived that their clinical work is dominated by taking medication and patients perceive them as bad cops. 2. Nurses identified themselves with 'clean work' (persuasion) rather than 'dirty work' (coercive control) but they felt like representatives of societal and psychiatric demands for the greater control of mental health patients in the community. 3. Reported pressures: persuasion, interpersonal leverage, inducement and threats (with negative sanctions). 4. Reported concerns about negative impact of compulsory treatment on therapeutic relationship.
4.	Griffin et al.	2002	USA	Telephone semi-structured interviews.	Mental health courts (MHC) staff (judges).	n=4	1. Mental Health Courts 2. Three USA states.	1. Use of criminal sanction leverage to improve adherence to	Summarising interviews.	1. Approaches to leverage patients to adhere to community treatment: i. Dropping criminal charges if a defendant voluntarily agrees to participate in the mental health treatment. ii. Dismissal of charges after successful completion of the mental health court programme (participation in community treatment

Table 4 Informal coercion scoping study – empirical qualitative studies

	Authors	Year	Study location	Study method/ design	Study population	Sample size	Service setting	Aims of the study	Analysis method	Findings
								psychiatric treatment. 2. Non-adherence sanctions.		and avoiding re-offending). 2. Community supervision of patients is organised by many courts. 3. Reported sanctions for non-adherence: returning to court to hearing, warnings, stricter treatment conditions, changes of housing, and rarely imprisonment. 4. MHC staff is interested in non-punitive ways to reroute MH patients from the criminal system into productive community lives.
5.	Watts & Priebe	2002	UK	In-depth interviews.	1. Community psychiatric patients. 2. Schizo-phrenia.	n=12	1. Community care 2. One AOT in London	Patients' experience of pressure in assertive outreach care. **(treatment adherence pressures)**	1. Grounded theory approach. 2. Constant comparison of emerged themes.	1. Reported reasons for disengagement: i. Distrust in therapeutic relationship due to previous coercive (early) experiences of MH services (focus only on medication, previous paternalistic and impersonal relationships), continuation of visits after refusal of services, difficulties with boundaries due to frequent change of clinicians, fear of rejection. ii. Rejection in private lives (by family members or friends) at the beginning of MH illness. 2. Historical factors are important for disengagement. Pressures are experienced and should be examined differently for patients with long history in psychiatric services and with continuous disengagement compared with those with shorter illness. 3. Proximal (e.g. depot medication) are perceived as coercive, distal (e.g. housing leverage) may be seen as pressures but also as valuable and justified by patients. Distal interventions should be prioritised. 4. Disengaged patients are visited more by service providers. Patients' wish is to discontinue contact with service but service provider's intention is to monitor patients and focus on adherence. AOTs should focus more on engagement than adherence.
6.	Widders-hoven & Bergh-mans	2007	The Nether-lands	1. Focus groups 2. Individual interviews (case discussions and experience of daily dilemmas and problems arising in practice)	1. Psychiatric patients. 2. Clinicians. 3. Family members.	Not reported.	Six MH institutions in the Netherlands	Moral aspects of pressures and coercion used on everyday basis in MH institutions. **(treatment adherence pressures)**	Not reported here. Secondary in-depth analysis of qualitative data analysis reported elsewhere.	Coercion is unavoidable but should not became routine: 1. **Emotions**: coercion and pressure always involve emotional reactions. Clinicians and patients should be able to express feelings such a as frustration, fear and powerlessness. Coercive interventions should involve work with emotions. 2. **Evaluation of intervention** is possible if intervention goals are known. Coercion is in conflict with right to self-determination and people should decide for themselves what is right. Goals of coercion are usually to prevent harm ('freedom from…' = negative freedom) but some coercive interventions have positive aims ('freedom to…' = positive freedom). Negative freedom always includes others and always limits freedom. Positive freedom does not (Berlin, 1958). 3. Reported variety of **methods** of intervention with pros and cons. Chosen method should improve patient's control over life. Patient's

Table 4 Informal coercion scoping study – empirical qualitative studies

	Authors	Year	Study location	Study method/ design	Study population	Sample size	Service setting	Aims of the study	Analysis method	Findings
										perception of coerciveness of method matters, not only clinician's assumptions. 4. Coercion is always **used in context** of care and responsibility of both clinicians and patient and it should include shared goals and mutual commitment and responsibility. Good communication and fair treatment prior and after coercion/pressure is used is necessary.
7.	Appel-baum & Le Melle	2008	USA	Focus groups	1. AOT patients (any diagnosis but mostly psychosis) 2. AOT clinicians.	1. n=44 (N=23 staff and n=21 patients); 2. Four focus groups (two each group)	1. Community patients. 2. Four AOT teams.	Experiences of staff and patients with leverage in AOT practice. (**treatment adherence pressures)**	Categorisation of themes by two researchers	**Staff reports**: 1. Little evidence was found of significant use of leverage or perceived coercion in AOTs. 2. Preferred strategies: supporting patients and building a therapeutic and trusted relationship. **Staff vs. patients** 3. Staff and patients reported similar experiences. 4. Either staff or patients do not perceive treatment in AOTs coercive. **Patients reports** 5. *Strategies used*: collaborative development of treatment plans, demonstration that staff care about patients, frequent contacts, helping patients to be independent, encouragement, discussing possible consequences, providing things, availability, initiating assistance from family and friends and protective strategies. 6. *Effective strategies*: staff caring about patients as people, listening to patients, encouraging, not giving up on them, providing choices, and help with basic needs. Staff responses were similar. 7. *The least successful strategies:* many patients couldn't name anything. Some reported: scare tactics, threats, and violating patient's personal space. Staff reports similar: telling patients what to do, being judgmental, threat of confrontation, making promises that could not be kept and lying.
8.	Vucko-vich P.K.	2009	USA	Semi-structured in-depth interviews	Psychiatric nurses	n=17	1. Inpatient service for involuntary patients. 2. One USA state.	Strategies used to achieve medication acceptance without coercion. **(treatment adherence pressures)**	1. Grounded theory. 2. Constant comparative method and validation. (Secondary analysis.)	Four identified themes : 1. **Engagement.** Two parameters dominated decision to engage: i. The patient's need – nurses believed in the efficacy of medication and in its necessity for some patients. ii. Rapport – Meeting a patient's immediate needs and removing focus from issues of control. 2. **Therapeutic relationship.** Adherence is possible only with a developed therapeutic relationship and therapeutic alliance. Reported strategies: development of trust by meeting basic needs for comfort and welcoming, increasing patients' understanding of illness, presenting reality, giving time and space, spending time with patients, developing alliance, talking. 3. **Discovering the patient's perspective by:**

Table 4 Informal coercion scoping study – empirical qualitative studies

	Authors	Year	Study location	Study method/ design	Study population	Sample size	Service setting	Aims of the study	Analysis method	Findings
										i. Listening – patient's side of the story of their admission, identifying advocacy needs and the reasons for medication refusal. ii. Persuasion – identifying reasons and attempting to solve the problem with the mutual agreement of patient and clinician. 4. **Persistently trying everything:** Psycho-education, gaining the patient's trust, helping to solve patient's problem, offering rewards or privileges for cooperation, threats with coercion. Nurses prioritised less intrusive strategies (giving options rather than giving orders, persuasion rather than power struggle) and long-term adherence rather than simply short-term acceptance.
9.	Priebe S.	2010	UK	1. Focus groups 2. Vignettes used to stimulate discussions	1. Patients 2. Clinicians 3. Family members 4. Non-executive MH Trusts directors 5. Patients' forum representatives 6. Health economists 7. Family and informal carers 8. Voluntary organisations' representatives.	1. n=139 2. 25 focus groups	1. Community mental health care 2. CMHTs and AOTs	1. Stakeholders' issues of use of financial incentives for improvement of medication adherence 2. Use of identified issues in understanding financial incentives' practice. **(treatment adherence pressures)**	1. Main analysis method approach not reported. 2. Constant comparisons.	Nearly all of the major themes were brought up in every group. Identified 11 themes collapsed into four categories: 1. '**Wider concerns'**: value of medication, source of funding, spending received money, and assumed government controlling agenda behind the financial incentive. 2. **'Problems requiring clear policies'**: practicalities (design of the FI scheme, when to stop, it should be a last resort) and assurance that incentives are only an additional tool for clinicians. 3. **'Challenges for research and experience'**: concerns regarding effectiveness to improve adherence, the risk that adherent patients became non-adherent, impact on the therapeutic relationship and possible increased negative attitudes towards medication. 4. **'Inherent dilemmas'**: fairness and potential coercion (targeting poor patients, risk of influencing decisions of vulnerable people, against patients' beliefs, perceived as a reward or 'compensation' for side effects, and belief in existing choice between money and medication. Financial incentives are a controversial subject, ambiguous nature of coercion and the differentiation between coercion, inducement, and persuasion.
10.	Thørger-sen et al.	2010	Denmark	In-depth interviews.	AOT patients	n=6	1. Community care 2. Two newly started AOT teams in Copen-hagen	1. Groundwork for a larger quantitative study on perception of coercion in a trial of AOTs versus CMHTs. 2. Patients'	Inductive thematic analysis.	**Experiences linked to perceived coercion** 1. Not being understood, not listened to, not having an active role in treatment decision-making (paternalism, clinician's exclusive focus on medication, personal leverage, clinicians' threats by rejection, history of coercive experiences in hospital, lack of control, poor alliance with clinicians, fear of involuntary admission). 2. Not being recognised as a competent and autonomous person (lack of staff engagement in hospital, patronising behaviour, dependency). 3. Crossing the line and intruding privacy (at initial overwhelming

Table 4 Informal coercion scoping study – empirical qualitative studies

	Authors	Year	Study location	Study method/ design	Study population	Sample size	Service setting	Aims of the study	Analysis method	Findings
								experiences of AOT treatment. 3. Perception of coercion in the AOTs. 4. Experiences of coercion in CMHTs and AOTs. **(treatment adherence pressures)**		intensive inclusion with the AOT team, but not later). PC was not particularly linked to experience with AOT. **Experiences that reduce perception of coercion** 1. Collaborative and mutually trusting therapeutic relationship. 2. Commitment, persistency and availability of clinicians (flexible approach, time to talk, flexibility about visiting time, trust, one clinician for a long time, supporting patients through admission, hospitalisation and in crisis. Recognition of need for social support and help with everyday activities).
11.	Tranulis et al.	2011	USA	1. Mixed methods study. 2. Semi-structured interviews for qualitative study. 3. Structured interview used for quantitative part of the study.	Schizo-phrenia patients with prescribed antipsychotic medication	n=20	1. One CMHT 2. Schizo-phrenia programme linked to one hospital	1. Patient experiences of taking antipsychotic medication. 2. The need for adherence from patients' own perspectives. **(treatment adherence pressures)**	1. Narrative analysis and grounded theory. 2. Ethnographic notes, chart reviews, and extraction of themes.	1. 19 (95%) reported at least one extended period of non-adherence. 2. Antipsychotic medication at first episode was not patients' choice, they were passive, and it was pressured by friend, family or clinicians. Variety of informal coercion was used for: i. The first prescribed antipsychotic. ii. For maintenance without perceived need for medication. 3. Patients stressed the importance of trust, emotional reactions, and subjective experiences with medication and stigma. 4. Off-medication periods were essential parts of a learning process and perception of benefits of adherence. Periods of non-adherence were related to symptom relapse and aggressive or disruptive behaviours. 5. 7 (35%) patients linked antipsychotic medication to self-esteem and stigma. Relapses have impact on self-esteem and lives. 6. A complex picture of medication use or refusal emerged. 7. Patients need to learn through personal experience of non-adherence about need for adherence.
12.	Canvin et al.	2013	UK	1. In-depth interviews with community patients. 2. Qualitative part of a mixed methods study (Burns et al., 2011.	1. Psychiatric patients. 2. Various diagnosis.	n=29	1. Community services. 2. CMHTs. 3. AOTs. 4. Methadone clinics. 5. One NHS trust. 6. Two counties in England.	1. Patient experiences and perception of pressures. 2. Distinguishing leverage from other pressures. 3. Fitting the concept of leverage originated from the study with the current	Modified Grounded theory.	1. Range of pressures reported and classified as: *i. Leveraged pressures.* *ii. Non-leveraged pressures.* 2. Different pressures have different characteristics and were not only related to treatment. Pressures were perceived as: i. **Pressures to adhere to treatment** (taking medication, attending meetings, accessing and engaging with services). ii. **Pressures to 'stay well'** (e.g. ceasing self-harm or alcohol use) 3. **Leveraged pressures** were distinct from non-leveraged pressures by the presence of three features: i. Conditionality. i. Lever. ii. Pressure delivered in direct communication by a person with

Table 4 Informal coercion scoping study – empirical qualitative studies

	Authors	Year	Study location	Study method/ design	Study population	Sample size	Service setting	Aims of the study	Analysis method	Findings
								literature. 4. **(treatment adherence pressures)**		power to execute consequences. 4. **Non-leveraged pressures** – lacking one of above features (lack of consequences or clinicians' predictions about events). 5. Some patients were unclear about their legal status and consequences of non-adherence. 6. **Sources of pressures**: clinicians, family, friends, themselves. 7. Clarity on concept of leverage and other pressures and broader definition of leverage.
13.	Serowik et al.	2013	USA	1. Two separate in-depth interviews a week apart with different interviewer. 2. Interviews had the same prompts to supplement the first interview. 3. One year after completion of RCT.	1. Psychiatric patients with history of substance abuse. 2. Randomly assigned to voluntary money manage-ment in the RCT.	n=15	One CMHT	Experience of voluntary money management programme. **(treatment adherence pressures)**	Analysis approach described but not named (Probably thematic analysis).	Five main themes: 1. Trusting relationship with money managers was important for continuing participation and perceived benefit from the programme. (e.g. believing that money managers were genuinely interested in patients). 2. Financial mindfulness – (e.g. role of finances, importance of budgeting, longer-term impacts, shopping and saving skills). 3. Agency – financial responsibilities and overcoming challenges. 4. Addiction – money management often linked to changes in substance abuse. 5. **Non-coercion** – Money management was not perceived as coercive. Only one patient has mentioned coercion related to money management or their spending habits. Money management can be empowering if a money manager explicitly promotes autonomy by encouraging patients to make the financial decision with guidance.
14.	Rugkåsa et al.	2014	UK	Focus groups	1. Community mental health clinicians. 2. Naturalistic groups in community mental health teams.	1. n=48 clinicians 2. 6 focus groups	1. Community MH care. 2. Six teams. 3. One NHS trust in England.	1. Clinicians' conceptualisa-tion of what they wanted from patients. 2. Strategies clinicians use to get patients to do what they expect them to do. **(treatment adherence pressures)**	Thematic analysis using the constant comparison method.	1. Clinicians want patient to: take medication, engage with the team, keep appointments, and take responsibility for more stable and healthy lives. 2. Three categories of influencing behaviours reported: building trusting relationships, negotiation agreements and asserting authority. i. **Building trusting relationships** – the quality of relationships was the central way of attempting to influence patients to achieve treatment aims. Building trusting relationships was reported as the ideal way to achieve therapeutic aims (educating, encouraging, reminding, persuading, showing interest in patient's situation, considering patient's priorities and concerns, addressing practical issues.) Creating obligation of reciprocity by doing something as 'a gift' for reluctant patient appears

Table 4 Informal coercion scoping study – empirical qualitative studies

	Authors	Year	Study location	Study method/ design	Study population	Sample size	Service setting	Aims of the study	Analysis method	Findings
										manipulative. ii. **Negotiating agreements** – finding mutually acceptable solutions. Reaching compromises with patients about medication (persuasions), 'deals', 'contracts', (relationship's reciprocal dimensions), letting patients' views influence agreements). Clinician's power to compel was perceived as coercive (e.g. predictions of compulsion or reminder of compulsion). iii. **Asserting authority –**Using authoritative strategies after encouraging and educative strategies failed and patients did not do what was negotiated (e.g. setting rules, counting pills, monitoring, depot injections, and frequent visits). 3. **Legal compulsion** – the last resort and disliked by clinicians. It is good for patient's safety but it a threat to therapeutic relationship. 4. **Ideal vs practice:** Clinicians believe in a patient-centred approach based on trusting, reciprocal relationships but they have to use professional authority with reluctant patients. This may be perceived as coercive by patient and present risk for therapeutic relationship.
15.	Larsen & Terkelsen	2014	Norway	1.Ethno-graphic fieldwork/ observation 2. Individual interviews with staff (N=18)	1. Psychiatric patients (various diagnosis). 2. Hospital staff.	1. n=12 patients. 2. n=22 staff members.	Psychiatric hospital ward.	Patient and hospital staff experiences and **perceptions of coercion on ward.**	1. Situations and episodes identified from notes. 2.Phenomeno-logical approach (experiences and expressed feelings regarding coercive treatment. 3. Condensation to obtain experiences of coercion form staff and patient perspective.	1. **Correction and house rules** *Patients* – wanted flexibility in rules. Correction and rules were perceived as provocative and made them feel inferior. *Staff* – different views. Some staff preferred flexibility, believing that correction and sticking to rules presented humiliation and was wrong. Others preferred rigid approach and authority. 2. **Coercion is necessary** *Patients* – some see benefits in short and protective sections. Coerced voluntaries – voluntarily admitted by coercion. *Staff* – a) agreed that coercion is sometimes necessary (especially when risk of harm, violence, threats and for benefit of patients). i. Coercion is a burden for staff applying it. ii. Guilt after use of coercion, others when not using it. iii. Many critical about coercion on ward. iv. Staff often blame the 'system' for the feeling of burden. v. Staff agree about use of force when in the group, but those close to patients are more likely to understand them and their individual needs. That may have impact on use of coercion. 3. **Significance of material surroundings** – particular locations on wards were places to control patients and displayed written instructions were seen as coercive, way of control, insulting for patients and some staff, but other staff believed they support control and safety in a positive way.

Table 4 Informal coercion scoping study – empirical qualitative studies

	Authors	Year	Study location	Study method/ design	Study population	Sample size	Service setting	Aims of the study	Analysis method	Findings
										4. **Being treated as a human being** – patients wanted to feel understood and treated ordinarily, doing ordinary things as ordinary people.
16.	Sweeney et al.	2015	UK	Focus groups	1. Psychiatric patients. 2. Various diagnosis.	1. n=32 2. Four focus groups.	1. Community service. 2. Day centres. 3. Patients' groups. 4. CMHTs. 5. Two London MH trusts.	1. The role of fear 2. Consequences of fear (e.g. on engagement with MH services).	Secondary grounded theory analysis.	1. **Fear, power and control** i. Psychosis – the most common context of fear. Affected confidence, relationships and ability to travel or being in public. Reported fear was often linked to loss of power and control. ii. Services – small number of participants reported fear of compulsory treatment or detention. Some with previous experience of compulsion tried to avoid service. Fear that unwanted services will be forced but wanted or needed services will not be provided. *Access to services* was perceived negatively: clinicians have the power to grant or deny access. Clinicians' decisions are often experienced as arbitrary and frightening. Power and control contributed to patients' fears: in the context of community. (Loss of control over life and fear of being arrested and hospitalised without committing a crime.) 2. **Fear, stigma and discrimination** i. Psychosis – participants liked when they were treated with respect by staff. ii. Services – as staff have the power to enforce or withdraw treatments, patients felt discriminated against because of diagnosis and experience of threat by staff. Patients reported feeling they aware ignored, laughed at, humiliated, belittled and patronised. 3. **Climate of fear –** fear that not doing what patients were told could lead to compulsory treatment.
17.	Valenti et al.	2015	1. International. 2. 10 countries 3. 5 regions Anglo-American, Central/ Eastern Europe, Latin America, Southern	Focus groups with case vignettes.	Mental health professionals.	1. n=248 2. 40 focus groups. 3. 4 focus groups in each country.	1. Pre-existing teams. 2. Groups of individuals from a large institution. 3. Groups of individuals from different institutions	1. Clinician attitudes towards informal coercion. 2. Clinician experiences of informal coercion in countries with different sociocultural backgrounds.	Thematic analysis with an iterative process of analysis.	Five themes: 1. **Informal coercion is effective** – for improvement of adherence and a number of other outcomes (e.g. physical health, hospitalisation rates and psychosocial circumstances). **Widespread unease regarding informal coercion** – informal coercion was ethically unpleasant and using less severe terms of informal coercion interventions reduces feeling of uneasiness. i. Initially clinicians reported low level of use of informal coercive interventions in their practice. ii. Throughout focus group sessions clinicians changed their mind and with use of newly accepted terminology and familiarisation with the term of coercion they changed their reports to regular use of informal coercion.

Table 4 Informal coercion scoping study – empirical qualitative studies

	Authors	Year	Study location	Study method/ design	Study population	Sample size	Service setting	Aims of the study	Analysis method	Findings
			Europe, Scandin-avia.					(**treatment adherence pressures)**		iii. Reported need for professional guidelines on the use of informal coercion. Definitions of informal coercion vary among different clinicians or practices. iv. Informal coercion was ethically unpleasant and using less severe terms of informal coercion interventions reduces feeling of uneasiness (e.g. redefining a threat to warning about the consequences). 2. **Explicit dissonance between attitudes and practice** – Although perceived as unethical informal coercion was sometimes considered necessary, particularly in clinically complex situations. i. Attitudes towards the acceptability of coercion are sometimes overridden by perceived therapeutic need and emotional responses. ii. Justification of informal coercion: in extreme situations with severe psychiatric symptoms and to increase insight. 3. **Implicit dissonance between attitudes and practice** – attitudes towards informal coercion changed during focus group sessions. i. At the beginning of sessions clinicians denied and disapproved use of coercive strategies described in the case vignettes. Due to internal tension clinicians did not want to perceive their practices as coercive. ii. Re-definition of informal coercion during sessions changed their attitude to acceptance and justification of informal coercion in clinical practice. 4. **Paternalism and responsibility vs. autonomy as underlying values** – common opinion that paternalism is inevitable. Two main viewpoints: i. Best interest has more weight than patient autonomy (with good intention). Clinicians are expert providers in case of patient incapacity, they feel pressure to use coercion for safeguarding in case of risk of harm, and responsibility for negative consequences of patient's non-adherence. ii. Supporting less paternalistic approach which values autonomy. Clinicians have no right to force patients. 5. **International comparison** i. Common themes in all participating countries. ii. More family involvement themes in Latin countries. Family relationships often justified use of coercion. iii. Less explicit and implicit dissonance in Spanish countries.

Table 4 Informal coercion scoping study – empirical qualitative studies

	Authors	Year	Study location	Study method/ design	Study population	Sample size	Service setting	Aims of the study	Analysis method	Findings
18.	Highton-William-son et al.	2015	UK	1. Semi-structured interviews (open – ended questions). 2. Two interviews (at 6 and 12 months of an interventio n). 3. Cluster RCT on effective-ness of FI to improve adherence to antipsych-otic depot medication .	Clinicians of 73 psychosis patients who received financial incentives (FI).	n=59	1. Community service. 2. 73 CMHTs and AOTs in England.	1. Patterns of spending FI money by patients. 2. Incidences of patient requests to increase FI or frequency of depot injections. 3. Non-participating patient requests to receive payment for depot injections? 4. Clinicians experience of the effect of FI on interaction with patients? **(treatment adherence pressures)**	1. Thematic analysis. 2. Inductively driven analysis. 3. 'Per-patient analysis' (not per clinician). 4. Analysis of data for both time points together.	1. **Spending money** on: food, alcohol, drugs, household, hobbies and tobacco. 2. **Requests for increased money or frequency of depots** i. 6 patients from 5 teams asked for FI increase. ii. 6 patients requested increase in frequency of depot injections. iii. 12 patients have requested earlier depot injections or have turned up for it a few days early. All requests were refused by clinicians and accepted with no problems or consequences. 3. **Non-participating patients' requests** i. 22 patients (non-participants) asked to be paid for their depot and/or were asking for reasons for not being paid. ii. Two patients missed their depot as a consequence and one patient threatened not to take his depot. All situations were resolved quickly and easily. 4. **Clinicians' experiences** For 65 patients positive or negative impact, and for 8 patients no effect of FI reported. i. **Positive effects** – reported for 53 patients a) Clinical management (spending less time chasing the patients, increased engagement with team, and increased attendance of meeting the psychiatrist, drug and alcohol services or CPA appointments). b) Improved therapeutic relationship (for 21 patients) due to increased contact. **ii. Negative effects on:** a) Clinical management for 29 patients (problematic time and effort involved in providing the incentives and disengagement with treatment due to spending FI money on drugs and alcohol. b) Therapeutic relationship (for 17 patients) (monetization of the relationship and aggression of patients if money was not delivered promptly). iii. **Effects on patients' outcomes**: (for 42 patients) a) Positive effects – wellbeing (mental health and reduction in symptoms and drug and alcohol use), insight into illness and medication benefits, social functioning (lifestyle stability and family relationships), stable housing situation, employment, budgeting ability and self-care. b) Negative effects (for 15 patients) – increased drug and alcohol use purchased by FI, dependency on the FI money,

Table 4 Informal coercion scoping study – empirical qualitative studies

	Authors	Year	Study location	Study method/ design	Study population	Sample size	Service setting	Aims of the study	Analysis method	Findings
										secretive about the money, and becoming vulnerable because of money. 5. **Overall effects of FI** – positive effect of FI for 77% of patients and negative effects for 33% (with some overlap).

AOT = Assertive Outreach Team
CMHT = Community Mental Health Team
FI = financial incentives
MH = mental health
ECT= randomised control trial

Early experiences of psychosis

Psychosis patients in two studies (Tranulis et al., 2011, Watts and Priebe, 2002) highlighted the importance of early experiences at the onset of psychosis. Negative (often coercive) experiences at the first episode of psychosis were commonly reported (Tranulis et al., 2011, Watts and Priebe, 2002). These experiences and rejection by people close to them (e.g. family and friends) were the main factors cited for disengagement (Watts and Priebe, 2002). Patients perceived that both services and family sought to control them (often by use of leverage) and they felt coerced to take antipsychotic medication during their first episode of psychosis. It seems that disengagement is not only associated with a lack of insight but also with negative and often coercive experiences (Tranulis et al., 2011, Watts and Priebe, 2002).

Therapeutic relationship

Almost all papers address the vital role of the therapeutic relationship for adherence to treatment and for perceived coercion. Both patients and clinicians perceive the therapeutic relationship as important for successful treatment.

A key factor for achieving a long-term adherence enhanced by pressure from clinicians and family members was a trusting and collaborative relationship. Trust, respect, collaboration and good communication were highlighted as essential aspects of a therapeutic relationship (Appelbaum and Le Melle, 2008, Lidz et al., 1998, Rugkåsa et al., 2014a, Tranulis et al., 2011, Widdershoven and Berghmans, 2007, Thøgersen et al., 2010, Watts and Priebe, 2002). Many patients want to see that clinicians, family members and friends act out of genuine concern and in good faith, that they behave in accordance with patients' expectations, apply coercion based on their commitment and

responsibility, provide support, have a genuine interest in a patient's life and improvement, and treat them as human beings or ordinary people (Watts and Priebe, 2002, Bennett et al., 1993, Serowik et al., 2013, Widdershoven and Berghmans, 2007, Larsen and Terkelsen, 2013).

Similarly clinicians believe that building a collaborative relationship, obtaining the patient's informed consent for treatment, and improving the patient's awareness of treatment benefits may prevent disengagement (Tranulis et al., 2011, Watts and Priebe, 2002, Rugkåsa et al., 2014a, Thøgersen et al., 2010). In the USA AOT clinicians' preferred strategies were building a trusted therapeutic relationship and support. Their patients' experiences of the most frequently used strategies revealed similar responses to those reported by clinicians (showing their genuine concern for patients, frequent contact, the collaborative planning of treatment, supporting a patient's independence, open discussions of consequences, encouraging and being available). Similar interventions were listed by both patients and clinicians as the most effective strategies (Appelbaum and Le Melle, 2008). Absence of these behaviours and passivity were perceived as coercive by AOT patients in Denmark (Thøgersen et al., 2010).

Therapeutic relationships may be vulnerable. Previous experience of lost trust, broken relationships with a close person such as a family member, partner, or friend at the beginning of their illness were reported as the reasons for disengagement from treatment and a barrier for engagement in a therapeutic relationship (Tranulis et al., 2011, Watts and Priebe, 2002).

The use of coercion is often seen as a risk to the therapeutic relationship. Patients want to be respected and treated as equals by everyone including clinicians, family members,

and friends (Watts and Priebe, 2002). Many community patients experience disrespect of their autonomy and they feel coerced to the persistent visits of clinicians despite a clear expression of wishing to stop the visits (Watts and Priebe, 2002). A common use of this non-legislated form of coercion, often to avoid compulsion, leaves the patient with no right to appeal. Deceit (e.g. lying, pretending to do something on behalf of a patient without establishing the patient's preferences, and promising something that could not be done) would be recognised, perceived as unfair and rarely forgiven by patients (Bennett et al., 1993, Tranulis et al., 2011).

Although the use of coercion is a threat to trust, mutual treatment commitment and responsibility may protect it (Widdershoven and Berghmans, 2007). AOT patients in Denmark understood the benefits of a mutual setting of goals and treatment planning. Their perception of clinicians' genuine care and trust were essential for that process (Thøgersen et al., 2010).

Clinicians have similar views. Community teams in the UK highlighted a trusting relationship as an essential prerequisite to the use of informal coercion (e.g. reminding, encouraging, and educating to take treatment). Trust is gradually developed through continuous contacts with patients and learning about their perspectives (Rugkåsa et al., 2014a, Vuckovich, 2009). A critical element to achieve this is to give the patient time and space, and to help with individual problems related to treatment adherence (often by persuasion) (Vuckovich, 2009).

Clinicians fear that the therapeutic relationship would be at risk and is in conflict with compulsion, so they prefer informal coercion to legal compulsion (Rugkåsa et al., 2014a, Godin, 2000). Their more paternalistic acts (making decisions for patients) are

constantly weighted against the possible risk to the therapeutic relationship (Lützén, 1998).

One of the main concerns of clinicians (Claassen et al., 2007) and other stakeholders (Priebe et al., 2010a) of using financial incentives to improve adherence is the potential negative impact on a therapeutic relationship (Claassen et al., 2007). However, one third of clinicians who used it in their practice for 12 months believed that financial incentives contributed to better overall communication with patients, and improved clinical management and patient social outcomes (Highton-Williamson et al., 2015).

Relationships with patients may have an impact on the clinicians' views of coercion. Hospital staff with a close relationship with patients tend to understand the patient's individual needs and accordingly adapt coercive interventions. In contrast, clinicians with distant relationships often do not see the patient's individual needs and treat all patients in the same way (Larsen and Terkelsen, 2013).

Time for interaction

Patients and clinicians often value the time they spend in interaction. Interactions with clinicians who were available, committed, did not give up, were flexible and with enough time to talk were considered by patients as less coercive (Thøgersen et al., 2010). Lack of time to engage, listen and understand, and insensitivity to individual differences, often lead to patients' perceptions of coercion (Thøgersen et al., 2010, Larsen and Terkelsen, 2013) and resistance to engage (Watts and Priebe, 2002) in the therapeutic relationship. Inpatient nurses in the USA perceive time and energy invested in interactions with patients as crucial to successful negotiations and the building of trust (Vuckovich, 2009).

Coercion and emotions

Human interactions naturally include emotions. When one person tries to influence another person to do something against his or her will, they are both emotionally engaged. In several studies both patients and clinicians have addressed issues of emotional reactions to coercion. Frustrations, powerlessness and fear were common emotional reactions reported by patients, clinicians and family members in a study in the Netherlands (Widdershoven and Berghmans, 2007). Empirical data in this study suggest that talking and reflecting on emotions should be an important part of the pressured intervention (Widdershoven and Berghmans, 2007).

Coercion always includes an imbalance of power and some patients fear being disempowered to fully express their emotions (Sweeney et al., 2015). Patients experience emotional reactions to a wide range of concerns about different aspects of life, care and illness (e.g. mourning a medication-free life period, longing for their pre-illness condition, lowered self-esteem, losing identity, right for self-determination, choice, independence, sense of self, feeling patronised, feeling that nobody is honest or people are hiding the truth about the illness). These emotions impact patients' decisions about adherence to anti-psychotic medication. Clinicians, however, do not always consider them when addressing non-adherence (Tranulis et al., 2011, Watts and Priebe, 2002).

Fear is a commonly reported emotional reaction to pressures (Widdershoven and Berghmans, 2007, Sweeney et al., 2015). Patients report a fear of involuntary treatment, hospitalisation or losing control (Sweeney et al., 2015). Fear of hospitalisation sometimes motivates patients to cooperate (Thøgersen et al., 2010) or, conversely, to delay seeking help (Sweeney et al., 2015, Van Dorn et al., 2006).

Patients can feel hurt, vulnerable and provoked if hospital staff treat them as a 'diagnosis' and not as a full human being (Larsen and Terkelsen, 2013). Coercive interventions such as involuntary hospitalisation may be traumatic for patients and can cause anxiety for those with psychosis. This anxiety may be reduced by building a therapeutic relationship. Some patients experience emotional dependency and a fear of rejection (due to a rapid turnover of clinicians) which may prevent them from emotional disclosures (Watts and Priebe, 2002).

Clinicians in different countries feel uncomfortable when talking about their use of informal coercion but they feel better if they employ softer language in their discussions (Valenti et al., 2015). Many clinicians feel guilty for using coercion but for some of them guilt may be reduced if they perceive the system as responsible for their actions (Larsen and Terkelsen, 2013). Clinicians also report that their emotional reactions such as frustration or annoyance may increase the use of coercion (Valenti et al., 2015).

Engagement and adherence

Several papers address the link between engagement and medication adherence. Important factors for non-adherence of psychosis AOT patients were their previous experiences of social rejection and coercion (Watts and Priebe, 2002). The large turnover of clinicians often prevents the development of a therapeutic relationship and unwelcomed persistent visits by clinicians were perceived as coercive. The authors propose that building a good therapeutic relationship and engagement, rather than adherence to medication, should be a priority for AOTs (Watts and Priebe, 2002).

Clinicians reported that they would like it if their patients adhered to treatment and maintained their mental, social and physical well-being (Rugkåsa et al., 2014a). To achieve these goals clinicians build a close and trusted therapeutic relationship, negotiate, make *deals* and *agreements*, and use pressures to develop an alliance (Rugkåsa et al., 2014a, Vuckovich, 2009). This is a good starting point for long-term adherence (Vuckovich, 2009).

Coercion is necessary

Clinicians in five studies believed that coercion is sometimes necessary (Widdershoven and Berghmans, 2007, Rugkåsa et al., 2014a, Valenti et al., 2015, Lützén, 1998, Larsen and Terkelsen, 2013). Only in one study did patients express the necessity for coercive measures such as seclusion (Larsen and Terkelsen, 2013). Clinicians believe that coercion and pressures are part of life (Widdershoven and Berghmans, 2007) but they are aware that legal compulsion is not always the best approach (Rugkåsa et al., 2014a) and that informal coercion is unethical (Valenti et al., 2015). When they are in a group they agreed that the use of force is sometimes necessary, but without the presence of other clinicians they expressed guilt for using it (Larsen and Terkelsen, 2013).

Although it is seen as necessary, coercion and pressure are not perceived as routine and are commonly restricted to specific and justified situations (Widdershoven and Berghmans, 2007, Rugkåsa et al., 2014a, Valenti et al., 2015, Larsen and Terkelsen, 2013, Lützén, 1998). For patients in Norway brief seclusion is acceptable only when the patient becomes chaotic (Larsen and Terkelsen, 2013).

Protection or choice?

Clinicians often face a dilemma choosing between protection of the patient by using coercion and giving a choice to patients by not using coercive interventions. This dilemma is often reflected in the constant weighting of coercive interventions against the risk to the therapeutic relationship (Lützén, 1998, Rugkåsa et al., 2014a, Godin, 2000).

Dissonance between what clinicians believe (theory) and what they do (practice) is presented in several papers. They respect the autonomy of patients, disapprove of informal coercion, prefer persuasion, and believe that their role is to protect patients from harm (Lützén, 1998, Rugkåsa et al., 2014a, Valenti et al., 2015). However, it is difficult to respect the autonomy of a patient who does not choose any option offered by the clinician. Clinicians then use coercion and justify it by their professional responsibility to safeguard patients and by a patient's lack of capacity (Lützén, 1998, Rugkåsa et al., 2014a, Valenti et al., 2015). For some clinicians the patient's autonomy has less weight than judgment of what is in the patient's best interest although some clinicians challenge that (Valenti et al., 2015).

Valenti and colleagues identified two dissonances concerning informal coercion. An explicit dissonance exists among clinicians who believe in the necessity of informal coercion but do not feel comfortable about it. An implicit dissonance is identified for clinicians who disapprove of informal coercion but report using it in their practice (Valenti et al., 2015).

Coercion is burden

Coercive situations are complex and commonly problematic for the individuals involved. In several studies it was described as a burden not only for the patient but also for the clinicians who apply it (Widdershoven and Berghmans, 2007, Godin, 2000, Larsen and Terkelsen, 2013, Valenti et al., 2015, Vuckovich, 2009).

Clinicians often feel that the use of coercion is in conflict with what they believe is their role such as to provide good care (Widdershoven and Berghmans, 2007), respect patients, give the patient options rather than orders, and develop an intimate and caring relationship (Godin, 2000). Many feel uncomfortable and provoked by descriptions of their interventions as coercive even if they regularly employ informal coercion (Valenti et al., 2015). Others feel guilty, perceive themselves as perpetrators (Larsen and Terkelsen, 2013), or dislike participating in forced medication (Vuckovich, 2009, Widdershoven and Berghmans, 2007). The use of compulsion made them into a 'bad cop' (Godin, 2000) or someone who is 'poisoning' the patient (Larsen and Terkelsen, 2013). Staff on wards often receive orders from doctors to use coercive intervention and feel pushed to do it. Some of them feel guilty for using it while others feel the same for not using it (Larsen and Terkelsen, 2013). It seems that coercion may expose both patients' and clinicians' vulnerability.

Clinicians use different strategies to reduce uncomfortable feelings. They often deny using informal coercion and use less severe terms to describe it (e.g. 'warning about consequences' (Valenti et al., 2015) or 'point out the consequences' (Vuckovich, 2009)), or they blame the system for coercion (Larsen and Terkelsen, 2013).

Perceived coercion

Perceived coercion is a common theme in many studies with patients. Factors associated with perceived coercion identified in quantitative papers (Swartz et al., 2003b, Monahan et al., 2005, Lidz et al., 1995) were also reported in qualitative papers (Bennett et al., 1993, Thøgersen et al., 2010, Sweeney et al., 2015, Larsen and Terkelsen, 2013). Being listened to, understood, respected, and having an active role in treatment decision making (*having voice* and *procedural justice*) are reported as important for reducing perceived coercion. If patients feel ignored (e.g when complaints about side effects are disregarded), had no control, had no say in the planning of treatment, or had a poor therapeutic relationship they are more likely to report feeling coerced (Bennett et al., 1993, Thøgersen et al., 2010, Sweeney et al., 2015). Perceived coercion may be reduced if a patient perceives that the person who applies it is acting out of genuine concern, in good faith, behave as expected (Bennett et al., 1993), have a trusting and collaborative therapeutic relationship and commitment, or is persistent and available (Thøgersen et al., 2010).

At the beginning of AOT treatment patients may feel overwhelmed by clinicians' frequent and persistent visits and their involvement in major aspects of their lives. These may result in lost autonomy and increased dependency (Thøgersen et al., 2010). The experience of coercion may become a barrier to seeking treatment for fear of involuntary treatment (Sweeney et al., 2015).

Effectiveness of coercion

Patients' and clinicians' views of the effectiveness of coercion were reported in several papers. In the study of Appelbaum and Le Melle patients' and clinicians' views of

effective and non-effective interventions were very similar (Appelbaum and Le Melle, 2008). Good effectiveness was linked to caring for patients as human beings, listening to patients, encouragement, persistence (not giving up), giving choices and helping with basic needs. These factors are very similar to the factors associated with reduced perceived coercion (Bennett et al., 1993, Thøgersen et al., 2010, Vuckovich, 2009, Sweeney et al., 2015). Patients and clinicians had similar views on the least successful interventions for adherence to treatment. Patients reported threats, scare tactics and violation of personal space. Clinicians similarly listed giving orders, threats, confrontations, judging, lying and making promises that could not be fulfilled (Appelbaum and Le Melle, 2008).

Clinicians from 10 countries broadly believed in the effectiveness of informal coercion for treatment adherence, and other outcomes such as physical health and readmissions. They believed that clinicians who use them are more effective than those who don't. It seems that they also used informal coercion more than they would like to because, among other reasons, they believed that it is effective (Valenti et al., 2015).

The majority of clinicians after one year's experience with financial incentives agreed that incentives contributed to the better clinical management of patients, patients' improved adherence to treatment, engagement, monitoring of patients, communication, therapeutic relationship, trust and more frequent contacts (Highton-Williamson et al., 2015).

Persuasion

Persuasion was reported as the preferred, and most often used, informal coercion by both patients and clinicians. This is a positive finding as persuasion includes listening

to the patient's perspective, respect for their views, their active role in treatment decision making, and mutual agreements. These were all listed as the most effective (Appelbaum and Le Melle, 2008, Vuckovich, 2009) and the least coercive (Bennett et al., 1993, Godin, 2000, Vuckovich, 2009) interventions. Persuasion is considered a milder form of subtle coercion and described by nurses as an attempt to make the patient understand the situation and the consequences of the choices offered (Lützén, 1998).

The central aspects of persuasion reported by clinicians are negotiations and mutual agreements, "striking deals" or "agreeing contracts" and using reciprocity (Rugkåsa et al., 2014a, Vuckovich, 2009, Godin, 2000, Appelbaum and Le Melle, 2008). Persuasion is practiced through listening to the patient, expressing genuine concern, asking questions, finding out reasons for non-adherence, discussing expectations, educating, encouraging, solving problems and achieving a mutually agreed treatment plan, and discussing possible consequences (Vuckovich, 2009, Godin, 2000, Appelbaum and Le Melle, 2008).

Persuasion and mutual agreements are not always possible. Clinicians sometimes introduce coercion into negotiation by warning patients about the negative consequences of their choices or behaviours (Rugkåsa et al., 2014a) and they describe persuasion with elements of coercion (Godin, 2000). They use trust and the emotional dependence (interpersonal leverage) to motivate the patient for the acceptance of treatment. However they often believe that they use persuasion and not coercion (Godin, 2000).

Patients' attitudes towards persuasion are positive and welcoming. When persuasion is used they feel actively involved, that their perspective was considered, they appreciated that someone made an effort to use persuasion, and are sometimes angry if nobody did. When persuasion is used by clinicians it is often not perceived as coercive, but persuasion by family and friends sometimes is (Bennett et al., 1993).

Comparison of clinicians and patients

Four studies investigated both patients' and clinicians' experiences and views (Widdershoven and Berghmans, 2007, Appelbaum and Le Melle, 2008, Priebe et al., 2010b, Larsen and Terkelsen, 2013). The comparison shows that patients and clinicians may have more in common than not in feeling burdened by treatment pressures (Widdershoven and Berghmans, 2007). This included perceiving AOT treatment as non-coercive and reporting similar implemented and effective interventions (Appelbaum and Le Melle, 2008), concerns regarding use of financial incentives (Priebe et al., 2010b) and support for coercive strategies in hospital (Larsen and Terkelsen, 2013).

Recommendations

The most common recommendations in qualitative studies are related to the central role of the therapeutic relationship. Clinicians should invest substantially in establishing and maintaining a trusting and collaborative therapeutic relationship with patients (Bennett et al., 1993, Watts and Priebe, 2002, Appelbaum and Le Melle, 2008, Vuckovich, 2009, Rugkåsa et al., 2014a, Thøgersen et al., 2010, Serowik et al., 2013, Larsen and Terkelsen, 2013). This should minimise perceived coercion (Appelbaum and Le Melle,

2008), increase patients' control over their life (Widdershoven and Berghmans, 2007) and achieve positive treatment outcomes (Thøgersen et al., 2010, Serowik et al., 2013).

To achieve trust clinicians can engage with patients, build trust and alliance, commit, have sufficient time to spend with patients, listen, actively involve them in decision making, show genuine concern about them, and act in good faith. In addition they should help patients with practical and social aspects of life, establish clear treatment contracts with shared roles and responsibilities, continue contact during and after coercion, prioritise those in greatest need and with a good response, secure adequate levels of staffing, treat them with respect, equally and as ordinary people, and use distal interventions (Appelbaum and Le Melle, 2008, Bennett et al., 1993, Godin, 2000, Serowik et al., 2013, Watts and Priebe, 2002, Widdershoven and Berghmans, 2007, Larsen and Terkelsen, 2013, Rugkåsa et al., 2014a, Thøgersen et al., 2010, Vuckovich, 2009).

It may be important to consider patients' historical factors before using coercion (Watts and Priebe, 2002). Clinicians may find it helpful to focus more on engagement than adherence and best to start with building a therapeutic relationship (Watts and Priebe, 2002, Widdershoven and Berghmans, 2007).

More debate on informal coercion should be encouraged with the aim of including informal coercion in professional treatment guidelines, codes of practice and safeguards although this may be difficult (Canvin et al., 2013, Valenti et al., 2015). It is recommended to include both patients and clinicians in the work on these guidelines defining mutual responsibilities and involvement (Widdershoven and Berghmans, 2007). It is also important to educate clinicians about the continuing importance of a

therapeutic relationship (Bennett et al., 1993, Vuckovich, 2009, Watts and Priebe, 2002, Widdershoven and Berghmans, 2007, Thøgersen et al., 2010) when using coercive interventions and the patient's possible positive personal experience of non-adherence (Tranulis et al., 2011) for establishing long-term adherence.

It remains the clinician's responsibility to weigh the benefits of an intervention (e.g. immediate clinical benefit, improved medication adherence) against adverse effects (e.g. risk for therapeutic relationship, health risk) each time when using a treatment pressure (Highton-Williamson et al., 2015). They should also find a balance between using pressures in their practice and their professional principles (Valenti et al., 2015).

One paper (Widdershoven and Berghmans, 2007) recommended that clinicians use newly developed quality standards when employing treatment pressures. These standards include the need to reflect and talk about emotions, carefully appraise and justify coercive interventions, use distal coercive treatment which is situated away from a patient in a wider social environment (e.g. housing or financial leverage), always assess patients' perceptions, and develop a good therapeutic relationship and communication (Widdershoven and Berghmans, 2007).

Research recommendations propose more investigations into the therapeutic relationship and its relationship with perceived coercion (Valenti et al., 2015, Vuckovich, 2009). More qualitative studies are needed to investigate the views of patients and clinicians and contribute to their mutual understanding of adherence. This includes more studies in improved long-term adherence acquired from personal experience of non-adherence (Tranulis et al., 2011) and the long-term outcome of financial incentives (Highton-Williamson et al., 2015).

More evidence is needed for distinctions between different forms of a full range of pressures (from persuasion, personal leverage, inducement to treat and legal compulsion (Szmukler and Appelbaum, 2008), leveraged and non-leveraged pressures to adhere to treatment or to keep well (Canvin et al., 2013)) used in mental health treatment (Canvin et al., 2013, Priebe et al., 2011b). This includes evidence on the coerciveness and outcomes of mental health courts (Griffin et al., 2002). It is also important to identify the range of organisational factors that impact on the use of informal coercion (Lützén, 1998) and the role and outcomes of patients' fear (Sweeney et al., 2015) in mental health care.

In summary, qualitative papers highlighted the vital role of a trustful and collaborative therapeutic relationship for the perception of coercion and adherence to treatment. Coercion may put this at risk but treating patients fairly, listening to them and including them in treatment decisions may reduce perceived coercion. The time patients and clinicians spend in interaction, their emotions, and patients' negative and often coercive experiences at the first episode of psychosis should be considered when using coercion. Many clinicians consider coercion as necessary and effective but they often perceive it as a burden. Decisions to use coercion are often in conflict with the clinician's perception of their caring and supportive role. They prefer persuasion as the least coercive form of informal coercion.

2.4 Conclusion

The most important evidence in this review is the wide spread of treatment pressures in psychiatric services. We have no evidence for its effectiveness and evidence for predictors and outcomes is weak. Qualitative studies suggest that clinicians and patients

believe informal coercion (e.g. persuasion) is effective but only one study investigated it focusing on financial incentives. This may be understandable because testing the effectiveness of informal coercion may be complex and problematic in randomised studies.

Studies on leverage dominate the body of evidence. Qualitative and quantitative studies with both patients and clinicians suggest that persuasion is the most prevalent and desirable form of pressure but only a handful of papers investigated it. These studies, however, are based on small samples or secondary data analyses.

There is consistent support for the central role of a therapeutic relationship in reducing perceived coercion. Quantitative studies do not, however, provide evidence for the relationship between coercion, a therapeutic relationship and engagement. Clinicians are aware of the importance of a therapeutic relationship and many consider coercion necessary. Without evidence, balancing informal coercion and risk for a therapeutic relationship will be based only on clinicians' individual judgments.

The dominance of research from the USA is reflected in studies of leverage which is not entirely "informal" in the USA as it is in societies with greater welfare entitlement (e.g. the UK). We need more evidence from other jurisdictions and practice outside the USA and Europe. 'Informal' status and the complexity of pressures such as persuasion, incentives and threats may be reasons why researchers prioritise legal compulsion.

The problem of unclear and often confusing terminology is now recognised in the literature and recent papers increasingly adopt common but still unclear terminology.

Many papers use none or only the AES scale, although inconsistently, for the assessment of perceived coercion. There is an urgent need for good and internationally validated scales assessing informal coercion and perceived coercion. That may reduce problems with the difficult nonlinear variables consistently presented in papers.

It seems that all pressures may be either coercive or non-coercive. It is broadly accepted that coercion is a continuum but there is no evidence as to the coerciveness of different forms of pressures. Their coerciveness and prevalence, like their justification, are also context dependent. Great variations between sites in many studies suggest that service organisational factors may affect the prevalence and the perception of coercion.

Ethical papers increasingly offer more structured guidance for ethical consideration. Studies, however, suggest that many clinicians do not recognise or feel uncomfortable about informal coercion. This may impact their reports in studies. Clinicians should be educated about all pressures on the continuum to increase their awareness and ethical considerations.

Recommendations for clinical practice to address emotions, discuss benefits and risks of decisions, and invest in collaborative decision making are generally supported. How they can be accommodated in a hectic and busy community setting and with patients' lack of capacity is not entirely addressed. Informal coercion is problematic because it is not regulated. Safeguards and professional guidance are useful but is it realistic to expect regulation of treatment pressures such as persuasion?

The evidence is small but is growing. It has confirmed the broad use of informal coercion in mental health care. Major challenges, however, remain for future research and clinical practice. First we need to clarify terminology, operationalise treatment

pressures, and develop validated measures and methodologies for international use. This will ensure the high-quality of international empirical evidence on all forms of pressures, their effectiveness, and predictors including investigation of relevant service organisational factors. Clinicians should reflect on the reality of recommended changes in practice and increase their awareness of all forms of informal coercion to enhance their recognition and justification.

Chapter 3 Association of legal compulsion with informal coercion

3.1 Introduction

3.1.1 Legal compulsion

The supervision of compulsory treatment of mentally ill patients in the UK was first formally legislated for in the Lunacy Act 1890. The 1930 Mental Health Act (MHA) introduced voluntary admissions to hospital. Legal compulsion is no longer restricted to detention in a psychiatric hospital. With deinstitutionalisation several provisions such as 'guardianship orders', 'leave of absence' and 'supervised discharge' were introduced in the 1983 MHA (Department of Health, 1983). These powers were introduced to ensure patients' adherence with treatment, and to give clinicians more power to supervise patients to comply with their care plan. In England and Wales these powers were further expanded by the introduction of Community Treatment Orders (CTO) in 2008.

Compulsion is therefore now possible in both community and hospital settings. CTOs oblige patients to comply with specified conditions relating to broader aspects of life beyond medication or treatment activities. In parallel, more assertive forms of treatment have also evolved, which increases monitoring of patients in the community (e.g. Assertive Outreach Teams). The extension of community services to different aspects of a patient's life has led to the use of various treatment pressures (e.g. CTO conditions) related to contact with services, accommodation, education, occupation, finance management and childcare.

Complex requirements may be imposed on patients in both hospital and community settings. These include accepting that they are ill and need medical treatment, that noncompliance is not acceptable, that offered (evidence based) care is the only treatment they will receive, and that specific conditions for care and risk management plans apply (Godin, 2000). These complex demands reflect significant control over patients in modern mental health care (Diamond, 1995). Paradoxically, it appears that, the development of community psychiatry has led to an increased use of coercion with patients.

Treatment in the community introduces challenges for clinicians. In a society increasingly concerned with safety and risk, the public and media often blame clinicians and mental health services for violence or even homicide committed by psychiatric patients (Szmukler and Appelbaum, 2008). Clinicians have responded by attempting to reduce such risks to others and are now criticized for the overuse of power and coercion (Szmukler and Appelbaum, 2008, Watts and Priebe, 2002).

3.1.2 Informal coercion

CTOs are only one of several tools to improve patients' adherence to treatment in the community (Monahan et al., 2005). As clinicians are encouraged to avoid legal compulsion they may rely more on informal coercion. Patients may experience various forms of informal coercion (e.g. persuasion, leverage, threats) during both compulsory and voluntary treatment (Hoge et al., 1997, Lidz et al., 1995, Katsakou et al., 2011) both in hospital and in the community.

There are many potential sources of informal coercion. Clinicians, housing officers, family members, friends, and anyone involved in patient care may use it, but clinicians

are the most common source (Lidz et al., 2000, Robbins et al., 2009, Rogers, 1993). In contrast, legal compulsion is restricted to approved professionals.

Informal coercion can be subtle and not immediately obvious to either patient or clinician. In an attempt to improve patients' compliance and avoid legal compulsion clinicians may create a 'coercive context' by using coercive language (e.g. "you must…") or manipulation of information. For instance, by keeping ward doors locked clinicians use a voluntary patient's lack of knowledge about their legal rights (Sjöström, 2006). Use of such a coercive context is possible in all settings where legislation allows compulsory treatment as it 'reminds' patients of the possibility of compulsion (Sjöström, 2006, Appelbaum, 2001). Whether these subtle forms of coercion are used differently for voluntary and involuntary patients has not been investigated.

Legal compulsion and informal coercion both aim to increase patient adherence to treatment. Addressing their ethical issues needs evidence of the extent of their use and how they relate to each other.

A handful of studies have reported the relationship between CTOs and various forms of informal coercion such as leverage. Leverage and CTOs are often used together in the USA (e.g patients under CTO often have a representative payee who manages their finance or they live in accommodation where treatment adherence is a requirement of their lease). In a study in the USA, almost two thirds of patients under CTO or a related civil court order had lifetime experience of at least one type of leverage (Swartz et al., 2006). Non-adherent patients with a representative payee who were under CTO perceived their treatment to be more coercive than patients with neither of these pressures or those who were adherent (Elbogen et al., 2003a). The authors suggested

that clinicians and family members were more comfortable using ‘money warnings’ (financial leverage) when patients were under multiple legal treatment pressures in the USA (e.g. CTO and housing leverage) (Elbogen et al., 2003b).

The prevalence and forms of treatment pressures reported by clinicians vary. Their choice of treatment pressures (e.g legal compulsion and various forms of informal coercion) is adjusted to patient characteristics and the context (e.g. what is available in a particular service) (Angell, 2006). How that context is related to the form of pressure applied and particular patients is unknown.

Most patients experience compulsion negatively (Cascardi and Poythress, 1997, Katsakou et al., 2011, Kjellin et al., 2004, Rogers, 1993, Thøgersen et al., 2010). However, subjective perception of coercion does not always match objective coercion (e.g. legal compulsion) (Hoge et al., 1997, Lidz et al., 1995). Patients may often be subjected to formal and informal coercion simultaneously in interactions with clinicians.

None of the three published studies of the prevalence of leverage tested the relationship with formal status (Burns et al., 2011, Jaeger and Rossler, 2010, Monahan et al., 2005). There are two possible scenarios. The first is that legal compulsion could lead to reduced informal coercion by replacing it to achieve treatment adherence. Legal compulsion would sufficiently improve engagement and treatment adherence, and hence reduce the need for informal coercion. If informal coercion is reduced with formal compulsion, this could be considered as a positive outcome of such compulsion. Alternatively legal compulsion could increase reported informal coercion due to the adoption of an overall more coercive style of treatment by clinicians (Elbogen et al.,

2003b, Swartz et al., 2006). This interpretation is not so straightforward, however. The use of informal coercion might also be higher because the patients receiving compulsory treatment are more ill.

The study described in this chapter will investigate only one form of informal coercion - *leverage*. It will test for associations of reported leverage among patients with and without experience of legal compulsion. This will be examined for a sample of patients from ULTIMA and OCTET, and in exploratory analyses for each sample. The experience of legal compulsion of ULTIMA patients was predominantly in hospital because most of them were recruited before the introduction of CTOs in England and Wales.

3.2 Research Questions

3.2.1 Main research question

Is reported leverage associated with the experience of any legal compulsion in mental health treatment?

3.2.2 Exploratory research questions

Is reported leverage associated with experience of any legal compulsion among ULTIMA patients?

Is reported leverage associated with experience of any legal compulsion among OCTET patients?

3.3 Methods

3.3.1 Design

This is an observational retrospective cohort study with a six-month follow-up. Community patients were interviewed in their homes or at their clinical team base. Data on the legal status of their treatment over the six months prior to the interview was obtained from their medical records. Data relates to the six months before interview for the ULTIMA patients and to the six months leading up to the twelve-month follow-up interview for the OCTET patients (Box 1, page 28 & Box 2, page 30).

Patients were recruited from 179 community mental health services (e.g. CMHT, AOT, Crisis Intervention Teams) in 32 Mental Health NHS Trusts in England. Catchment areas for the sample include urban and rural areas. The ULTIMA study received ethical approval from the Oxfordshire Research Ethics Committee A, (Ref. No. 05/Q1604/180) and the OCTET study from the Staffordshire National Health Service (NHS) Research Ethics Committee (Ref. No. 08/H1204/131).

3.3.2 Sample

The full sample of 515 psychosis patients comprised 198 ULTIMA patients and 317 OCTET patients. All participating patients provided signed written and informed consent. Recruitment procedures for ULTIMA and OCTET and inclusion and exclusion criteria for each study are described in Chapter 1, page 25. The inclusion criteria for this study were (i) enrolment in ULTIMA or OCTET, (ii) diagnosis of psychosis, (iii) aged 18-65, (iv) care by a community mental health service for at least six months prior to recruitment. Exclusion criteria were inadequate proficiency in English for interview

(ULTIMA), learning disability or dementia. For OCTET patients an additional exclusion criteria was hospital stay over the whole study period. The majority of the ULTIMA study participants were recruited before the OCTET RCT commenced. As a patient could only participate in the present study once, those in OCTET who had participated in ULTIMA were excluded.

Recruitment

OCTET and ULTIMA patients were approached by their clinicians and asked for permission to be contacted by a researcher who was independent of their care. Those who agreed met the researcher who explained the study. Patients who wished to participate in the study provided signed written consent. This was followed by the research interview administered by the independent researcher. Patients were reimbursed for their time.

3.3.3 Data collection

Data was collected through interviews with patients at their home, their clinical team base or in a hospital ward for those OCTET patients who were readmitted at the time of the interview. The interview consisted of questions on sociodemographic and clinical characteristics, clinical and criminal history, experiences of leverage (MacArthur Leverage Interview), and standardized research instruments for assessment of the severity of illness (BPRS), global functioning (GAF), substance abuse (CAGE), satisfaction with services (CSQ-8), and insight (ITAQ). Data on the legal status of inpatient and outpatient treatment during the six-month period preceding the interview were obtained and other clinical characteristics were verified in medical records.

Measures

Appendix 2 contains all measures used in this study.

MacArthur Leverage Interview

The MacArthur Leverage Interview (Monahan et al., 2005) is a self-reported, 12-item questionnaire for the assessment of patients' experience of lifetime and recent (last six months) leverage to adhere to mental health treatment. Four specific forms of leverage were assessed. They were defined as making support or social welfare ((i) housing, (ii) finance, (iii) childcare/custody)) or (iv) criminal sanctions (reduced/dropped charges or avoiding prison) provisions contingent on treatment adherence. Responses are binary (yes/no), and each form of leverage is assessed by (i) two questions related to a lifetime experience, and (ii) one question confirming experience of leverage in the last six months. Experience of at least one form of leverage (housing, finance, clinical justice or childcare) indicated overall experience of 'any leverage'.

Brief Psychiatric Rating Scale (BPRS)

The Brief Psychiatric Rating Scale (BPRS) (Lukoff et al., 1986) is a researcher/clinician-rated 24-item scale assessing the severity of symptoms of psychosis experienced over the previous two weeks. Fourteen domains (somatic concern, anxiety, depression, suicidality, guilt, hostility, elevated mood, grandiosity, suspiciousness, hallucinations, unusual thought content, bizarre behaviour, self-neglect and disorientation) are rated on the basis of a patient's reports during a semi-structured interview, and the remaining ten domains (conceptual disorganisation, blunted affect, emotional withdrawal, motor retardation, tension, uncooperativeness, excitement, distractibility, motor hyperactivity, mannerisms and posturing) on a researcher's

observation of the patient during the interview. Rating for each item ranges from 1 (not present) to 7 (extremely severe). The total score is the sum of ratings across the 24 symptom-domains and it ranges from 24 to 168. A higher score indicates more severe symptoms.

Global Assessment of Functioning (GAF)

The Global Assessment of Functioning (GAF) (American Psychiatric Association, 1994, Goldman et al., 1992) is a research/clinician–rated, single rating of a patient's psychological, social and occupational functioning. Rating range from 1 (severe life-threatening impairment in functioning) to 100 (superior functioning). A higher score indicates better functioning.

CAGE

CAGE for alcohol and drug abuse (Brown and Rounds, 1994, Ewing, 1984) comprises self-reported two four-item screening questionnaires for alcohol and drug abuse covering the 30 days prior to interview. Responses are binary (yes/no) and two or more positive responses on either scale indicate alcohol or drug abuse. A maximum score in each area is 4. Patients who had not consumed substances were scored as 0.

Client Satisfaction Questionnaire (CSQ-8)

The Client Satisfaction Questionnaire (CSQ-8) (Larsen et al., 1979) is a self-administered, eight-item questionnaire for the assessment of a patient's satisfaction with health services. Responses on a four-point Likert scale range from 1 to 4. A total score is obtained by summing these responses, ranging from 8 (low satisfaction) to 32 (high satisfaction). A higher score indicates higher satisfaction.

ITAQ

The Insight and Treatment Attitudes Questionnaire (ITAQ) (McEvoy et al., 1989) is a self-reported 11- item questionnaire assessing patients' awareness of their past, present and future mental health problems, and their need for treatment. Responses are zero (no) for no insight, 1 (possibly), and 2 (yes) for good insight. A total score ranges from 0 (no insight) to 22 (full insight). The ITAQ scores can be obtained separately in two subscales. The Awareness of Illness Subscale score ranges from 0-10 and the Attitude to Treatment Subscale score from 0-12. Higher scores indicate better insight and awareness.

3.3.4 Data management

Data collected through interviews with patients and from medical records were recorded in case report forms and double-entered by different researchers. Data were entered and cleaned using the Statistical Package for Social Sciences (SPSS 21.0) (IBMCorp., Released 2012). Data from both entries were checked for discrepancies using Microsoft Office Access 2010 and checked for consistency and range in separate ULTIMA and OCTET databases. They were merged before the analysis.

3.3.5 Outcome and predictor variables

In the analysis presented below, the outcome variable is the subjective experience of leverage. This is a binary measure (experienced leverage vs. no experience of leverage) defined as an experience of *any* leverage (at least one of four forms of leverage: housing, financial, criminal justice and childcare leverage) over the six-month period prior to interview.

I calculated the experience of leverage in two steps. First I established whether patients have reported any of the four types of leverage in the last six months. Two slightly different questions (Appendix 2) were asked for the lifetime experience of each form of leverage. If either of the two responses was positive, a third question was asked (whether this was experienced in the last six months). In this second step at least one positive response for at least one of the four forms of leverage was considered experience of leverage for this study.

Two independent variables were defined before the study, (i) experience of legal compulsion, and (ii) duration of legal compulsion. The experience of compulsion defined as at least one day of involuntary treatment during the preceding six months was a binary measure (experience of legal compulsion vs. no experience of legal compulsion). A six-month period was defined as 183 days. Legal compulsion was defined as experience of either or both involuntary hospitalisation (MHA Section 2, 3, 4, 136, 37, 40/48) and community compulsion (CTO, MHA Section 17a). The duration of legal compulsion was a count variable defined as the number of days spent under any legal compulsion over the six-month period prior to interview. It was thus calculated as the sum of the days of involuntary hospitalisation (MHA Section 2,3,4,136, 37, 40/48) and the number of days of the CTO treatment in the community over the six-month period preceding the day of the interview (Box 2, page 30).

3.3.6 Statistical analysis

A detailed statistical analysis plan was written before commencing the analysis. All analyses were performed using Stata statistical software (Stata/SE 12) (StataCorp., 2011). A descriptive statistical analysis was conducted for baseline sociodemographic

and clinical characteristics and for outcome and predictor variables. Before conducting the descriptive analyses I evaluated the normality of distributions and outliers for all continuous variables using histogram, box-and-whisker plots, and QQ plot (quantile plot). The normality of distribution for continuous variables was tested for ULTIMA, OCTET and the total sample. Mean and standard deviation (SD) were calculated for normally distributed variables, and median and interquartile range (IQR) for variables not normally distributed. For outcome and predictor variables both mean (SD) and median (IQR) were reported due to skewed distributions with a number of outliers. I tested for potential differences in sociodemographic and clinical characteristics between ULTIMA and OCTET samples. An independent-sample t-test was used when comparing normally distributed variables and a two-proportion chi-squared test for the comparison of proportions. The Mann-Whitney test was used for non-normally distributed continuous variables and ANOVA for categorical variables. Statistical significance was set at 0.05.

3.3.6.1 Main analysis

I conducted the data analysis in two steps. First I identified potential confounders using internal and external empirical methods (McNamee, 2003). As recommended in the guidelines for reporting observational studies (STROBE statement) (von Elm et al., 2007) I will describe the methods used to identify potential confounders. I used two empirical approaches, *external* and *internal* (McNamee, 2003). I tested the baseline characteristics of patients (n=515) to identify potential confounders that needed to be taken into account in the main analysis (internal). The identification of other potential confounders was expanded by a review of the literature (external). I verified the final list of confounders by fitting the univariate logistic regression model for each baseline

characteristic (independent variable) and leverage and legal compulsion (dependent variables).

I fitted a univariate logistic model between predictor (experience of legal compulsion) and outcome variable (leverage). The baseline characteristics of the total sample were individually supplemented to the univariate model. For each model with predictor, outcome and one baseline characteristic (potential confounder) I compared its odds ratio (OR) with the OR of the univariate model. If there was a change of 10% and more in the OR of the main predictor after the inclusion of the potential confounder than this confounder was included in the multivariate analysis (Rothman et al., 2008). These potential confounders were added to the list of predictors of leverage identified in the published literature (Burns et al., 2011, Jaeger and Rossler, 2010, Monahan et al., 2005) and they were used as a group of potential confounders in the main analysis.

Second, the main analysis employed logistic regression to test associations of reported leverage with the experience of legal compulsion adjusted for all identified confounders. The results for adjusted and unadjusted models are presented in OR with 95% confidence intervals (CI) and p-values. P-values of 0.05 and smaller were considered significant. The final model was fitted for the full case sample. Sensitivity analysis was conducted for a complete case sample with no adjustment for confounders with the greatest amount of missing data.

3.3.6.2 Exploratory analysis

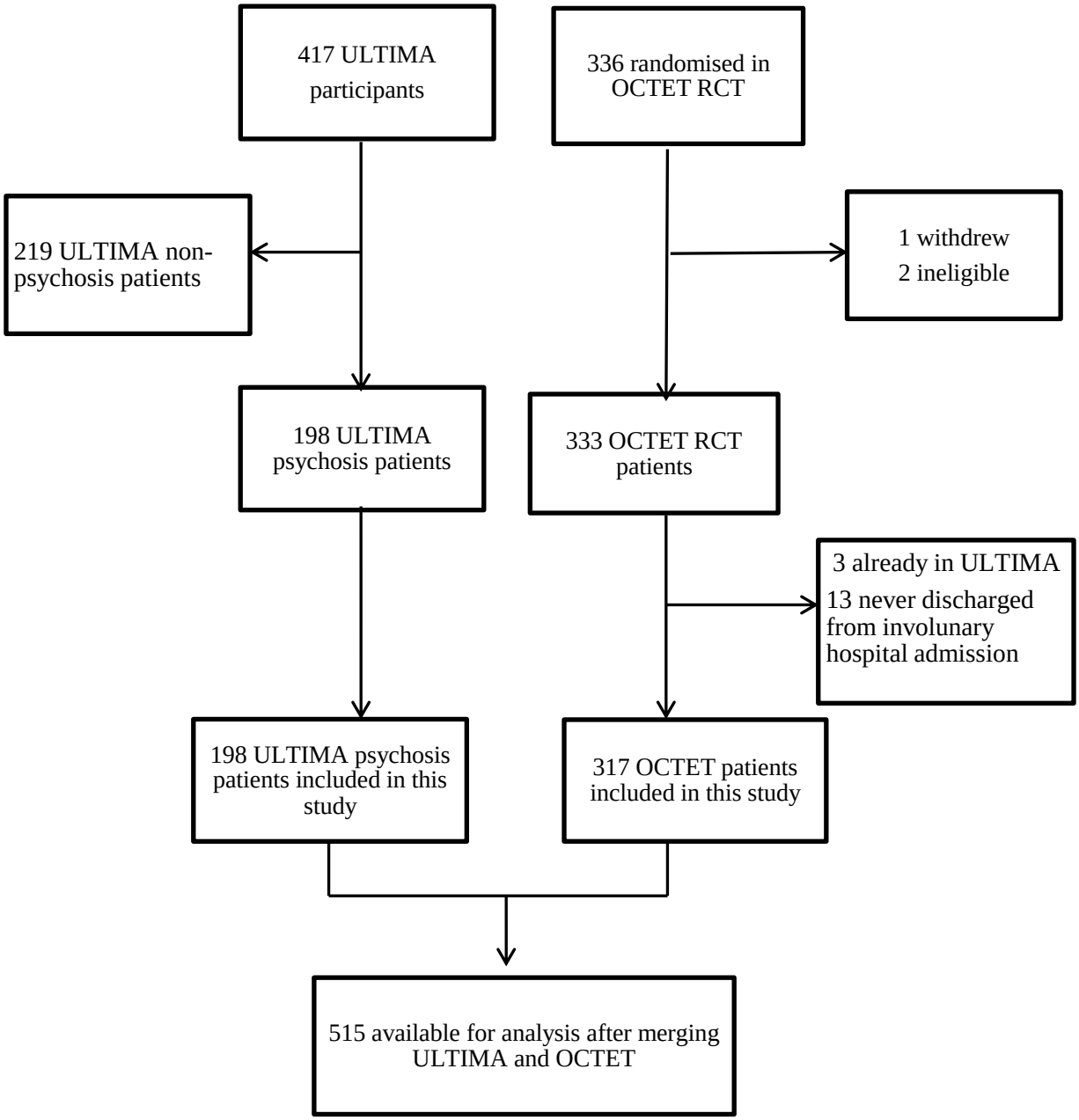
In the exploratory analysis I fitted the logistic regression model for associations between reported leverage and legal compulsion separately for ULTIMA and OCTET samples. Both models were adjusted for confounders used in the main analysis. A sensitivity analysis was conducted for both models using complete case samples. The findings are in OR with 95% CI and p-values for adjusted and unadjusted models.

3.4 Results

3.4.1 Description of the sample

The 198 ULTIMA patients diagnosed with psychosis were included in this study. Of the 336 patients randomised in the OCTET RCT, one withdrew and two were excluded after randomisation because they were found to be ineligible. For the present study, a further three patients were excluded as they had been recruited in the ULTIMA sample and 13 because they stayed in hospital under legal compulsion for the duration of the RCT. I therefore included 317 OCTET patients in this study. The total sample for this study included 515 psychosis patients (Figure 6).

Figure 6 Patient flow for merging of the ULTIMA and OCTET samples



Summary of baseline characteristics for the whole sample (n=515)

Descriptive sociodemographic and clinical characteristics of the whole sample at baseline are presented in Table 5. The mean age was 40.1 years (SD 11.23) and 342 (66%) patients were male. Patients were predominantly white (355, 69%), born in the UK (411, 80%), single (378, 73%), living alone (356, 71%), in independent accommodation (388, 76%) and unemployed (489, 95%). The median length of general education was 11 years (IQR 11, 13) and 132 (26%) had at least one year of tertiary education. The majority of patients suffered from schizophrenia (414, 80%) and had done so for a median 13 years (IQR 7, 21). Most had more than two previous admissions to hospital (371, 75%) and many were previously admitted involuntarily (446, 87%). They had serious impairment in global functioning with a GAF mean score of 45.6 (SD 13.99) and moderately severe symptoms (BPRS median score 39 (IQR 32, 47)), but not many were screened positive for alcohol and drug abuse (41, 8% and 42, 8% respectively). More than a third of patients (185, 38%) reported a lifetime experience of leverage.

3.4.1.1 Summary of baseline characteristics of the ULTIMA and OCTET samples

ULTIMA

The ULTIMA sample (n=198) baseline characteristics are summarised in Table 6. They were predominantly white (162, 82%), male (130, 66%) and with a mean age 40.9 years (SD 10.53). The majority were born in the UK (170, 86%), spent a median 11 years in general education (IQR 11, 13), 52 (27%), had at least a year of tertiary education, and 22 (11%) were employed. 141 (71%) were single, 128 (65%) were

living alone and 160 (81%) had independent accommodation. Almost three quarters had a diagnosis of schizophrenia (145, 73%) with a median duration of illness of 15 years (IQR 9, 23).Two thirds of participants had more than two hospitalisations in the past (131, 67%) and 138 (70%) were previously involuntarily admitted. A small number of patients reported abusing alcohol (27, 14%) and drugs (16, 8%) and they had moderate difficulty in functioning (GAF mean score 56.4 (SD 13.32)) and severity of symptoms (BPRS median score 41 (IQR 34, 49)). One third of patients (68, 34%) reported a lifetime experience of leverage.

OCTET

Table 6 displays baseline characteristics of the of the OCTET patients (n=317). The mean age was 39.7 (SD11.63). The majority of patients were male (212, 67%), white (193, 61%) and born in the UK (241, 76%). They had a median of 11 years general education (IQR 11, 13) and one quarter had at least one year of tertiary education (80, 25%). Most were single (237, 75%), living alone (228, 76%) and in independent accommodation (228, 72%). Almost all were unemployed (315, 99%). 269 (85%) had a diagnosis of schizophrenia and the median duration of illness was 12 years (IQR 6, 20). The majority of patients had been admitted twice and more (240, 81%) and almost all (308, 97%) were admitted involuntarily in the past. A small proportion of patients reported alcohol (48, 5%) and drug (26, 9%) abuse. The mean GAF score was 39.0 (SD 9.56) and the median BPRS score was 36.5 (IQR 30, 46). 117 (40%) of OCTET patients had a lifetime experience of leverage.

Table 5 Patients baseline characteristics for the total sample

	Missing	Total sample (N=515)	
		n Mean Median	(%) SD [IQR]
Age	0	40.1	(11.23)
Male	0	342	(66%)
Ethnicity	0		
White	-	355	(69%)
Black	-	87	(17%)
Asian	-	37	(7%)
Mixed and other	-	36	(7%)
Born in Great Britain	1	411	(80%)
General education, *years*	8	11	[11,13]
Entered tertiary education	6	132	(26%)
Marriage			
Married	0	55	(11%)
Single	-	378	(73%)
Other	-	82	(16%)
Children under 18yrs old	11	118	(23%)
Accommodation	2		
Independent	-	388	(76%)
Supported	-	92	(18%)
Homeless	-	33	(6%)
Living situation	17		
Alone[1]	-	356	(71%)
With family/partner	-	124	(25%)
With others	-	18	(4%)
Employed	2	24	(5%)
Diagnosis	0		
Schizophrenia	-	414	(80%)
Other psychosis diagnoses	-	101	(20%)
Duration of illness, *years*	8	13	(7, 21)
More than two previous hospitalisation	21	371	(75%)
Previous involuntary hospitalisation	0	446	(87%)
Previous imprisonment	23	116	(24%)
MH service	0		
AOT	-	215	(42%)
CMHT	-	252	(49%)
Other (e.g. crisis team, rehabilitation)	-	48	(9%)
CAGE alcohol	25	41	(8%)
CAGE drug	19	42	(8%)
Global functioning (GAF)	38	45.6	(13.99)
Severity of illness (BPRS)	87	39	[32, 47]
Insight (ITAQ)	70	16	[11, 19]
Lifetime leverage	25	185	(38%)

[1]Includes patients in independent, homeless and supported accommodation

-=n/a

Table 6 Patients baseline characteristics by study group

	ULTIMA (n=198)		OCTET (n=317)		
	n, Mean Median	(%), (SD) [IQR]	n, Mean Median	(%), (SD) [IQR]	p-value
Age	40.9	(10.53)	39.7	(11.63)	0.215
Male	130	(66%)	212	(67%)	0.775
Ethnicity					<0.001
White	162	(82%)	193	(61%)	-
Black	14	(7%)	73	(23%)	-
Asian	9	(4%)	28	(9%)	-
Mixed and other	13	(7%)	23	(7%)	-
Born in Great Britain	170	(86%)	241	76%	0.008
General education, *years*	11	[11,13]	11	[11,13]	0.470
Tertiary education	52	(27%)	80	(25%)	0.808
Marriage					
Married	29	(15%)	26	(8%)	0.061
Single	141	(71%)	237	(75%)	-
Other	28	(14%)	54	(17%)	-
Children under 18yrs	44	(23%)	74	(24%)	0.759
Accommodation					
Independent	160	(81%)	228	(72%)	0.001
Supported	35	(18%)	57	(18%)	-
Homeless	3	(1%)	30	(10%)	-
Living situation					
Alone[1]	128	(65%)	228	(76%)	0.002
With Family/partner	57	(29%)	67	(22%)	-
With others	13	(6%)	5	(2%)	-
Employed	22	(11%)	2	(<1%)	<0.001
Diagnosis					0.001
Schizophrenia	145	(73%)	269	(85%)	-
Other psychosis	53	(27%)	48	(15%)	-
Duration of illness, *years*	15	[9, 23]	12	[6,20]	0.002
More than two previous hospitalisation	131	(67%)	240	(81%)	<0.001
Previous involuntary hospitalisation	138	(70%)	308	(97%)	<0.001
Previous imprisonment	37	(19%)	79	(27%)	0.041
MH service					
AO	97	(49%)	118	(37%)	<0.001
CMHT	101	(51%)	151	(48%)	-
Other (e.g. crisis)	0	(0%)	48	(15%)	-
CAGE alcohol	27	(14%)	14	(5%)	0.001
CAGE drug	16	(8%)	26	(9%)	0.801
GAF	56.4	(13.32)	39.0	(9.56)	<0.001
BPRS	41	[34, 49]	36.5	[30,46]	0.001
ITAQ[4]	18	[15,20]	14	[7,18]	<0.001
Lifetime leverage	68	(34%)	117	(40%)	0.200

[1]Includes patients in independent, homeless and supported accommodation.

- =n/a

3.4.1.2 Comparison of the ULTIMA and OCTET samples

Differences in baseline characteristics between the ULTIMA and OCTET patients are presented in Table 6. In summary the OCTET sample was more ethnically diverse than the ULTIMA sample (OCTET white 193 (61%), black 73 (23%), Asian 28 (9%), mixed and other 23 (7%) vs. ULTIMA white 162 (82%), black 14 (7%), Asian 9 (4%) and mixed and other 13 (7%), p <0.001). There were more homeless (30, 10%) and less patients in independent accommodation (228, 72%) in the OCTET sample than in the ULTIMA sample (3, 1% and 160, 81% respectively, p=0.001). A larger proportion of the OCTET sample was living alone (228, 72% vs. 128, 65%) than with family (67, 22% vs. 57, 29%) or others (5, 2% vs. 13, 6%, p=0.002) compared with the ULTIMA sample, but the ULTIMA sample had more employed patients than OCTET (22, 11% vs. 2, <1%, p<0.001). The OCTET sample had a larger proportion of patients with more than two previous hospitalisations (240, 81% vs. 131, 67%, p<0.001), history of involuntary hospitalisations (308, 97% vs. 138, 70%, p<0.001) and imprisonments (79, 27% vs. 37, 19%, p=0.041) and they had lower scores in GAF (mean 39.0 (SD 9.56) vs. 56.4 (SD 13.32), p<0.001).

3.4.2 Main results

3.4.2.1 Confounders

The *external approach* of searching published papers for the most commonly reported predictors for 'any leverage' identified a history of multiple hospital admissions, diagnosis, severity of symptoms (BPRS) and functioning (GAF) (Box 4) (Burns et al., 2011, Jaeger and Rossler, 2010, Jäger and Rössler, 2009, Monahan et al., 2005).

Box 4 Potential confounders from literature and in the study sample		
Externally identified (from literature) confounders	**Internally identified confounders**	**Final list of confounders**
history of multiple hospital admissions	living situation	living situation
diagnosis	history of two and more previous hospital admissions	history of two and more previous hospital admissions
global functioning (GAF)	previous imprisonment	previous imprisonment
severity of symptoms (BPRS)	type of service	type of service
	global functioning (GAF)	diagnosis
		global functioning (GAF)
		severity of symptoms (BPRS)

In the *internal approach* the univariate logistic regression of experiences of legal compulsion and reported leverage generated OR=2.043. Each sociodemographic and clinical baseline variable was individually added to the model which would comprise leverage as a dependent variable and two independent variables (legal compulsion and one baseline or clinical characteristic). For each model OR was compared with the univariate OR=2.043. Table 7 reports the percentage of change for the difference between the two ORs for each baseline characteristic. The following confounders

increased or decreased the univariate OR (OR=2.043) by 10% or more: living situation, history of two and more previous hospital admissions, previous imprisonment, type of service, and global functioning (GAF) (Box 4, page 190).

Table 7 Contribution of potential confounders in the change of OR[1] for univariate associations between legal compulsion and leverage

	Odds ratio in the model	Percentage of change contributed by potential confounder in the model
Age	2.0376	<1%
Male	2.0532	<1%
Ethnicity	2.0263	<1%
Born in Great Britain	2.0585	<1%
Years of general education	2.0899	2%
Entered tertiary education	2.0316	<1%
Married	2.0081	2%
Children under 18yrs old	2.0112	2%
Accommodation	-	-
Independent	1.9887	3%
Living situation, *living alone*	1.7946	12%
Employment	1.9776	3%
Diagnosis		
Schizophrenia	1.9224	6%
Other psychosis	-	-
Duration of illness, *years*	1.9893	3%
More than two hospital admissions	1.7963	12%
Previous involuntary admissions	1.9705	3%
Previous imprisonment	1.7782	13%
MH service	1.8382	10%
GAF	1.6125	21%
BPRS	1.8823	8%

[1]OR for univariate logistic regression (without confounders) = 2.0430

The list of potential confounders identified in the literature was expanded with those identified for the study sample (Box 4). The final list of confounders thus consisted of: living situation, previous imprisonment, type of service, history of two or more hospital

admissions, diagnosis, severity of symptoms (BPRS), and functioning (GAF). These factors were used to adjust the main and exploratory analyses.

I verified the list of confounders using a second procedure (Rothman et al., 2008). I tested independent associations of baseline characteristics individually with leverage and experience of legal compulsion. Baseline characteristics with independent associations with both predictor and outcome were considered as confounders. I identified the same list of confounders.

3.4.2.2 Informal coercion and legal compulsion

Leverage rates and experience of legal compulsion during the preceding six months are summarised in Table 8. 85 (21%) of patients reported leverage. Almost half of the sample (242, 47%) experienced treatment under legal compulsion for a median of 181 days (IQR 61, 183) among those with compulsion. 103/515 (20%) of patients (mostly all OCTET) had no responses for experience of leverage. There were no differences in baseline characteristics of patients with and without leverage data except for employment, experience of involuntary hospital admission and drug abuse.

Duration of compulsion was not normally distributed either overall or for those with experience of legal compulsion. Half of the sample had no experience of legal compulsion and thus zero days, and many of those with experience were under compulsion for long periods (e.g. six months). This produced a ‘U’ shaped distribution of duration of compulsion. Attempts at log transformations and transforming this variable in quartiles or quintiles did not produce a satisfactory distribution. I considered dichotomisation of this variable (patients with duration of legal compulsion above median vs. patients with duration of legal compulsion equal or shorter).

Dichotomisation would produce a very similar variable to the already existing binary variable *experience of compulsion.* After consultation with statisticians and my supervisor I decided to exclude duration of legal compulsion from this study. I therefore included only one independent variable (experience of compulsion) in the regression analysis.

Table 8 Legal compulsion and leverage in the last six months.

	N	n[1]	(%)	Mean	(SD)	Median	[IQR]
Legal compulsion	515	242[2]	(47%)	-	-	-	-
Overall duration of compulsion,[3] *days*	515	-	-	60.5	(78.60)	0	[0, 181]
Duration of compulsion in compelled sample,[4] *days*	242	-	-	128.7	(66.08)	181	[61,183]
Leverage	412	85	(21%)	-	-	-	-

[1] Number of events.
[2] 145 (60%) had CTO.
[3] Among all participants.
[4] Among participants with experience of legal compulsion.

3.4.2.3 Associations of informal coercion (leverage) with legal compulsion

Table 9 shows the results of the unadjusted and adjusted logistic regression for testing associations between experience of leverage and legal compulsion. No evidence was found that patients under legal compulsion report different levels of leverage in the full sample of 412 psychosis patients (OR=1.4050, 95%CI 0.755-2.616, p=0.284). An unadjusted treatment effect presented with an OR=2.0430 (95% CI 1.260-3.312,

p=0.004) was significant but when confounders were included in the model it became non-significant.

Potential confounders were inserted in the model in blocks. First I inserted a *living situation* (sociodemographic characteristic) and the model remained significant. When I inserted *two or more previous hospital admissions* (clinical history) the model became non-significant. Each new block of confounders such as (i) *imprisonment* (criminal history), (ii) *type of service* (service), and (ii) *GAF* and *BPRS* (clinical characteristics), however, slightly reduced the sample size due to missing data in these confounder variables. When the last block of confounders (BPRS and GAF) were entered in the model the sample size dropped from n=388 to n=341. I conducted a sensitivity analysis by fitting the model with an adjustment for all potential confounders except BPRS and GAF for the sample n=341which was reduced because of missing data (Table 10). The sensitivity analysis did not alter the results (adjusted OR=1.3978, 95%CI 0.769-2.540, p=0.272).

Table 9 Associations of legal compulsion with leverage in the last six months.

	Experience of legal compulsion (N=175)[1]	No experience of legal compulsion (N=237)	Unadjusted treatment effect (N=412)		Adjusted treatment effect[2] (N=341)	
	n[3] (%)	n[3] (%)	OR (95%CI)	p-value	OR (95% CI)	p-value
Leverage	48 (27%)[4]	37 (16%)	2.0430 (1.260 – 3.312)	0.004	1.4050 (0.755 -2.616)	0.284

[1] n=96 (55%) of these patients were on CTO during the follow-up.

[2] Adjusted for living situation, history of more than two admissions, imprisonment, type of service, diagnosis, BPRS and GAF.

[3] Number of events

[4] n=28 (58%) of these patients were on CTO during the follow-up.

Table 10 Association of legal compulsion with leverage: sensitivity analysis for missing data[1] (N=341).

	Experience of compulsion N=136[2]	No experience of legal compulsion N=205	Unadjusted treatment effect N=341		Adjusted treatment effect[3] N=341	
	n[4] (%)	n[4] (%)	OR (95%CI)	p-value	OR (95%CI)	p-value
Leverage	32 (24%)[5]	29 (14%)	1.8674 (1.069-3.262)	0.028	1.3978 (0.769-2.540)	0.272

[1] Sample size reduced for participants with missing data for GAF and BPRS.

[2] n=75 (55%) of these patients were on CTO at some point during the follow-up.

[3] Adjusted for living situation, history of more than two admissions, imprisonment, type of service and diagnosis.

[4] Number of events.

[5] n=19 (59%) of these patients were on CTO at some point during the follow-up.

3.4.3 Exploratory analyses results

3.4.3.1 Exploratory analysis of the ULTIMA sample

Informal coercion and legal compulsion

The summary of leverage rates and legal compulsion variables for the ULTIMA sample (n=198) are presented in Table 11. Experience of leverage over six months preceding the interview was reported by 32 (16%) patients. 37 (19%) patients received treatment for their mental illness under legal compulsion at any point over the same period. Overall duration of compulsion had very skewed distribution and the median was 0 days (IQR 0, 0). Among the 37 patients who experienced compulsion the median number of days under compulsion was 111 (IQR 35, 182) and the distribution was neither linear nor normal. As in the main analysis, this duration of compulsion with its 'U' shape distribution was therefore excluded from the analysis.

Associations of informal coercion (leverage) and legal compulsion in the ULTIMA sample

Table 12 presents results of unadjusted and adjusted logistic regressions for associations of legal compulsion with leverage rates. The adjusted model was controlled for the same potential confounders as in the main analysis. Both unadjusted (OR=1.9286, 95%CI 0.807-4.609, p=0.139) and adjusted (OR=0.8995, 95% CI 0.285-2.832, p=0.855) models failed to find associations between legal compulsion and leverage rates.

Table 11 Legal compulsion and leverage in the last six months by ULTIMA and OCTET samples.

	ULTIMA							OCTET							p-value
	N	n	(%)	Mean	(SD)	Median	[IQR]	N	n	(%)	Mean	(SD)	Median	IQR	
Legal compulsion	198	37	(19%)	-	-	-	-	317	205	(65%)	-	-	-	-	<0.001[1]
Overall duration of compulsion,[2] *days*	198	-	-	19.3	(49.22)	0	[0,0]	317	-	-	86.1	(82.56)	61	[0,181]	<0.001[3]
Duration of compulsion for compelled sample,[4] *days*	37	-	-	103.4	(65.77)	111	[35, 182]	205	-	-	133.2	(65.26)	181	[70,183]	0.029[3]
Leverage	198	32	(16%)	-	-	-	-	214	53	(25%)	-	-	-	-	0.031[1]

[1] Pearson Chi square test.
[2] Among all participants.
[3] Wilcoxon rank-sum (Mann-Whitney) test.
[4] Among participants with experience of legal compulsion.

Table 12 Associations of legal compulsion with leverage in ULTIMA sample.

	Experience of legal compulsion N=37		No experience of legal compulsion N=161		Unadjusted treatment effect N=198		Adjusted treatment effect[1] N=179	
	N	**n[2] (%)**	**N**	**n[2] (%)**	**OR (95%CI)**	**p-value**	**OR (95% CI)**	**p-value**
Leverage	37	9 (24%)	161	23 (14%)	1.9286 (0.807 – 4.609)	0.139	0.8995 (0.285 – 2.832)	0.855

[1] Adjusted for living situation, history of more than two admissions, imprisonment, type of service, diagnosis, GAF and BPRS.

[2] Number of events.

Table 13 Association of legal compulsion with leverage for ULTIMA sample: sensitivity analysis for missing data[1].

	Experience of compulsion N=32		No experience of legal compulsion N=149		Unadjusted treatment effect N=181		Adjusted treatment effect[2] N=179	
	N	**n[3] (%)**	**N**	**n[3] (%)**	**OR (95%CI)**	**p-value**	**OR (95%CI)**	**p-value**
Leverage	32	7 (22%)	149	21 (14%)	1.7067 (0.656-4.443)	0.273	1.0824 (0.361-3.246)	0.888

[1] Sample size reduced for participants with missing data for GAF and BPRS.

[2] Adjusted for living situation, history of more than two admissions, imprisonment, type of service and diagnosis.

[3] Number of events.

The sample size dropped from n=198 to n=179 when BPRS and GAF were included in the model as potential confounders. As in the main analysis a sensitivity analysis was conducted for the reduced sample with no missing data (n=179) and with no adjustment for BPRS to test whether the results are affected by sample size decline. The sensitivity analysis did not change the result (OR=1.0824, 95%CI 0.361-3.246, p=0.888) (Table 13).

3.4.3.2 Exploratory analysis with the OCTET sample

Informal coercion and legal compulsion

Rates of leverage and legal compulsion in the OCTET sample (n=317) are shown in Table 11. Only 214 OCTET patients had responses for experience of leverage and 103 had missing data for this variable. A quarter of those who responded (53, 25%) reported leverage in the six months prior to the interview. In the same time period two thirds of all 317 patients (205, 65%) were treated under legal compulsion. The overall median duration of compulsion was 61 days (IQR 0, 181) and for those who had experienced compulsion it was 181 days (IQR 70, 183). The problematic variable duration of compulsion has been dropped from the analysis for the same reasons as in the main and the ULTIMA exploratory analysis (see page 192).

Associations of leverage and legal compulsion for OCTET sample

Unadjusted and adjusted logistic regression results for association between experience of legal compulsion and reported leverage are presented in Table 14. No evidence was found that patients under legal compulsion report a different level of leverage compared with voluntary patients (OR=1.3144, 95%CI 0.539-3.204, p=0.548). The logistic

regression model was adjusted for the same potential confounders as in the main and the exploratory ULTIMA analyses (see Box 4, page 190). The ULTIMA sample size in the adjusted model also dropped after BPRS and GAF were entered. A sensitivity analysis for the reduced sample with no missing data (n=162) and with no adjustment for BPRS and GAF did not alter the result (OR=1.4416, 95%CI 0.604-3.441, p=0.410) (Table 15).

3.4.3.3 Comparison of leverage rates and legal compulsion between ULTIMA and OCTET

As shown in Table 11, the ULTIMA and OCTET samples had significantly different leverage rates and experience of legal compulsion. More OCTET patients received their treatment under longer legal compulsion and more of them experienced leverage compared with the ULTIMA patients. Two thirds of the 317 OCTET sample (205, 65%) and only 37 (19%) of the 198 ULTIMA sample had at least one day of treatment under legal compulsion over the six months (p<0.001). Those in the OCTET sample with experience of compulsion had a median of 181 days (IQR 70,183) under compulsion compared with 111 days (IQR 35, 182) for the equivalent ULTIMA patients (p=0.029). More OCTET than ULTIMA patients reported leverage over six months preceding the interview (53/214 (25%) vs. 32/198, (16%), p=0.031 respectively).

Table 14 Associations of legal compulsion with leverage in OCTET sample.

	Experience of legal compulsion N=205		No experience of legal compulsion N=112		Unadjusted treatment effect N=214		Adjusted treatment effect[1] N=162	
	N	n[2] (%)	N	n[2] (%)	OR (95%CI)	p-value	OR (95% CI)	p-value
Leverage	138	39 (28%)	76	14 (18%)	1.7446 (0.877 – 3.472)	0.113	1.3144 (0.539 – 3.204)	0.548

[1] Adjusted for living situation, history of more than two admissions, imprisonment, type of service, diagnosis, BPRS and GAF.

[2] Number of events.

Table 15 Association of legal compulsion with leverage for OCTET sample: sensitivity analysis for missing data[1].

	Experience of compulsion N=156		No experience of legal compulsion N=89		Unadjusted treatment effect N=175		Adjusted treatment effect[2] N=162	
	N	n[3] (%)	N	n[3] (%)	OR (95%CI)	p-value	OR (95%CI)	p-value
Leverage	111	28 (25%)	64	11 (17%)	1.6254 (0.747 – 3.538)	0.221	1.4416 (0.604-3.441)	0.410

[1] Sample size reduced for participants with missing data for GAF and BPRS.

[2]Adjusted for living situation, history of more than two admissions, imprisonment, type of service and diagnosis.

[3] Number of events.

3.5 Discussion

This study investigated whether patients under legal compulsion report different levels of leverage to voluntary patients. This has been tested for data collected from two samples of community patients with a diagnosis of psychosis in England. No evidence of association between legal compulsion and leverage was found. Separate exploratory analyses of the same relationship among ULTIMA and OCTET patients confirmed this finding. To my knowledge, the present study is the first longitudinal study investigating the simultaneous relationship between formal status (legal compulsion) and reported leverage in community mental health care.

3.5.1 Strengths and limitations

The advantage of the present study is its longitudinal design and the testing of the relationship of any legal compulsion (not only CTO) and leverage over the same period of six months (not lifetime experience). Previous studies were cross-sectional or they investigated the relationship of lifetime experience of leverage with CTO alone or during hospital admission.

There are many factors involved in a complex community setting. The advantage of a study in a community setting such as the present one is that it provides a more comprehensive picture of the use of treatment pressures regardless of source. More longitudinal studies are needed to determine the possible causality of relationships of different forms of informal coercion in different jurisdictions, welfare and mental health systems in both community and hospital settings.

This study has several limitations. First, I combined participant data from two studies with different designs and recruitment procedures. Combining these two samples potentially affected the present study in three ways. To start with, the treatment context of the ULTIMA follow-up consisted of standard community treatment prior to interview whilst for the OCTET sample this was the last six months of an RCT intervention. It is possible that the OCTET clinicians (and highly selected patients) modified their approach because of the allocation to controlled treatments, and their awareness of the follow-up. However, the exploratory analyses (in the two samples) did not find different results. The next issue was that the two samples were significantly different in many baseline characteristics (Table 6) and in rates of legal compulsion and leverage (Table 11). All analyses were controlled for these factors and I conducted exploratory analysis to try and mitigate this. Lastly, the combination of the two samples resulted in the problematic 'U-shaped' distribution of the variable 'duration of compulsion'. This is a count variable and it is expected to have skewed distribution (Altman, 1990), but the 'U' shaped distribution clearly indicated a difference between the two samples. Half of the sample (mostly ULTIMA) had zero days of compulsory treatment whilst many OCTET patients had 180. Log and other transformations failed to improve distributions.

Second, twenty percent of the total sample had missing data for leverage experience. The reasons were random (Burns et al., 2013). Imputation was considered to address this, but it was decided that that would not be justified given the nature of secondary data and the additional analysis would go beyond the scope of the study and exceed the limited resources. Sensitivity analyses for missing data did not, however, alter the results.

Third, a follow-up period of six months is perhaps too short to register differences in leverage rates. A frequency of 2 or 3 contacts per month (Burns et al., 2013, Burns et al., 2015) may require a longer follow-up. Future studies should consider a longer follow-up and 12 months may be optimal (Burns et al., 2015).

Fourth, the leverage rate was self-reported retrospective data. Retrospective studies are always at risk of a recall bias, inaccuracy, or gaps in memory (Altman, 1990, Rothman et al., 2008), and in this study, patients' poor mental health. Their reports were not verified by other sources such as clinicians and family. Prospective studies with 'leverage diaries' or monthly data collections would be less prone to bias, but difficult to achieve in practice. An RCT is unlikely to be conducted for ethical reasons.

Fifth, the generalisability of findings of the present study is limited to England and to four measured forms of leverage. Rates of legal compulsion vary between NHS Trusts in the UK and internationally (Care Quality Commission, 2015, Ford et al., 1998, Lawton-Smith, 2005, Rugkåsa and Dawson, 2013) and leverage rates vary between different jurisdictions, study sites, and services (Burns et al., 2011, Monahan et al., 2005). Findings might be different for other forms of leverage or other forms of informal coercion.

3.5.2 Levels of leverage

The study found no evidence that involuntary patients experience more leverage than voluntary patients nor that they experience less leverage. The relationship between legal compulsion and leverage is important. Testing this relationship became clinically pressing with the introduction of CTOs in 2008. This generated two contrasting professional opinions.

No reduction in leverage

The first opinion was assumed by those supporting the introduction of CTOs (Royal College of Psychiatrists, 1993). This considered legal compulsion would increase treatment adherence in the community and consequently other forms of pressures would be required less. Patients who were subject to legal compulsion would subsequently experience fewer pressures such as leverage. However my study did not find such a decrease of leverage. This is disappointing for those who had hoped that the power of CTOs would otherwise free up day-to-day interaction with patients from other pressures. Indeed, the finding presents further evidence for the absence of beneficial outcomes of CTOs. This, however, should be treated with caution. Groups compared in the main and exploratory analyses were not randomised. It is possible that the compelled patients were sicker, and therefore still required more encouragement to engage in treatment than those with no compulsory treatment.

No increase in leverage

The contrasting earlier view of the introduction of CTOs was expressed by other stakeholders, particularly service user groups and concerned their possible undesirable impact (Pinfold and Bindman, 2001). They feared that more compulsion in the community would encourage clinicians to adopt an increasingly controlling, risk-averse and 'paternalistic' mind-set. They feared that in the controlling context of compulsory treatment clinicians might perceive patients as more globally unable to make their own decisions. This changed mind-set about a patient's inability to manage his own life would empower clinicians to take more control. This would lead to the increased use of other pressures such as leverage. The finding of this study does not support this concern. It provides reassurance that leverage does not appear to increase with legal

compulsion nor any indication of an overly controlling approach with involuntary patients. It is, of course, possible that they use other less choice-restrictive strategies alongside compulsion simultaneously maintaining the therapeutic relationship and providing support.

In summary, CTOs were established to improve clinical and other outcomes for patients and bring about substantial changes in their life. Their introduction in 2008 has generated contrasting views of their possible effects. These included hope for reduced but also fear of increased rates of other pressures in treatment. This study found neither. It appears that whether a patient is treated under legal compulsion or not has no significant impact on the rates of leverage over the same time period.

3.5.3 Hierarchy of pressures

A striking finding of this study is that legal compulsion and informal coercion appear to operate independently. This finding is not consistent with the broadly accepted model of hierarchy of pressures (Szmukler and Appelbaum, 2008), (see Chapter 1, page 4). The hierarchical model suggests a sequential use of pressures from lower to higher order. This coherent approach explains clinicians' decisions to apply more coercive pressures by failures of lower ordered pressures. The logic assumed is a prioritisation of pressures at the lower level in the hierarchy (e.g. persuasion, leverage, induction). If these pressures were not effective the clinician would give up on them and move on to pressures in a higher order (e.g. threat, legal compulsion). The model, therefore, assumes that the use of higher order pressures is dependent upon the failure of lower order pressures. In this study it does not appear that clinicians follow this pattern. Patients continuously experience leverage even when the highest ordered pressure

(legal compulsion) is employed. It appears that leverage and legal compulsion are applied independently of each other and not sequentially as was suggested (Szmukler and Appelbaum, 2008). The hierarchal model does not appear to reflect current clinical practise.

Clinicians persisting with leverage may be supported by results from qualitative studies. Very coercive treatment pressures are not routine, they are seen as a last resort. Clinicians (and patients) prioritise less coercive or non-coercive strategies such as persuasion (Appelbaum and Le Melle, 2008, Godin, 2000, Larsen and Terkelsen, 2013, Lützén, 1998, Rugkåsa et al., 2014a, Valenti et al., 2015, Vuckovich, 2009, Widdershoven and Berghmans, 2007) and CTOs are sometimes seen as a source of social support (Canvin et al., 2014, Stroud et al., 2015).

This finding of an unchanged level of leverage supports the idea that the boundary between voluntary and involuntary treatment is blurred (Sjöström, 2006, Rogers, 1993, Ritsner et al., 2014) with informal coercion used similarly with voluntary and involuntary patients (Lidz et al., 1993, Sjöström, 2006). The relationship with a patient is an essential prerequisite for the employment of leverage and other forms of informal coercion. By contrast, legal compulsion represents the use of 'external' powers provided by legislation. Leverage and other forms of informal coercion are more 'subjective' and they are employed in the context of the relationship with the patient. In interaction with patients these more 'personal' pressures, perhaps, become gradually an integral part of the relationship. Therefore they might persist in the relationship regardless of the legal status or place of treatment (hospital or community).

3.5.4 Previous research

The OCTET RCT found no association between leverage and CTOs (Rugkåsa et al., 2015) but a comparison with the present study is problematic because of different approaches. OCTET compared patients randomised to CTO with a control group whilst the present study compared non-randomised groups with and without experience of compulsion. The OCTET control group was not entirely free from legal compulsion as some patients did experience CTOs and a third were involuntarily readmitted. OCTET, as with the present study, considered experience of leverage over six months but the CTO experience was recorded for a longer (12-month) period.

I found no other longitudinal studies simultaneously testing the relationship between legal compulsion and leverage among community patients with a diagnosis of psychosis. Three US papers, however, reported mixed results for similar relationships (Elbogen et al., 2003a, Swartz et al., 2006, Hoge et al., 1997). Comparison with the three USA studies is limited. First, welfare in the USA is not a clear entitlement as it is in the UK and welfare leverage is often formally applied in the USA by services or the criminal justice system. Second, there were significant methodological differences such as cross-sectional study design of studies in the USA, reported associations were bivariate, only lifetime experience of leverage was analysed, legal compulsion included only CTOs (Elbogen et al., 2003a, Swartz et al., 2006), or observed pressures at admission (Hoge et al., 1997).

3.5.5 Implications of persisting leverage

Ethics and policy

In Western societies juridical monitoring and oversight of liberty restricting practices are expected. The use of legal compulsion is highly regulated and monitored by the MHA. An important strand in the argument to introduce CTOs was its guarantee of safeguards. These include reciprocal rights to care and oversight of usage by an independent body. Leverage is, however, not formally recognised among clinicians despite being commonly used (Burns et al., 2011, Monahan et al., 2007). It is often applied simultaneously with legal compulsion and it is likely to persist in day-to-day clinical practice independently from such compulsion. This raises an important ethical challenge. Despite the evidence of its high prevalence and, as reported in qualitative studies (Canvin et al., 2013), its undoubted restrictions of patients' experienced liberty, leverage remains absent from the policy context. Patients cannot appeal against it, it continues unmonitored, and there is no regularly collected data. It is surely necessary to develop mechanisms of oversight to understand, justify and regulate the use of leverage.

Clinical practice and training

Clinicians and patients' families report significantly lower rates of leverage than patients (Elbogen et al., 2003b) and they are often unaware of or not comfortable admitting to the use of informal coercion (Valenti et al., 2015). Evidence is limited but adequate to encourage clinicians to openly address informal coercion in their training and develop language to describe it. Without such debate and training, it is difficult to see how clinicians can achieve consensus and agree about its appropriate use. Use of

the MHA is dependent on a highly systemised and rigorous repeated training course. I consulted NHS professionals involved in training of clinicians. They confirmed that currently there is no training module explicitly devoted to the use of informal coercion. I did not find leverage, informal coercion or coercion often indexed in psychiatry textbooks. Given its widespread use should not leverage and other forms of informal coercion be incorporated in the training of all service providers? This would increase their awareness of its extent, improve practice, and provide justification and understanding of its use.

3.5.6 Conclusion

This study found no evidence that patients subject to legal compulsion experience less or more leverage than voluntary patients. For many it is disappointing that compulsory treatment does not reduce patients' experience of leverage but it is also reassuring that it does not make clinicians overly controlling. A striking finding is that there is no obvious systematic logic in clinical use of pressures. The use of leverage in day-to-day interaction with patients appears to reflect established clinical practice rather than a coherent approach to pressures. Urgent attention to raise the profile of informal coercion is necessary in training and policy development.

Chapter 4 Association of informal coercion and hospital admission

4.1 Introduction

4.1.1 Adherence to treatment

The efficacy of psychotropic medication to reduce and control symptoms cannot be simply equated with its effectiveness in clinical practice. Many patients often discontinue medication. Non-adherence to medication has become one of the central issues of modern psychiatry, specifically for patients with psychosis (Fenton et al., 1997, Lacro et al., 2002, Nose et al., 2003, Leucht et al., 2003). Poor rates of adherence were improved with the development of the new generation of atypical psychotic medications but not significantly so (Lingam and Scott, 2002). Since then there has been no major progress in the development of interventions to improve adherence. Non-adherence remains a key challenge for community mental health care.

Measuring rates of non-adherence is difficult and reported rates vary widely because of the lack of a consistent definition plus variability and poor reliability of the methodologies used for measurement (Dolder et al., 2003, Gray et al., 2002).

Poor adherence leads to the underuse of medication and the increased risk of relapse resulting in increased hospital admission, suicides and homicides (Appleby, 2000, Lacro et al., 2002, Marder, 1999). Non-adherent patients have on average a 3.7 times greater risk of relapse than adherent patients with schizophrenia (Fenton et al., 1997).

Antipsychotic non-adherence is not only a clinical problem and a challenge for successful treatment but it can also be seen as an economic burden. Treatment of schizophrenia is expensive and non-adherence increases hospital admissions, emergency room and clinical visits (Knapp et al., 2004).

4.1.2 Interventions to improvement of adherence

A significant problem in the search for interventions to improve adherence is lack of clarity on the cause of non-adherence although we know many factors associated with it (Gray et al., 2002). It is striking how long the problem has been recognised with no effective intervention being developed for its prevention. An increasing number of studies of variable quality have investigated the effectiveness of interventions over the last 25 years. It appears that the least effective interventions are educational interventions (e.g. providing information about treatment and illness (Barkhof et al., 2012, Dolder et al., 2003, Dulmen et al., 2007). Many interventions have mixed or weak evidence of effectiveness, particularly when only one strategy is used (Dolder et al., 2003, Gray et al., 2006, Gray et al., 2004, Gray et al., 2002, Staring et al., 2010, Zygmunt et al., 2002). The most effective were a combination of educational, behavioural (e.g. modification of medication packaging and dosage, building and practicing medication taking related behaviour), affective strategies (e.g. using emotions and social relationships and support through family support, counselling, and home visits), and lastly, specific adherence therapy techniques. Adherence or compliance therapy (O'Donnell et al., 2003) is a strategy based on motivational interviewing (DiClemente and Velasquez, 2002), however it is not recommended for schizophrenia (National Institute for Clinical Excellence and National Collaborating Centre for Mental Health, 2002, 2009).

When these strategies fail to improve adherence clinicians may resort to informal coercion and/or legal compulsion (Monahan et al., 2005). Both informal coercion and legal compulsion reduce patient freedom so it is important to justify their use by demonstrating their benefits for patients.

4.1.3 Outcomes of treatment of schizophrenia

The development of sophisticated mental health services generates the desire to evaluate its outcomes. Published research studies have used a large variety of outcome measures. The choice of outcome depends on the research question, and who is going to use it. Common outcomes reported are treatment adherence, hospital admissions, symptom severity, functioning, violence, therapeutic relationship, quality of life, satisfaction with services, remissions, loss to follow-up and cost of care (Marshall et al., 2005, Marshall and Lockwood, 2003, Thornicroft and Tansella, 2010, Marshall and Lockwood, 1998). In studies with psychosis patients, however, hospital admission is often selected as an outcome.

Hospital admission

Hospitalisation appears to be the most commonly reported (Burns, 2007a) and probably the most influential outcome in the meta-analysis of community mental health services (Marshall et al., 1998, Marshall and Lockwood, 1998). Hospital admission is a well-accepted proxy for relapse in psychosis patients (Burns, 2007a) and it is a key outcome of RCTs of community mental health services. Its major advantages are its ease and consistency of collection, face validity for clinicians, consistency of admission threshold despite variation between services, and its utility for economic analysis, service development and policy makers (Burns, 2007a).

Use of hospitalisation and other service indicators have been criticized for their lack of interest in patients' wellbeing and ethical components of interventions such as compulsion (Brown, 2003, Burns, 2007a, Salize and Dressing, 2005). However, use of a variety of outcomes such as hospital admission, subjective, qualitative and 'user valued' measures (e.g. satisfaction with services, functioning, perceived coercion, insight) (Salize and Dressing, 2005, Kabir and Wykes, 2010) may introduce two problems. Analysis of wide variations of outcomes may produce false positive associations because of numerous comparisons. In addition, using many outcomes may increase the risk of reduced statistical power and the need to increase sample size (Altman, 1990).

Hospital admission is likely to remain an important outcome in community mental health research as avoidance of hospital admission is preferred by all stakeholders (e.g. patients, family members, clinicians and commissioners) (Swartz et al., 2003c, Burns, 2007a).

4.1.4 Effectiveness of compulsion and informal coercion

4.1.4.1 Legal compulsion

Mental health legislation is based on the assumption that compulsory treatment will benefit patients. Such benefits would be reflected by improvement of clinical and social outcomes and consequently in the patients' freedoms (e.g. to make independent and competent decisions and manage their life). These assumed benefits of legal compulsion are key to the clinicians' ethical justification of involuntary treatment. However, they are not supported by evidence (Høyer, 2000, Priebe et al., 2009, Priebe et al., 2010a, Katsakou and Priebe, 2006, Swartz et al., 2003c).

Compulsory hospital treatment

Evidence of the effect of hospital compulsory treatment on improved patient outcomes is limited. The effectiveness of compulsory hospital admission has only been tested by observational studies because RCTs are not feasible for ethical reasons (Priebe et al., 2009, Priebe et al., 2010a). Only satisfaction with the admission process predicted readmission (Priebe et al., 2009). In many studies symptoms and social functioning of involuntary inpatients improved but samples were small, follow-up periods short or only one single score for functioning was used (Katsakou et al., 2010, Katsakou and Priebe, 2006, Kjellin and Nilstun, 1993, McEvoy et al., 1989, Kjellin et al., 1997).

Compulsory community treatment

RCTs have failed to find evidence that legal compulsion in the community reduces hospital admission or increases adherence to treatment (Steadman et al., 2001, Swartz et al., 1999b, Burns et al., 2013) and non-randomised studies provided mixed results (Preston et al., 2002, Churchill, 2007, Maughan et al., 2014, Rugkåsa et al., 2014b).

4.1.4.2 Informal coercion

Clinicians and others who use informal coercion generally assume that pressures will lead to improved adherence and subsequently decreased symptoms, better functioning, and increased independence (Elbogen et al., 2003b). Current evidence is modest. It is limited to a single form of pressure 'leverage' and based on secondary analyses of data from two studies in the USA. The findings are mixed (Redlich et al., 2006, McNiel et al., 2013, Elbogen et al., 2003a, Robbins et al., 2006, Rosenheck and Neale, 2004). It is not clear whether treatment which includes leverage (i) is equally as effective as a non-

leveraged treatment or (ii) keeps patients away from services because of a fear of future coercive treatments (Monahan et al., 2001, Swartz et al., 2003a, Van Dorn et al., 2006). Opponents of the use of leverage with mental patients suggest that housing leverage which is the most common form of leverage (Burns et al., 2011, Jaeger and Rossler, 2010, Monahan et al., 2005) is not effective for patient integration and it is damaging for the therapeutic relationship (Allen, 2003).

The only form of informal coercion with more robust evidence for its effectiveness in psychiatry is a financial incentive. Financial incentives improve adherence to substance misuse treatment (Burton et al., 2010) and in recent a RCT they improved adherence to anti-psychotic medication among psychosis patients (Priebe et al., 2013, Pavlickova et al., 2015). I found no studies testing the effectiveness of other forms of informal coercion.

Most clinicians report that the primary aim of informal coercion is to improve medication adherence and, therefore, clinical outcomes but this has not been systematically tested. Without evidence of their beneficial effect on patient outcomes high rates of leverage in community care (Burns et al., 2011, Jaeger and Rossler, 2010, Monahan et al., 2005) are hard to justify. This study aims to obtain evidence of the associations between reported leverage and hospital admission (outcome) over the succeeding 12 months.

4.2 Research questions

4.2.1 Main research question

Is experience of informal coercion associated with subsequent hospital admission rates?

4.2.2 Exploratory research question

Is experience of informal coercion associated with subsequent severity of illness, global functioning, satisfaction with services, insight into illness, and autonomy preferences?

4.3 Methods

4.3.1 Design

This is an observational cohort prospective study with a 365-day follow-up. Community patients were recruited and interviewed at baseline and followed for the succeeding twelve months. Data was obtained through structured interviews with patients and by examining medical records. Details on catchment areas, types of service, and research ethic approvals are provided in Chapter 3 (page 175). The observed period for both ULTIMA and OCTET samples was 365 days after the baseline interview (Box 2, page 30).

4.3.2 Sample

The sample (combined ULTIMA and OCTET, n=515), recruitment procedures, and inclusion and exclusion criteria are described in Chapter 1 (page 25). The main study was conducted for the whole sample but the exploratory study was restricted to OCTET patients. This was because the ULTIMA patients were interviewed only at baseline and there was no self-reported outcome data at the end of the 12-month follow-up.

4.3.3 Data collection

Data for this study was collected by interviews with patients and from medical records at baseline (ULTIMA and OCTET) and at 365 days for OCTET (n=318). Data collection procedures are reported in Chapter 3 (page 176). In addition I collected data on hospital admissions over the succeeding 365 days for ULTIMA patients (n=198) from medical records.

Measures

In this study I used measures for leverage (MacArthur Leverage Interview), severity of symptoms (BPRS), global functioning (GAF), insight to illness and need for treatment (ITAQ), satisfaction with service (CSQ-8) and autonomy preferences (API). Assessments were related to the preceding six months (MacArthur Leverage Interview, CSQ-8), the past two-week period (BPRS, GAF), or current views (ITAQ, API). All measures except API are described in Chapter 3 (page 177) and Appendix 2.

Autonomy Preference Index (API)

The Autonomy Preference Index (API) (Ende et al., 1989, Hill and Laugharne, 2006) is a self-reported, 14-item questionnaire for the assessment of preferred autonomy in the making of decisions and seeking of information. The Decision-making Sub-scale (API-DM, 6 items) measures the level of a patient's desire to make their own decisions about treatment, share it or leave it entirely to the clinician. The Information-seeking Sub-scale (API-IS, 8 items) assesses a patient's wish to be informed about their treatment and illness. Responses range on a five-point Likert scale from strongly agree=1 to strongly disagree=5. A total score and sub-scales scores are obtained by the summing

of responses and adjusting them to a range from 0-100. Lower scores indicate a lack of desire and higher scores indicate a strong preference for involvement in making decisions/receiving information. A score of 50 signifies neutral views about autonomy.

4.3.4 Data management

Management of data for this study was conducted together with data for the study described in Chapter 3 and it is reported on page 179.

4.3.5 Outcome and predictor variables

The independent variable is the experience of *any* leverage defined as experience of at least one of four forms of leverage (housing, finance, criminal justice, and childcare). This binary variable (experience of leverage vs. no experience of leverage) was measured by the MacArthur Leverage Interview at baseline and it refers to experience of leverage over six months preceding the baseline interview. Calculation of leverage rates is described in Chapter 3 (page 180).

In the main analysis presented below, I used two outcome variables for hospital admission, (i) hospital admission yes/no, and (ii) duration of hospital admission. The hospital admission rate is a binary variable (admission vs. no admission) for at least one admission during the 365 days following the baseline interview. The duration of hospital admission is a continuous, count variable of the number of days in hospital over a 365-day follow-up period after the baseline.

The exploratory study was testing the relationship of the independent variable (leverage rate) with other outcomes such as the severity of illness (BPRS), global functioning

(GAF), satisfaction with service (CSQ-8), insight into illness and the need for treatment (ITAQ), and autonomy preferences (API-DM and API-IS).

4.3.6 Statistical analysis

Descriptive analyses of baseline characteristics, independent, and outcome variables are described in Chapter 3 (page 180).

4.3.6.1 Main analysis

The main analysis was conducted in two steps. Similarly to the study reported in Chapter 3 I first identified potential confounders in the relationship between rates of leverage and hospital admission. I used internal and external empirical methods (McNamee, 2003) described in Chapter 3 (page181), to identify potential confounders in the main and exploratory analyses. In the external method I examined ten papers with reported predictors of hospital admission (Mortensen and Eaton, 1994, Loch, 2012, Øiesvold et al., 2000, Klinkenberg and Calsyn, 1998, Lin et al., 2010, Woo et al., 2006, Pedersen and Aarkrog, 2001, Silva et al., 2009, Gastal et al., 2000, Zhang et al., 2011).

Second, in the main analysis I tested the relationship of the predictor variable (leverage rates) with two hospital admission outcome variables by fitting two separate models. I employed a logistic regression to test the association of reported leverage with binary variable hospital admission rate. I present unadjusted and adjusted models for this relationship in OR with 95% CI and p-values. The duration of hospital admission is a count variable. Therefore I fitted unadjusted and adjusted negative binomial regression to test the association of leverage with duration of hospital admission. A sensitivity

analysis was conducted using complete case samples. The result is presented in IRR, 95% CI and p-values. The significance threshold p=0.05 was pre-defined for all analyses.

4.3.6.2 Exploratory analysis

In the exploratory analysis I tested the associations of leverage rates with each of five outcomes which were all continuous variables. In each model I employed the analysis of change in linear regression models (Vickers and Altman, 2001) by adjusting each regression analysis for baseline measures of tested outcomes. Therefore each regression analysis was adjusted for confounders identified in the main analysis and the baseline measurement of corresponding outcome.

Before fitting each linear regression I tested linear model assumptions. To do that I first fitted an unadjusted model between leverage and an outcome. In the next step I added a baseline measure of the outcome variable as the first confounder in the model. Then I tested model assumptions for a new model with a confounder. Homoscedasticity (the equal standard deviation in different groups) was tested by residuals plots, linearity of relationship between dependent and independent variable by plotting residual vs. predicted values, and normality by a normal quantile plot (Osborne and Waters, 2002, Berry, 1993). For any unmet assumption I would conduct a log transformation for the outcome variable and re-test the model assumptions. I inserted confounders one-by-one in the model.

Each introduction of a new confounder was followed by re-testing of the model assumptions and log transformations if needed. A final model for each outcome included all confounders and had no violation of model assumptions. Results were

presented in Beta estimates (β), 95% CI and p-values. If log transformation(s) did not correct the violation of model assumptions the outcome variable was dichotomised to two categories (equal/below and above median). For dichotomised outcome variables I employed logistic regression and the results are presented in OR with 95% CI and p-values.

4.4 Results

4.4.1 Description of the sample

The patient flow and baseline characteristics of samples for the main and exploratory analysis are described in Chapter 3 (page 185) and Figure 6, Table 5, and Table 6.

4.4.2 Main results

Confounders

I used the external and internal methods (McNamee, 2003) described in Chapter 3 (page 181) to identify potential confounders. Using the external method I identified four of the most common predictors of hospital admission among psychosis patients reported in ten published papers: age, gender, diagnosis of schizophrenia, and a history of multiple hospital admissions (Box 5). In the internal approach I identified a history of multiple hospital admissions and severity of illness (BPRS) as potential confounders (Table 16). These two lists of potential confounders were combined together. The final list of potential confounders included variables for age, gender, history of multiple hospital readmission, diagnosis, and severity of symptoms (BPRS). The analysis was adjusted for these factors.

Box 5 Potential confounders from literature and in the study sample		
Externally identified (from literature) confounders	**Internally identified confounders**	**Final list of confounders**
age	history of multiple hospital admissions	age
gender	severity of illness (BPRS)	gender
diagnosis		diagnosis
history of multiple hospital admissions		history of two and more previous hospital admissions
		severity of symptoms (BPRS)

Leverage rates and hospital admission

Reported leverage and experience of hospital admission over a 365-day follow-up are summarised in Table 17. Data on the experience of leverage was available for 495 patients. 125 (25%) of them experienced at least one form of leverage over six months before the baseline interview. Data for hospital admission was available for all 515 patients. 142 (28%) patients were admitted to hospital at least once over 365 days after the baseline interview. Overall mean duration of hospital admission was 24 days (SD 57.93) and median 0 days (IQR 0, 10). Among those who were admitted (n=142) the mean number of days in hospital was 87 days (81.96) and the median 65 days (IQR 25, 115).

Table 16 Contribution of potential confounders in the change of OR[1] for univariate associations between leverage and hospital admission.

	Odds ratio in the model	Percentage of change contributed by potential confounder in the model
Age	1.5189	<1%
Male	1.5138	1%
Ethnicity	1.5274	<1%
Born in Great Britain	1.5473	1%
Years of general education	1.5201	<1%
Entered tertiary education	1.4962	2%
Married	1.5528	2%
Children under 18yrs old	1.5088	1%
Accommodation	-	-
Independent	1.4456	5%
Living situation, *living alone*	1.4964	2%
Employment	1.4917	3%
Diagnosis	-	-
Schizophrenia	1.5144	<1%
Duration of illness, *years*	1.5379	<1%
More than two hospital admissions	1.3760	10%
Previous involuntary admissions	1.4381	6%
Previous imprisonment	1.5619	2%
MH service	1.4958	2%
GAF	1.3982	9%
BPRS	1.8021	18%

[1]OR for univariate logistic regression (without confounders) = 1.5291

Table 17 Baseline informal coercion and hospital admission during 12 months for total sample.

	N	n[1]	(%)	Mean	(SD)	Median	[IQR]
Informal coercion	495	125	(25%)	-	-	-	-
Hospital admission	515	142	(28%)	-	-	-	-
Overall days in hospital[2]	515	-	-	24.0	(57.93)	0	[0, 10]
Days in hospital for admitted sample[3]	142	-	-	87.0	(81.96)	64.5	[25, 115]

[1] Number of events.
[2]Among all participants
[3]Among participants with hospital admission.

Association of leverage and hospital rates

Table 18 summarises adjusted and unadjusted regressions for the association of reported leverage and two hospital admission outcomes. None of the tested associations were significant. I entered potential confounders in blocks. First I entered *age* and *gender* (socio-demographic characteristics), then history of *two or more hospital admissions* (clinical history), next *diagnosis* (clinical characteristic) and finally *BPRS* (clinical characteristic). The model remained non-significant throughout this process. An unadjusted treatment effect for the association of leverage with hospital rates (OR=1.529, 95% CI 0.985-2.373, p=0.058) was calculated for the sample with available data on leverage (495/515, 96%) but in the adjusted model sample size dropped slightly (n=479/515, 93%) when confounder history of *one or more hospital admissions* was entered in the model. The sample size was further markedly reduced

when a confounder for severity of symptoms (*BPRS*) was entered in the final step (n=412/515, 80%). The final adjusted model was, however, not significant (OR=1.629, 95% CI 0.979-2.712, p=0.060). The sensitivity analysis for the reduced sample with no missing data in *BPRS* and the history of *one or more hospital admissions* (n=412) is summarised in Table 19. Non-significance of both adjusted and unadjusted models implies that the results are not affected by the reduced sample size. The *BPRS* was not included in the sensitivity analysis adjusted model.

Association of leverage and duration of hospital admission

As shown in Table 18 I found no evidence for association of leverage rates with the number of days in hospital over 12 months (IRR unadjusted=1.370, 95% CI 0.579-3.242, p=0.473; IRR adjusted=1.777, 95% CI 0.634-4.982, p=0.274). In the adjusted model the same confounders were entered in the same blocks as the model with hospital rates. The model was not significant at all stages. Sensitivity analysis for the reduced sample size as reported in Table 19 did not alter the results.

Table 18 Associations of informal coercion with hospital admission during 12 months for total sample.

	Experience of informal coercion N=125	No experience of informal coercion N=370	Unadjusted model N=495			Adjusted model[1] N=412		
	n[2] (%) Mean (SD) Median [IQR]	n[2] (%) mean (SD) Median [IQR]	Treatment effect	(95% CI)	p-value	Treatment effect	(95% CI)	p-value
Hospital admission	42 (34%)	92 (25%)	OR=1.529	(0.985 – 2.373)	0.058	OR[1]=1.629	(0.979 – 2.712)	0.060
Days in hospital	29.0 (62.29) 0[0,21]	21.8 (57.30) 0[0,0]	IRR=1.370	(0.579 – 3.242)	0.473	IRR[1]=1.777	(0.634 – 4.982)	0.274

[1] Adjusted for age, gender, history of more than two admission, diagnosis and BPRS. IRR=Incident rate ratio. OR= Odds Ratio.

[2] Number of events.

Table 19 Associations of informal coercion with hospital admission during 12 months for total sample: sensitivity analysis for missing data[1] (N=412).

	Experience of informal coercion N=96	No experience of informal coercion N=316	Unadjusted model N=412			Adjusted model[2] N=412		
	n[3] (%) Mean (SD) Median [IQR]	n[3] (%) mean (SD) Median [IQR]	Treatment effect	(95% CI)	p-value	Treatment effect	(95% CI)	p-value
Hospital admission	34 (35%)	72 (23%)	OR=1.858	(1.134 – 3.046)	0.014	OR[1]=1.637	(0.985 – 2.723)	0.57
Days in hospital	29.4 (56.42) 0[0,33]	18.7 (54.70) 0[0,0]	IRR=1.569	(0.579 – 4.252)	0.376	IRR[1]=1.781	(0.635 – 4.994)	0.273

[1] Sample size reduced for participants with missing data for BPRS.

[2] Adjusted for age, gender, history of more than two admission, diagnosis IRR=Incident rate ratio. OR= Odds Ratio.

[3] Number of events (hospital admissions).

4.4.3 Exploratory analysis results

Leverage rates and outcomes

The exploratory analysis was conducted only for the OCTET sample (n=317). Leverage rates in the preceding six months and all outcomes at 365 days are summarised in Table 20. Leverage rates were available for 297/317 (94%) of OCTET patients. 93 (31%) patients reported at least one type of leverage over six months preceding the baseline interview. Mean values of clinical outcomes such as global functioning (GAF, mean 40.0, SD=12.34) and severity of symptoms (BPRS, mean 36.2, SD=10.47) show a relatively disabled population. Patients were moderately satisfied with services (CSQ-8, Mean 22.1, SD=5.80), have a fair insight into their illness (ITAQ, mean 12.8, SD=7.26), a neutral preference for treatment decision-making (API-DM, mean 53.0, SD16.6), and prefer being informed about illness and treatment (API-IS, mean 74.2, SD=13.63).

Associations of leverage rates with exploratory outcomes

Table 21 presents unadjusted and adjusted associations of leverage rates with all exploratory outcomes (severity of symptoms, global functioning, satisfaction with services, insight, decision-making preference, and information seeking preference). In the adjusted models I used the same potential confounders as for the main analysis. Model assumptions were violated in all models. Applied log transformations successfully corrected violations of linear model assumptions for all outcomes except for insight (ITAQ). The ITAQ variable was, therefore, dichotomised into a categorical variable with two categories (above/equal and below median).

Table 20 Descriptive statistics for exploratory variables for OCTET sample (N=317).

	N	n[1]	(%)	Mean	(SD)	Median	[IQR]
Informal coercion (last six months)	297	93	(31%)	-	-	-	-
Severity of illness (BPRS)	195	-	-	36.2	(10.47)	33	[29,41]
Global functioning (GAF)	223	-	-	40.0	(12.34)	37	[31,45]
Satisfaction (CSQ-8)	193	-	-	22.1	(5.80)	23	[19,26]
Insight (ITAQ)	198	-	-	12.8	(7.26)	13	[7,19]
Autonomy Preference Index-Decision Making (API-DM)	194	-	-	53.0	(16.6)	50	[25,62.50]
Autonomy Preference Index-Information Seeking (API-IS)	191	-	-	74.2	(13.63)	75	[68.75,81.25]

[1]Number of events.

I found no evidence for the association of leverage rates with any of the tested outcomes. All unadjusted and adjusted associations were not significant. The p-value for the unadjusted model with the severity of symptoms outcome (BPRS) was borderline (Beta estimate=0.0799, 95%CI -0.001-0.164, p=0.55) but the adjusted model was clearly not significant (Beta estimate=0.0733, 95% CI -0.014-0.160, p=0.099).

Table 21 Associations of informal coercion with exploratory outcomes at 12 months for OCTET sample.

	Unadjusted				Adjusted model[1]			
	N	Beta estimate	95% CI	p-value	N	Beta estimate	95% CI	p-value
BPRS[2]	156	0.0799	-0.001 – 0.164	0.055	147	0.0733	-0.014 – 0.160	0.099
GAF[2]	211	-0.0054	-0.087 – 0.0767	0.897	166	0.0335	-0.092 – 0.0983	0.945
CSQ-8[2]	185	-0.0671	0.457 – 0.323	0.735	146	-0.0526	-0.498 – 0.393	0.816
ITAQ	191	OR[3]=1.5083	0.793 – 2.867	0.210	133	OR[3]=1.140	0.4239 – 3.067	0.795
API-DM[2]	170	-0.04032	-0.136 – 0.055	0.407	145	-0.04867	-0.159 – 0.061	0.386
API-IS[2]	161	0.0150	-0.052 – 0.082	0.659	131	0.03024	-0.0501 – 0.111	0.458

[1] Adjusted for corresponding baseline outcome, age, gender, history of more than two hospital admissions, diagnosis, and BPRS.

[2] This variable was log transformed to correct violation of model assumption.

[3] This model is not adjusted for baseline ITAQ because logistic regression is used for this model.

4.5 Discussion

This study tested whether patients with experience of leverage over six months prior to the baseline assessment have different hospital admission rates and duration of hospital admission over the succeeding 365 days than those without experience of leverage. These were tested on a combined ULTIMA and OCTET sample of community patients with a diagnosis of psychosis in England. The exploratory analysis of the OCTET sample investigated whether experience of leverage is associated with six other outcomes (severity of symptoms, global functioning, satisfaction with services, insight into illness and need for treatment, and autonomy preferences for decision making and information seeking). No evidence was found for a relationship of leverage with hospital admission or any other of the tested outcomes.

4.5.1 Strengths and limitations

This is the first longitudinal study of the effectiveness of leverage in mental health care. Only a handful of other papers have reported the effectiveness of leverage and these drew data from a single cross-sectional study in the USA (Redlich et al., 2006, McNiel et al., 2013, Robbins et al., 2006). One study was longitudinal but it investigated involvement of a representative payee in treatment but not financial leverage as such (Elbogen et al., 2003b). There are no other published studies on the effectiveness of leverage in the UK or other countries.

The present study tested the effectiveness of leverage on a non-randomised sample. A longitudinal design, as in this study, is possibly one of the best available options for the testing for relationships between leverage rates and treatment outcomes. RCTs would

be difficult to conduct in clinical practice, mostly because of a problem in measuring outcomes such as adherence to medication (Sajatovic et al., 2010).

This study has several limitations. First, data was not collected specifically to answer the research questions of this study and therefore represents a secondary analysis of data collected in ULTIMA and OCTET. This raises the risk that the results include false negatives.

There are also two possible reasons for an under-reporting of leverage. It is possible that patients experienced, but did not report forms of leverage that were different to those (four) we measured. Another possibility is that patients may also not always recognise all forms of pressures. I cannot determine whether the measured prevalence is, therefore, underestimated or not.

In addition there is currently no objective measure for the use of leverage and it is not possible to establish whether reported leverages were actually experienced.

The findings are based on patients' self-reported data on the experience of leverage in the last six months. As described in Chapter 3 (page 204) retrospective data may introduce various bias and errors.

The generalisability of this study is limited. The findings are representative for patients who were recruited in ULTIMA and OCTET. It is possible that patients who did not consent to participate in the studies or follow-up interviews could be either less or more adherent than recruited patients but we cannot verify that.

The leverage measures are restricted to an overall experience of any of four forms of leverage. Because of low rates this study did not distinguish patients with more than one experienced form of leverage, it did not compare the effects of different leverages nor the frequencies of their experience.

Lastly, regression analyses, particularly exploratory analyses were conducted on reduced sample sizes, mostly because of randomly missing data in confounders and outcome measures. A smaller sample size usually generates wide confidence intervals and may prevent detection of treatment effects because of the inadequate number of observations (Altman, 1990, Sauro and Lewis, 2012). However, the confidence intervals reported in Table 21 are small and therefore the sample size in this analysis can be used for regressions. In addition, the sensitivity analyses with reduced samples did not alter the results.

4.5.2 Effectiveness of leverage

Investigation of the effectiveness of different forms of informal coercion such as leverage is important because of its day-to-day use in treatment of patients with mental illness (Monahan et al., 2005, Jaeger and Rossler, 2010, Burns et al., 2011) and its undeniable impact on their autonomy (Jaeger and Rossler, 2010, Robbins et al., 2006, Appelbaum and Redlich, 2006b). The present study findings suggest that patients who experience leverage do not have better clinical or other outcomes compared with patients with no experience of leverage. This finding, however, has to be interpreted cautiously for at least two reasons. First, it is based on a secondary analysis of data collected for investigations of other research questions. Second, it is possible that patients who experienced leverage were more ill and with a poorer prognosis. This is

partly supported by differences identified in their baseline characteristics. In the group with reported leverage there were more patients who were homeless, who lived in supported accommodation, with diagnosis of schizophrenia, history of multiple hospitalisations, history of imprisonment, and they had lower average global functioning (GAF). Having the same outcomes as patients with no experience of leverage might suggest that they had better treatment outcomes.

Despite the risk of a false negative finding the result is not surprising. Secondary analyses of data from the MacArthur cross-sectional study (Monahan et al., 2005) similarly found no relationship of leverage with adherence to medication, appointments, or satisfaction with services (Robbins et al., 2006, McNiel et al., 2013, Redlich et al., 2006). The present study findings are also a contribution to existing evidence on the ineffectiveness of coercive treatments such as, for instance, CTO (Churchill, 2007, Maughan et al., 2014, Rugkåsa et al., 2014b).

The ineffectiveness of leverage, however, cannot be addressed in the same way as the ineffectiveness of CTOs. CTO is a legislated intervention aimed at a small and clearly targeted group of patients with a history of non-adherence and multiple hospital admissions. It is well-regulated, controlled, monitored, and employed only as a 'last resort'. CTOs were designed in the form of legislation, and are carefully considered and discussed by a team of practitioners before its use. The CTO is an externally provided 'tool' for clinicians to be used with a small number of 'difficult' patients.

In contrast leverage is not restricted to a clinical setting and people use it regularly in both personal and professional relationships. It can be seen as part of a normal relationship. It is 'personal'. It often includes emotional engagement of the individuals

involved and the use of levers that are emotionally important or necessary for patients (e.g. access to children, money). It is applied spontaneously and often intuitively acquired as a routine part of a relationship.

It appears that leverage occurs 'naturally' and spontaneously among people and it is common in different mental health service settings. Three studies in three different countries with different legislation, jurisdictions and mental health services found very similar patterns of leverage use (Monahan et al., 2005, Jaeger and Rossler, 2010, Burns et al., 2011).

The differences between CTOs and leverage require different responses to the similar evidence of their apparent ineffectiveness. While clinicians can simply stop using CTOs to avoid unnecessary, unethical and potentially damaging restriction of patients' liberty, such a change would not be so straightforward with leverage. It is not easy to alter a routine behaviour integrated into a relationship. Any routine behaviour is rapidly perceived as 'normal'. Pressures such as leverage are a natural part of human exchange and people use them daily in various forms and situations (McConnell and Gillett, 2006). Mental health services are based on relationships between people and pressure will undoubtedly remain a part of these.

4.5.3 Justification of leverage

The main question raised by these results is whether it is acceptable to use more formalised leverage if it does not improve treatment outcomes. Despite being part of relationships in other situations leverage has to be approached differently in clinical practice. People use leverage in everyday relationships with various aims and purposes often without achieving any change. The effectiveness is not so important in 'free' and

‘equal-power’ relationships (e.g. among siblings, friends). However, when employed in a relationship with patients leverage takes on important implications. In a therapeutic relationship clinician and patient have unequal positions. Patients need help and clinicians have the knowledge and skills to provide it. This more ‘powerful’ role of the clinician set up by services marks it out from those in personal life.

Using non-effective leverage in such an unequal relationship may be argued to be unethical. Society and health services offer limited treatment choices for patients. Using leverage further restricts them. Leverage can be, as with other forms of coercion, justified if it generates a positive change for patients (Dunn et al., 2014). The present study findings do not support this. Without evidence of its effectiveness leverage may be unjustified.

Controversy in clinical practice

Although not surprising, the findings of this study are disappointing. Modern psychiatry and mental health care require the development and maintenance of a supportive and trusting therapeutic relationship with patients. Such a relationship should promote the provision of information, open discussion, and a patient’s right to actively decide and plan his/her own (evidence based) treatment. The present study findings suggest that clinical practice does not entirely match this goal of a collaborative relationship characterised by shared decision making. For 25% of patients clinicians restrict their freedom of choice by using leverage without achieving improved outcomes.

4.5.4 Implications of non-effective leverage

4.5.4.1 Clinical practice and training

Rates of leverage estimate that one in five patients has restricted freedom of choice in the preceding six months of their mental health treatment. Informal coercion is part of the unique relationship between clinicians and patients, it would be difficult to discontinue it but it should not be ignored. What are the other options? Perhaps the most realistic approach is including leverage in the training of clinicians to increase awareness and understanding of it. The history of psychiatry has shown that where the imbalance of power between clinicians and patients is ignored (as in asylums) it results in unacceptable but often unrecognized practice. Because it is used broadly and routinely, informal pressures are perceived as 'normal', indeed beneficent, and not seen as a use of power.

Treating patients fairly and with respect, and collaboratively making decisions (procedural justice) can positively change patients' perception of treatment (Newton-Howes and Mullen, 2011, McKenna et al., 2003, Sørgaard, 2007, Van Dorn et al., 2005, Lidz et al., 1995, Monahan et al., 2001). It appears that simply telling patients to take medication has only limited effects but assisting them in making decisions regarding medication perhaps does (Gray et al., 2002). Focusing on patients' views and not their behaviour may be more effective. That way attention may be shifted to shared decisions (Wong et al., 2010), constructive engagement strategies (Allen, 2003, Watts and Priebe, 2002, Gray et al., 2002), and pressures which are beneficial for patients (Dunn et al., 2014).

4.5.4.2 Future Research

Testing the effectiveness of leverage and other forms of informal coercion should become important research priorities. Research studies should be conducted in different jurisdictions and on broader samples and with a range of treatment outcomes. In addition the different individual forms of leverage should be tested because they may have a different effectiveness for different groups of patients (Monahan et al., 2005, Elbogen et al., 2003a, Høyer et al., 2002, Burns et al., 2011). Leverage will not disappear from mental health care so we need to understand it better. To achieve that researchers should adopt a broader definition of leverage (including leverage to 'stay well' in addition to 'improve adherence' (Canvin et al., 2013)), investigate its use, and the effect it has on patients.

4.5.5 Conclusion and recommendation

The effectiveness of leverage remains without supporting evidence despite its high prevalence. Given the lack of evidence of its benefits the restriction of autonomy by using leverage is hard to justify. However as an integral part of the therapeutic relationship with patients, leverage discontinuation is unlikely. Clinicians will continue using leverage routinely but they need to start perceiving it as a pressure, reflect upon its use, including its possible benefits and costs, and increase awareness of its prevalence in their clinical practice.

Chapter 5 Does the therapeutic relationship moderate the association between legal compulsion and perceived coercion?

5.1 Introduction

5.1.1 Shared decision making and paternalism

Modern psychiatry promotes patient-centred care with a shared decision making model. This is generally preferred by both psychiatrists and patients and is achieved by good communication and a collaborative relationship characterised by mutual respect and understanding (Hamann et al., 2005, Seale et al., 2006, Valenti et al., 2015, Thøgersen et al., 2010, Rugkåsa et al., 2014a).

Although committed to patient-centred practice and a collaborative relationship, clinicians must also on occasion take control and make decisions for patients (Seale et al., 2006, Rugkåsa et al., 2014a). It thus seems that aspects of paternalism still influence the relationship between patients and clinicians (Pelto-Piri et al., 2013, Kaba and Sooriakumaran, 2007) and this simultaneous care and control may impact patients' perception of coerciveness of the treatment.

5.1.2 Therapeutic relationship

Research into the relationship between patients and clinicians has been broadly neglected in psychiatry until recently, despite its central importance. The collaborative

relationship is accepted and recommended as an evidence-based relationship between patients and clinicians in modern psychiatry (Priebe and Gruyters, 1993, Fenton et al., 1997). It has been reported in qualitative studies as an essential aspect of care by both patients and clinicians (see Chapter 2, page 151) and, if poor, can lead to disengagement (Priebe et al., 2005b, Johansson and Eklund, 2003, Watts and Priebe, 2002, McCabe and Priebe, 2004, Kirsh and Tate, 2006). In quantitative studies good functioning, socio-demographic variables, and severe symptoms have been shown to predict the quality of the therapeutic relationship (Bjørngaard et al., 2007, McCabe and Priebe, 2003, Theodoridou et al., 2012, Catty et al., 2012). There is limited and mixed evidence that a collaborative relationship is related to outcomes such as better functioning, adherence, engagement and attachment to teams, and less symptoms and readmissions. However these studies were mostly methodologically poor with small sample sizes (Priebe et al., 2011b, Catty et al., 2010, Catty et al., 2012, Bjørngaard et al., 2007). It has also been suggested that the therapeutic relationship may mediate improvement of outcomes such as depression (Catty et al., 2010, Priebe et al., 2011b).

Many clinicians believe that a therapeutic relationship may have only limited impact on outcomes for psychosis patients because of the complexity of mental health care, a combination of various treatments (e.g. psychological, pharmacological and social), and numerous confounders such as time in treatment (Priebe et al., 2011b). These make it difficult to research and the current understanding of associations with outcomes is poor.

There is a radically different suggestion that the patient-rated outcomes (e.g. symptoms, quality of life, needs for care) may reflect a pervasive patient characteristic, a general tendency to rate aspects of services in a particular way (positively or negatively) rather

than being a consequence of the therapeutic relationship (Hansson et al., 2007, Catty et al., 2010). However, Catty found ratings of the therapeutic relationship reflected the patient's perception of the relationship with a vocational worker but not the rating of treatment positively or negatively (Catty et al., 2012, Catty et al., 2010).

5.1.3 Perceived coercion

A feeling of being coerced indicates a perception of a lack of influence, control, freedom or choice (see Chapter 1, page 7). Subjective perception of coercion is not necessarily a measure of objective coercion (e.g. legal compulsion) (Hoge et al., 1997, Lidz et al., 1995, Lidz et al., 1998, Katsakou et al., 2010, Sheehan and Burns, 2011) but an interpretation of experiences of treatment. How various aspects of experience (e.g. therapeutic relationship) contribute to this interpretation is a key research question for understanding the perception of coerciveness of treatment.

It is generally accepted that reducing the negative effect of coercion (Swartz et al., 2003a, Van Dorn et al., 2006, Priebe et al., 2005b, Watts and Priebe, 2002) keeps patients engaged. This may be achieved by involving patients in decisions about their treatment (Diamond, 1995) but a priority remains to identify other factors and one of them may be the therapeutic relationship.

High levels of perceived coercion are reported by involuntary patients with the diagnosis of psychosis, history of multiple pressures and involuntary admissions, longer duration of legal compulsion, lower perception of effectiveness of treatment, and a poorer therapeutic relationship (Newton-Howes and Banks, 2014, Theodoridou et al., 2012, Monahan et al., 2005, Jaeger and Rossler, 2010, Elbogen et al., 2003a, Swartz et al., 2006, Swartz et al., 2002). However procedural justice is its strongest predictor

(Lidz et al., 1995, Hiday et al., 1997, Cascardi and Poythress, 1997, McKenna et al., 2003, McKenna et al., 2001). The way clinicians treat patients appears to be influential (see Chapter 1, page 9).

5.1.4 Procedural justice

Qualitative and quantitative studies have shown that respecting patients, treating them fairly and with care, and listening to their views when planning treatment are important for their appraisal of treatment (Katsakou and Priebe, 2007, Widdershoven and Berghmans, 2007, Bennett et al., 1993, Hoge et al., 1997, Lidz et al., 1995, Monahan et al., 2001, Watson and Angell, 2007). Clinicians reported using similar strategies to achieve shared decision making treatment (Seale et al., 2006).

A shared decision making approach is likely to be perceived by patients as fair and respectful (procedural justice) but this may not be achievable without a trusting relationship (Monahan et al., 1995, Pelto-Piri et al., 2013). Both procedural justice and the therapeutic relationship appear to be important for perception of coercion and they may be mutually dependent. How they are related, and which one has more impact on perceived coercion is, however, unknown.

5.1.5 Coercion and the therapeutic relationship

Qualitative studies suggest that levels of perceived coercion may be reduced by therapeutic relationships where patients perceive clinicians as fair, respectful and genuinely caring (Gilburt et al., 2008, Thøgersen et al., 2010, Skeem et al., 2007). Treatment pressures are applied within a relationship and its perceived extent may be reduced by a supportive social experience (Van Dorn et al., 2006) or increased by a

patient's belief that non-adherence will damage that relationship (Watts and Priebe, 2002). These complex associations were confirmed in several, but not all, quantitative studies of admitted patients (Sheehan and Burns, 2011, Theodoridou et al., 2012, Stanhope et al., 2009).

Inpatients who perceived their treatment as coercive were more likely to be involuntarily admitted and rate their therapeutic relationship negatively (Sheehan and Burns, 2011, Theodoridou et al., 2012) and the therapeutic relationship was found to be a confounder of perceived coercion (Sheehan and Burns, 2011). Both studies were conducted in inpatient settings. They had a cross-sectional design so could not test causal relationships. However, as with several previous studies (McNiel et al., 2013, Elbogen et al., 2005, Monahan et al., 2001, Dixon et al., 1999, Van Dorn et al., 2006), the findings implied a moderating or mediating role for the therapeutic relationship in perceived coercion. As Churchill's review found that high perceived coercion is associated with CTOs she suggested that this be explored and the potential mediating role of the therapeutic relationship investigated (Churchill, 2007). It is possible that patients may perceive compulsory treatment more positively if they have a good therapeutic relationship with clinicians. The evidence, however, suggests that combining coercive treatment with procedural justice, which is less demanding than building a therapeutic relationship, may be sufficient to reduce the negative effect of compulsion.

One study reported that a poor therapeutic relationship was associated with the subjective perception of coercion but not with the experience of coercive interventions (Stanhope et al., 2009). Satisfaction was found to be associated with lower perceived coercion and the better therapeutic relationship but leverage (McNiel et al., 2013) and

use of coercive interventions (Katsakou et al., 2010) was not. It appears that more global aspects of the relationship are related to perceived coerciveness of treatment (Stanhope et al., 2009) and both factors (therapeutic relationship and perceived coercion ratings) may reflect a patient's general tendency to appraise treatment (Hansson et al., 2007). Given that both social support and coercion are delivered through the therapeutic relationship it is possible that the therapeutic relationship moderates the association between compulsory treatment and perceived coercion.

Identifying potential moderators is the first step to understanding for whom and in what circumstances treatment works (McGuire et al., 2001, Murphy et al., 2009, Kraemer et al., 2002). These interactions are difficult to investigate in complex community care, there are so many potential confounders and longitudinal studies in this area are rare. In this study I investigated whether the therapeutic relationship acts as a moderator of the assessment of perceived coercion among community patients receiving different levels of legal compulsion.

5.2 Research questions

5.2.1 Main research question

Does the therapeutic relationship function as a moderator of perceived coercion or simply as a covariate associated with the acceptability of treatment?

5.2.2 Exploratory research question

Does the therapeutic relationship function as a moderator of hospital rates, duration of hospitalisation, severity of illness, global functioning, satisfaction with service, insight,

autonomy preference for decision making and information seeking, negative pressure and procedural justice?

5.3 Methods

5.3.1 Design

This study has an observational cohort prospective study design with a 365-day follow-up. Patients were interviewed at baseline and at 365 days and their medical records were examined.

5.3.2 Sample

This study is restricted to 317 OCTET patients who were interviewed at both baseline and at 365 days. The ULTIMA patients were interviewed only once and self-reported data was not available at 365 days. The OCTET study design and sample are described in detail in Chapter 1 (page 26) and Chapter 3 (page 175).

5.3.3 Data collection

Data collection procedures are described in Chapter 1 (page 26) and Chapter 3 (page 176).

Measures

To assess a potential moderator and the outcome variables in the main and exploratory study I used well established and commonly used measures. The potential moderator variable therapeutic relationship was measured by the 'Scale to Assess Therapeutic Relationship in Community Mental Health Care' version for patients (STAR-P). The outcome variable for the main research question was patient-rated treatment coercion (AES Perceived Coercion). Exploratory outcomes were patient-rated negative pressures (AES Negative Pressures), procedural justice (AES Procedural Justice), satisfaction with services (CSQ-8), insight to illness and need for treatment (ITAQ), autonomy preferences (API), and researcher-rated severity of symptoms (BPRS) and global functioning (GAF). BPRS and GAF assessments were related to the preceding two weeks, CSQ-8 and AES to the last six months, and ITAQ, STAR, and API to current views. BPRS, GAF, CSQ-8, ITAQ are described in Chapter 3 (page 177) and API in Chapter 4 (page 218).

Scale To Assess Therapeutic Relationship in Community Mental Health Care – Patient version (STAR-P)

STAR-P (McGuire-Snieckus et al., 2007) is a 12-item self-report scale for assessment of the patient-clinician relationship in community mental healthcare. Rates are related to the presence of trust, communication and consultation in relationship with the care coordinator. Responses are assessed on a 5-point Likert scale (0-4) and the total score ranges from 0-48. The STAR-P contains three subscales, 'Positive Collaboration' (6 items), 'Positive Clinician Input' (3 items) and 'Non-supportive Clinician' (3 items). Higher scores signify better relationships.

Admission Experience Survey (AES)

The Admission Experience Survey (AES) (Gardner et al., 1993) is a self-reported, 14-item questionnaire for the assessment of patient-rated perception of coercion adapted for community settings (Swartz et al., 2002) in treatment. It assesses 'perceived coercion' (5 items), 'negative pressure' (6 items) and 'procedural justice' (3 items). A 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) is used for responses to each item. Scores are presented as mean scores of all ratings in each subscale (range 1-5).

The *AES Perceived Coercion Scale* assesses a patient's perception of control, influence, choice and freedom in decisions about treatment. Higher scores indicate a higher level of perceived coercion. *The AES Negative Pressure Scale* assesses the patient's perception of threats and force experienced in treatment. Higher scores indicate a lower level of negative pressures. *The AES Procedural Justice Scale* assesses the patient's perception of having a say in their mental health care. Higher scores signify a higher level of perceived procedural justice.

5.3.4 Data management

Data management is reported in Chapter 3 (page 179).

5.3.5 Outcome, predictor and potential moderator variables

Both the main and exploratory study had identical independent variables (duration of compulsion) and potential moderator (therapeutic relationship). The dependent variable (outcome) in the main study was perceived coercion and in the exploratory study

hospital admission, number of days in hospital, severity of illness, global functioning, satisfaction with service, insight, autonomy preference for decision making and information seeking, negative pressure and procedural justice.

The independent variable (*duration of compulsion*) was the number of months under any compulsion (inpatient and outpatient) in the period from baseline to 365 days. This was a continuous, count variable. The potential moderator variable *therapeutic relationship* was the total STAR score at baseline, which was a continuous variable. In the main study the outcome variable was perceived coercion measured by AES Perceived Coercion Scale mean score at 365 days. This was a continuous variable.

In the exploratory study *hospital readmission* was a binary variable for the experience of hospital readmission (hospital readmission vs. no hospital readmission) from the first discharge from hospital to 365 days. *Number of days in hospital* was recorded as the number of days spent in hospital from the first discharge from hospital to 365 days of follow-up. Other outcome variables were continuous and assessed at 365 days.

5.3.6 Statistical analysis

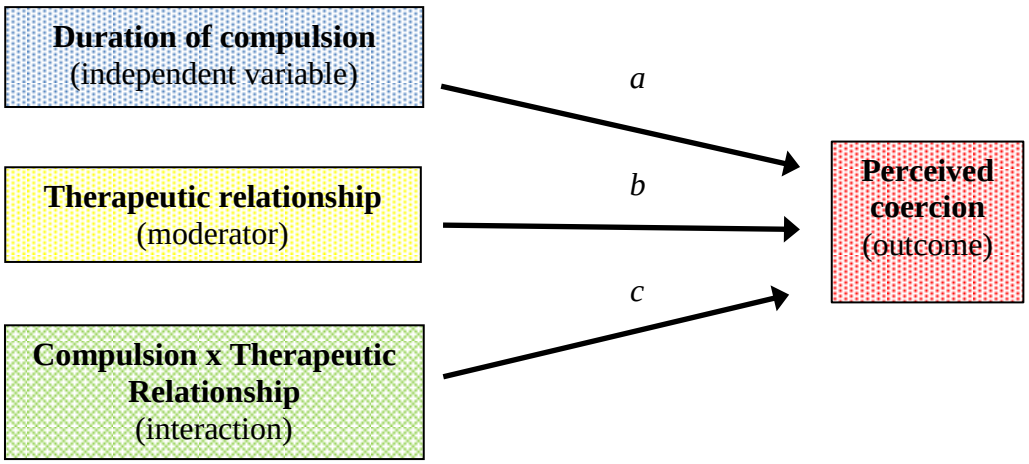
Descriptive statistical procedures for baseline characteristics, and all other variables are reported in Chapter 3 (page 180).

5.3.6.1 Main analysis

In the main analysis I tested the association of the interaction variable (between the number of months of legal compulsion (independent variable) and therapeutic

relationship (STAR-P, potential moderator)) with perceived coercion (AES Perceived Coercion, outcome variable).

Figure 7 Moderator model (Baron & Kenny, 1986)



I used the MacArthur framework for moderator analysis (Murphy et al., 2009, Kraemer et al., 2008, Kraemer, 2008, Kraemer et al., 2002). This approach requires that a potential moderator variable (therapeutic relationship) is uncorrelated with the treatment variable (duration of legal compulsion) and precedes the treatment (the therapeutic relationship was measured at baseline). There are three hypothesised causal paths influencing perceived coercion (Figure 7) (Baron and Kenny, 1986). Paths *a* and *b* are individual impacts of the duration of compulsion and therapeutic relationship on perceived coercion. Path *c* represents the impact of the interaction between the duration of compulsion and the therapeutic relationship on perceived coercion. The interaction variable is calculated by multiplying two independent variables (duration of compulsion and therapeutic relationship). It indicates the difference in outcome score between patients exposed to different levels of the treatment (duration of compulsion)

who were exposed to different levels of the moderator variable (different quality of therapeutic relationship). In this new variable (interaction variable), the contribution of each of the independent variables (duration of compulsion and therapeutic relationship) in predicting perceived coercion is interdependent. The effect of the therapeutic relationship as a moderator would be shown by the significant effect of the interaction variable (*c*) in the model.

To test this model I used linear regression. Before fitting the model I tested all linear model assumptions following the same procedure as described in Chapter 4 (page 221). The final model was adjusted for OCTET stratification factors (gender, diagnosis (schizophrenia vs. other diagnosis), and duration of illness (less than two years vs. two and more years)), and baseline outcome variable (perceived coercion) as this study was restricted to the OCTET RCT sample. The results are presented in interaction coefficient, 95% CI and p-value. Significance level was set at 0.05.

5.3.6.2 Exploratory analysis

In the exploratory analysis I tested whether a therapeutic relationship has an interactive effect with legal compulsion on the ten outcomes. Testing the moderation model consisted of fitting a regression model for the interaction variable and each outcome adjusted for OCTET stratification factors and relevant baseline outcome variables in linear regressions. For continuous outcome variables I used linear regression, for count variables negative binomial regression and for binary outcomes logistic regression. Linear model assumptions were tested for each continuous outcome variable as described in Chapter 4 (page 221). Log transformation and dichotomisation were employed as required in cases of violation of model assumptions (see Chapter 4, page

221). Interaction estimates were presented as Odds Ratio (OR, logistic regression), Incidence Rate Ratio (IRR, negative binomial regression) and Beta coefficients (linear regression), 95% CI and p-values. Significance level was set at 0.05.

5.3.6.3 Sensitivity analyses

I conducted sensitivity analyses for missing data in the self-reported potential moderator and most outcome variables. According to the relevant literature, choice of methods for dealing with missing data depends on the assumptions of reasons for their 'missingness'. After inspection of these reasons and comparison of patients with and without missing data, I assumed that the reasons for missing data *are* related and explained by observed variables in the data set (*missing at random*) (Pigott, 2001, Haukoos and Newgard, 2007, Higgins et al., 2008, Thabane et al., 2013, Sterne et al., 2009). This is the most common assumption of the mechanism of missingness (Haukoos and Newgard, 2007, Rubin, 1978). As recommended (Thabane et al., 2013) I evaluated the effect of missing data by using two different approaches such as a complete-case analysis and analysis with imputed data (sensitivity analysis). I used the multiple imputation technique which is one of the more complex and strongly recommended methods of imputation in newer literature (Haukoos and Newgard, 2007, Thabane et al., 2013) and is appropriate for the assumption of reasons of missingness in this study. Alternatively I could have used single imputation methods such as mean, median, and regression imputations but as they produce bias estimates and underestimated or small variance (Thabane et al., 2013, Haukoos and Newgard, 2007, Pigott, 2001) I chose not to.

The multiple imputation was performed in two steps. First I generated several imputed datasets (n=50) using the *mi* procedures in Stata (Hamilton, 2012, Sterne et al., 2009). Variables which were not normally distributed were log transformed. In the second step the models of interests were fitted for each imputed dataset and the results of those models were pooled together in order to provide the final models which examined the associations between the interaction variables and outcomes adjusting for baseline outcome variables and stratification factors. A global estimator for the association was obtained which was the value to compare with the results from the main analysis.

5.4 Results

5.4.1 Description of the sample

The baseline characteristics and patient flow of the OCTET sample are reported in Chapter 3, Table 6, and Figure 6.

5.4.2 Main results

Compulsion, therapeutic relationship and perceived coercion

Descriptive statistics for independent (number of months of compulsion), dependent (perceived coercion), and hypothesised moderator (therapeutic relationship) variables are reported in Table 22. During the 365-day follow-up period only one patient was not subject to legal compulsion. The mean number of months under legal compulsion was 7.3 (SD 4.43) and a median was 7.3 months (IQR 2.8, 11.92). Average mean score of AES Perceived Coercion 2.8 (SD 0.83) indicates moderate perception of coercion. STAR-P total score (mean 30.4, SD 9.66) indicates a moderately good relationship with

the clinician. Univariate association of the therapeutic relationship with perceived coercion was significant (coef=-0.0025, 95% CI-0.041, -0.008; p=0.003) but duration of compulsion was not significantly associated with perceived coercion (coef= 0.008, 95% CI -0.020, 0.037; p=0.570).

Table 22 Descriptive statistics for legal compulsion, baseline therapeutic relationship and perceived coercion for OCTET sample at 12 months.

	N	n[1]	%	Mean	(SD)	Median	[IQR]
Legal compulsion[2]	317	316	(99%)	-	-	-	-
Duration of legal compulsion, months	317	-	-	7.0	(4.43)	7.3	[2.8, 11.92]
AES Perceived coercion	171	-	-	2.8	(0.83)	3.2	[2.2,3.2]
Therapeutic relationship (STAR-P)	193	-	-	30.4	(9.66)	32	[24, 37]

[1]Number of events.
[2]Only one patient did not experienced legal compulsion during 12-month follow-up period.

A substantial amount of missing data has been identified for measures of therapeutic relationship (STAR-P) and AES Perceived Coercion (Table 22). There were 146/317 (46%) participants with no data on perceived coercion at 365 days and 124/317 (39%) without data on therapeutic relationship at baseline. Out of 91 patients who were not interviewed at 365 days 43 (47%) refused, 18 (20%) did not attend planned interviews twice or more and the remaining 30 (33%) were not contactable for various random reasons (Burns et al., 2013). Reasons for missing data on AES Perceived Coercion for 55/146 (38%) interviewed patients at 365 days were not recorded. However, researchers reported anecdotally that some questionnaires or individual items were

skipped during the interviews if patients were restless or unwell but measures of their functioning and severity of symptoms were collected when possible. Only 14/317 (4%) patients were not interviewed at baseline and 110 (88%) of 124 patients with missing data for therapeutic relationship were interviewed at baseline. Reasons reported for missing data at baseline were the same as for other measures.

Moderation analysis

Therapeutic relationship met both criteria to be tested as a moderator, (i) it was measured prior to treatment, and (ii) it was not correlated to duration of compulsion (r=0.129). Table 23 summarises the moderation analysis. I found no evidence that therapeutic relationship moderates the perceived coercion of compulsory treatment. The association of 'interaction variable' with the outcome variable (perceived coercion) was not significant (interaction estimate=0.0008, 95% CI -0.001-0.003, p= 0.397).

Table 23 Therapeutic relationship as potential moderator for association between legal compulsion and perceived coercion.

	n=100		
	Interaction[1] estimate	**95% CI**	**p-value**
Duration of legal compulsion * therapeutic relationship	0.0008	-0.001 - 0.003	0.397

[1]Adjusted for OCTET stratification factors (gender, diagnosis and duration of illness) and baseline outcome (perceived coercion).

Sensitivity analysis

Patients with missing data had no statistically different socio-demographic or other observed data from those with complete data. Regression estimate of an association

between the interaction variable and perceived coercion after multiple imputation is presented in Table 24. Sensitivity analysis with imputed data did not alter the findings of the main analysis as the estimated regression model was non-significant (coef=0.0004, 95% CI -0.001-0.002, p=0.639).

Table 24 Therapeutic relationship as potential moderator for association between legal compulsion and perceived coercion - sensitivity analysis with multiple imputed data.

	n=100		
	Interaction[1] estimate	**95% CI**	**p-value**
Duration of legal compulsion * therapeutic relationship	0.0004	-0.001 - 0.002	0.639

[1]Adjusted for OCTET stratification factors (gender, diagnosis and duration of illness) and baseline outcome (perceived coercion).

5.4.3 Exploratory analysis results

Compulsion and outcomes

The descriptive statistics for exploratory outcome variables assessed at 365 days are presented in Chapter 4, Table 20 (BPRS, GAF, CSQ-8, ITAQ, API-DM, API-IS,) and Table 25 (hospital admission, AES Negative Pressures, AES Procedural Justice) below. 104 (33%) of 317 OCTET patients had at least one hospital readmission in the period of 365 days after baseline. Those who were readmitted spent a mean of 100 days (SD 86.34) and median 75 days (IQR 30.5, 139.5) in hospital over the 365-day follow-up. They reported moderate perception of threats and force (negative pressures) in their treatment (mean score 3.7, SD 0.69) and procedural justice (mean 2.7, SD 0.81).

Table 25 Descriptive statistics for exploratory outcomes[1] in OCTET sample at 12 months.

	N	n[2]	(%)	Mean	(SD)	Median	[IQR]
Hospital admission	317	104	(33%)	-	-	-	-
Days in hospital	317	-	-	32.9	(68.18)	0	[0,28]
Days in hospital (readmitted patients)	104	-	-	100.17	(86.34)	75.0	[30.5, 139.5]
Negative pressure	173	-	-	3.7	(0.69)	3.8	[3.3,4.0]
Procedural justice	172	-	-	2.7	(0.81)	2.7	[2,3]

[1] Other exploratory outcomes are described in Table 20.
[2] Number of events.

Moderation analyses

Table 26 presents associations of the interaction variable with exploratory variables. Model assumptions were violated in linear regressions for several outcome variables (BPRS, GAF, ITAQ, API-DM, API-IS, AES Procedural Justice). Log transformations corrected violations of models for all outcomes except for ITAQ which was therefore dichotomised (equal and lower than median vs. higher than median). There was no evidence that the therapeutic relationship acts as a moderator of the relationship between duration of compulsion and the ten investigated outcomes. Sensitivity analysis with multiple imputed data did not alter the results (Table 27).

Table 26 Therapeutic relationship as a moderator for associations between duration of legal compulsion and exploratory outcomes[1]

Outcome	N	Interaction estimate	95% CI	p-value
Hospital admission	193	OR= 0.9988	0.991 -1.007	0.768
Number of days in hospital	193	IRR= -0.0141	-0.033 – 0.005	0.144
Severity of illness (BPRS)	111	β=0.0506[2]	-0.211 – 0.312	0.701
Global functioning (GAF)	139	β=-0.0398[2]	-0.111 – 0.031	0.270
Satisfaction with service (CSQ-8)	121	β =-0.2895[2]	-6.026 – 5.447	0.921
Insight (ITAQ)	130	OR=0.998	0.987 – 1.009	0.663
Autonomy Preference Index- Decision making	124	β =-0.0009[2]	-0.002 – 0.0004	0.165
Autonomy Preference Index – Information seeking	117	β =0.0001[2]	-0.0003 -0.0005	0.646
Negative pressure	107	β =0.0004	-0.0030 – 0.003	0.826
Procedural justice	105	β =0.8183[2]	-0.020 – 1.656	0.056

[1]Adjusted for OCTET stratification factors (age, gender, diagnosis, and duration of illness) and baseline outcome variable.

[2] This variable is log transformed to correct violation of model assumption.

OR=Odds Ratio (logistic regression). IRR= Incidence Rate Ratio (negative binomial regression). β=Beta coefficient (linear regression).

Table 27 Therapeutic relationship as a moderator for associations between duration of legal compulsion and exploratory outcomes - sensitivity analysis with multiple imputed data[1]

Outcome	N	Interaction estimate	95% CI	p-value
Hospital admission	317	OR= -0.001	-0.006 – 0.0037	0.664
Number of days in hospital	317	IRR= -0.0021	-0.009 – 0.005	0.542
Severity of illness (BPRS)	317	β=-0.009	-0.031 – 0.012	0.379
Global functioning (GAF)	317	β= 0.0061	-0.016 – 0.029	0.592
Satisfaction with service (CSQ-8)	317	β =-0.0003[2]	-0.0009 – 0.0004	0.453
Insight (ITAQ)	317	β =-0.0013[2]	-0.0027 – 0.00004	0.057
Autonomy Preference Index- Decision making	317	β =-0.00007[2]	-0.0007 – 0.0005	0.813
Autonomy Preference Index – Information seeking	317	β =0.00002[2]	-0.0004- 0.0005	0.924
Negative pressure	317	β =-0.0014	-0.0030 – 0.003	0.826
Procedural justice	317	β =0.00002	-0.002 – 0.002	0.987

[1]Adjusted for OCTET stratification factors (gender, diagnosis, and duration of illness) and baseline outcome variable.

[2] This variable is log transformed to correct violation of model assumption.

OR=Odds Ratio (logistic regression). IRR= Incidence Rate Ratio (negative binomial regression). β=Beta coefficient (linear regression).

5.5 Discussion

This study tested whether the quality of the therapeutic relationship acts as a moderator of perceived coerciveness of treatment with different durations of legal compulsion. In an exploratory analysis a moderation function of the therapeutic relationship was investigated for other self-reported and objective patient outcomes. This was tested for the sample of community patients with the diagnosis of psychosis recruited in the OCTET trial over 12 months. I found no evidence that the therapeutic relationship moderates either appraisal of coerciveness of treatment or other tested outcomes of treatment with a different duration of legal compulsion.

5.5.1 Strengths and limitations

This study is to my knowledge the first attempt in psychiatry to test a moderating function of the therapeutic relationship for treatment outcomes in a systematic manner. Other longitudinal studies tested only the predicting role of the therapeutic relationship within small samples (Priebe et al., 2011b). The longitudinal design of this study is a particular advantage as it allowed the moderation analysis and testing of causal relationships (Kraemer et al., 2002, Murphy et al., 2009).

Unlike many previous moderator testing studies I did not base my analysis exclusively on the unclear Baron and Kenny approach (Baron and Kenny, 1986) but I also followed a precise framework which distinguishes moderators from mediators (Kraemer et al., 2002, Kraemer et al., 2008) (see page 250). In addition, unlike other moderator testing studies, the present study hypothesis was based on empirical data (Sheehan and Burns, 2011, Theodoridou et al., 2012) and not simply on assumptions.

The present study was conducted with community patients and so the findings can be generalised to a larger population than previous studies with inpatients (Theodoridou et al., 2012, Sheehan and Burns, 2011).

There are several limitations to this study. First, the most important limitation is missing data for the combination of moderation, independent and outcome variables. Oxford statisticians who were consulted and the literature have diverse views about whether data should be imputed and, if so, how. The process of choosing the methodology is complex as assumptions behind methodology often cannot be statistically tested and is mostly based on common sense (Saunders et al., 2006, Thabane et al., 2013, Little and Rubin, 2002). As recommended in the literature (Haukoos and Newgard, 2007) I conducted two analyses (complete-data cases and imputed data) and I employed a robust method of multiple imputation. The regression estimates with imputed data did not change the results.

Second, most variables were based on patients' self-reported retrospective data which suffers from the limitations described in Chapter 3 (page 204). Recall bias may be particularly important for the therapeutic relationship as most patients were in hospital for several months prior to baseline assessment.

Third, the independent variable of duration of compulsion was a combination of community (CTOs) and inpatient compulsion. The results cannot be interpreted separately for one type of compulsion (CTO or inpatient) or setting (inpatient or community). This limitation may, however, also be construed as an advantage as it allows generalizability.

Lastly, STAR-P may have limitations in this specific context. It is possible that it did not capture the dual role of clinicians (to care and control) as it focuses predominantly on their therapeutic role (Seale et al., 2006).

5.5.2 Therapeutic relationship and perceived coercion

Both coercion and the therapeutic relationship are central features of mental health care. The potential of a therapeutic relationship to moderate the perceived coercion of compulsory treatment has been assumed because there is (albeit limited) evidence of their association (Sheehan and Burns, 2011, Theodoridou et al., 2012). However it is possible that this association is not causal but a reflection of an overall appraisal tendency. The self-reported treatment outcomes may 'overlap' because they represent a general subjective appraisal factor linked to mood rather than rates of specific outcomes (Hansson et al., 2007, Priebe et al., 1998, Björkman and Hansson, 2007). This study has tested for the moderation role to distinguish these two possibilities.

Therapeutic relationship as a moderator or covariate

The OCTET RCT was not originally designed to test the moderation function of the therapeutic relationship, but it was a good opportunity to investigate it. The findings should be interpreted cautiously. The therapeutic relationship was found to be associated to reduced perceived coercion confirming findings of previous studies (Sheehan and Burns, 2011, Theodoridou et al., 2012). The present study also tested the direction of the association and a specific potential moderation role of the therapeutic relationship. A bivariate association between duration of compulsion and perceived coercion was not significant as expected but this association was not necessary for a moderation analysis (Kraemer et al., 2002). I found no evidence for a hypothesised

moderation role of the therapeutic relationship. This finding suggests that the therapeutic relationship may have a main effect (found by Sheehan and Burns (Sheehan and Burns, 2011) and Theodoridou et al., (Theodoridou et al., 2012)) but no interactive effect on perceived coercion (Kraemer et al., 2002) and it is therefore a non-specific predictor of perceived coercion.

The hypothesis in this study assumed that the improvement of the therapeutic relationship will improve outcomes of compulsory treatment. This study failed to find that the therapeutic relationship as an 'intervention' prevents perception of coercion and other treatment outcomes. Therefore the finding suggests that assessments of therapeutic relationship portray patients' general subjective appraisal factor to evaluate treatment in a particular way (e.g. positively or negatively) (Hansson et al., 2007).

Therapeutic relationship and procedural justice

Although negative, the findings of this study may have both positive clinical and training implications. There is limited evidence for the association of the therapeutic relationship and perceived coercion (Sheehan and Burns, 2011, Theodoridou et al., 2012) but strong evidence that procedural justice reduces perceived coercion (Lidz et al., 1995, Lidz et al., 1998, Hiday et al., 1997, McKenna et al., 2001, O'Donoghue et al., 2014).

The therapeutic relationship is important for mental health care but procedural justice may be crucial in coercive treatment. Instead of building and managing a complex therapeutic relationship clinicians may be more effective in minimising perceived coercion by focusing on procedural justice. Unlike the therapeutic relationship procedural justice is less complex, its definition is broadly accepted, it includes only a

few interactions, and does not require an extensive familiarity with the patient. This result may be welcome in community services with a high turnover of staff and mobility of patients where building the therapeutic relationship may be a challenge (Jones et al., 2009, Watts and Priebe, 2002).

5.5.3 Implications and recommendations

5.5.3.1 Clinical practice and training

Despite the broadly accepted shared decision making approach, paternalistic interventions are still a significant component of mental health care. The management of the therapeutic relationship is difficult and complex. It involves emotions and one style does not fit every patient as they have different preferences. Individual supervision is recommended but a more focused and systematic approach to improving clinicians' interpersonal communication skills may be effective to improve outcomes (Priebe and Mccabe, 2008).

Clinicians in the UK receive on-going informal training in communication skills for interactions with psychosis patients. Training and supervision of clinicians may foster development of the therapeutic relationship but the findings of this study suggest that when compulsion is used this will have little impact on several outcomes. However the evidence for procedural justice is strong and it should be included not only in formal training in a systematic manner but also in more formal guidance and policy (McKenna et al., 2003) such as MHA and Code of Practice.

5.5.3.2 Future research

Most evidence on procedural justice, perceived coercion and legal compulsion is related to admission to hospital (Sheehan and Burns, 2011, Bindman et al., 2005, Hoge et al., 1997, Nicholson et al., 1996, Poulsen and Engberg Md, 2001, Iversen et al., 2002, Kjellin et al., 2006, McKenna et al., 2001). Given the deinstitutionalised nature of current services it is increasingly important to investigate these factors and their impact on patients' outcomes in community settings. Such studies may be difficult to conduct because of the complexity of community treatment, interactions with a variety of professionals and the large number of potential confounders. Studies should be longitudinal, preferably RCTs, with empirically hypothesised moderator and mediator roles. It might also be necessary to reduce the number of assessed outcomes as these may measure a general treatment appraisal.

5.6 Conclusion

This study did not find evidence for a hypothesized moderator role of the therapeutic relationship for perceived coercion and other outcomes in compulsory treatment. The therapeutic relationship is clearly associated with perceived coercion. However, the therapeutic relationship appears to be a general appraisal factor and it does not have a direct moderating influence on perceived coercion and other outcomes. If clinicians want to improve their ability to reduce perceived coercion in clinical practice they should focus on the less complex procedural justice. Procedural justice should have a higher profile in clinical practice and formal training.

Chapter 6 Summary and conclusions

In this chapter I first summarise my findings and review each study in the context of clinical practice and the relevant ethical debate. I then discuss the challenges and complexity of the research and the practice of informal coercion in community care, and finally the clinical and research implications.

6.1 Introduction

This thesis investigated the patient experience of coercion in mental health treatment in one scoping review and three empirical studies listed in Box 6.

Box 6 List of studies	
Scoping review of published literature on informal coercion.	Chapter 2
Associations between legal compulsion and informal coercion.	Chapter 3
Associations between informal coercion and outcomes.	Chapter 4
Influence (moderation) of the therapeutic relationship on the perceived coercion of compulsory treatment.	Chapter 5

The study was designed to contribute to the limited body of evidence on informal coercion, the subjective perception of coercion and the therapeutic relationship in psychiatry. Informal coercion and perceived coercion are relatively new concepts. Both arose out of studies with involuntary inpatients and the findings that patient perception of the coerciveness of the admission process does not always reflect their involuntary

status. The aim of informal coercion is to mould patient behaviour to avoid deterioration, relapse and involuntary treatment but little is known about its impact on patients. There is also little evidence of the factors leading to reduced perceived coercion. There may be several reasons for this. First is the complexity of both concepts. Second, the lack of a broad and clear theoretical conceptualisation and operationalization or research instruments. Third, informal coercion is often covert, not obvious to either patients or clinicians and it takes various forms (e.g. persuasion, threats, leverage). Fourth, the community setting adds to the complexity of this research field (e.g. potential confounders such as pressures from family).

Psychiatric services have improved substantially in the last half-century but this has also been accompanied by disruption, conflicting policies and controversy. First, it is generally accepted that coercion should be reduced but CTOs were recently introduced and the use of compulsion has increased (Keown et al., 2008). Second, modern psychiatry is committed to evidence based treatment but CTOs and involuntary hospital admission are legislated with no evidence about their effectiveness for treatment outcomes. Third, although reducing patient experience of coercion in mental health care is desirable, there is a lack of evidence based interventions to achieve it. In my thesis I address these issues in three empirical studies.

6.2 Summary of findings

6.2.1 What is known about informal coercion? (scoping review)

The aim of the scoping review was to summarise all published literature on informal coercion to increase understanding. I identified 90 papers addressing the theoretical

conceptualisation of treatment pressures, ethical analyses and qualitative and quantitative empirical evidence. Despite the broad question and the number of empirical quantitative papers identified (n=54), I found only a small, and often conflicting, body of evidence. It is clear, however, that the use of informal coercion is widespread in mental health care (Monahan et al., 2005, Burns et al., 2011, Jaeger and Rossler, 2010). Clinicians use leverage because they believe in its effectiveness but there is no clear evidence that it improves treatment outcomes. Generalisation of findings is, however, difficult and addressing consistency in terminology and methodology in studies is required.

6.2.2 A study of the association between legal compulsion and informal coercion

The longitudinal retrospective study reported in Chapter 3 is the first study testing whether involuntary patients experience a different level of informal coercion than voluntary patients. This study aimed to inform the debate around the introduction of CTOs. Conflicting views have been proposed that CTOs will encourage clinicians to be more controlling or alternatively would reduce the use of other pressures because the CTOs would be sufficient to keep patients adherent to treatment. My failure to find any association between legal compulsion and leverage in this study indicates a need for a more conscious and rational approach to non-legislative pressures and the raising of their profile in clinical practice and training.

6.2.3 A study of associations between informal coercion and outcomes

Clinicians use non-legislated pressures to improve patient adherence to treatment and consequently their clinical outcomes. This longitudinal study on the effectiveness of leverage (Chapter 4) failed to find any positive outcomes. This finding challenges the justification of informal coercion in the context of the unequal power relationship between clinicians and patients. I conclude that this should be actively addressed in clinical practice, policy and training.

6.2.4 Study of the impact of the therapeutic relationship on perceived coercion of compulsory treatment

The therapeutic relationship has been shown to be related to perceived coercion in cross-sectional studies at hospital admission (Sheehan and Burns, 2011, Theodoridou et al., 2012). The study reported in Chapter 5 was the first study that investigated whether the therapeutic relationship moderates the perceived coercion of compulsory treatment or is simply associated with it. My finding of no evidence for such an independent influence implies that its association may instead reflect a general patient tendency to appraise treatment. However, the therapeutic relationship remains central to mental health care but attention to procedural justice may be a simple and effective alternative to influence patients' subjective experience of coercion.

6.3 Understanding informal coercion and associations with legal compulsion and outcomes

Informal coercion and legal compulsion

Many patients with SMI are subject to various pressures to adhere to treatment. These pressures may be divided into legal compulsion and informal coercion. I noted previously that my study's failure to find associations between them may be explained by differences in their nature and the manner in which they are used. Unlike informal coercion, legal compulsion is used strategically and agreed by a team of professionals. Its use is recorded and monitored to protect patients' and clinicians' rights and to detect and prevent its abuse. In contrast, non-legislated pressures such as leverage or persuasion occur spontaneously in human relationships and in clinical settings they may be considered 'normal'. This may explain why clinicians do not always recognise the covert pressures they use (Valenti et al., 2015) and why they perceive coerciveness differently to patients (Seale et al., 2006). This, however, requires ethical challenge because informal coercion also infringes patient autonomy. The absence of safeguards may imply that they are not required in a clinical setting and that leverage is appropriate. It cannot be seen as a pressure but as a component of the therapeutic relationship and 'normal' in the clinical setting. By overlooking these pressures clinicians ignore the power imbalance in the relationship with patients, particularly when combined with legal compulsion. However, monitoring and recording the use of non-legislated pressures (e.g. persuasion) would be enormously difficult and impractical. By creating even more administrative tasks it might also generate resistance.

Informal coercion needs to be approached differently. The priority is to start addressing informal coercion in clinical practice to increase awareness of its use and possible impact on patient experience. But is it realistic to expect reduction in the use of informal coercion? Libertarians believe that a ban on compulsion would motivate clinicians to search creatively and intensively for alternatives and effective voluntary treatments. But are they not doing that already? Despite intensive research alternative interventions to improve adherence are limited (Gray et al., 2002), although there is recent promising evidence for financial incentives (Priebe et al., 2013).

The finding of my study suggests that with a ban on compulsion, coercive practices such as leverage are unlikely to disappear, and their management will be problematic because of their nature. The challenge for mental health services will be whether established clinicians can shift to a more conscious use of pressures and appraisal of them. Attention to non-legislated pressures in early training may be necessary, and subsequent examination in clinical discussions and supervision should ensure a heightened ethical considerations that may improve patient experience.

Informal coercion and clinical outcomes

The use of coercive practices in mental health treatment has been generally justified by their positive outcomes for patients. Testing the effectiveness of these practices is, therefore, an important task for mental health professionals and my study was designed to contribute to that task. However, my failure to find any positive effects of leverage is discouraging although not surprising for the following three reasons. First, the study data originated from two other studies that were not designed to investigate the effectiveness of leverage. It would be inappropriate to be overly dogmatic about this finding. Second, given the consistent lack of evidence on the effectiveness of legal

compulsion in RCTs and conflicting evidence in observational studies (Churchill, 2007, Kisely and Hall, 2014, Katsakou and Priebe, 2006, Priebe et al., 2009) the expectation that leverage may improve patient outcomes may be unrealistic. Third, the observed outcomes were most likely influenced by both leverage and legal compulsion and distinguishing their impact may be blurred (Sjöström, 2006).

Demonstrating the effectiveness and measuring the effects of any form of coercion in a pragmatic longitudinal study in a complex community setting is difficult. However, my study's negative findings should not discourage further research. Testing the effectiveness of leverage is important for at least two reasons. First, because of its widespread use in mental health care (Monahan et al., 2005, Burns et al., 2011, Jaeger and Rossler, 2010). Second, it would be difficult to discontinue its use because of its 'automatic' nature. In addition, leverage may be formalised (e.g. treatment required in a lease). However, one study found that patients disengaged from such leveraged services (Wong et al., 2010). Such studies, therefore, should alert clinicians to pay attention to these pressures and apply a more sensitive approach when they plan to use them.

Given the overall lack of evidence of the effectiveness of treatment pressures, clinicians base their justification of coercion such as leverage not on evidence but on their beliefs and established clinical practice. The potential value of my finding is, however, the encouragement of clinicians to start changing their practice by first perceiving leverage as a pressure. They can then openly discuss it with patients in an attempt to justify its use and acknowledge the infringement of patient autonomy. Leverage may be an *offer* but also a *threat* and clinicians should address this before its use (Dunn et al., 2012).

The challenge for mental health services will be to encourage clinicians to change their attitude towards leverage. These changes in practice may be difficult to achieve and there may be at least two potential difficulties in this process. First, clinicians do not feel comfortable talking about themselves as a source of pressure (Valenti et al., 2015). Second, they do not have convincing evidence from patients that they feel coerced. This process of change will therefore need two simultaneous developments. First, to set up discussions in more formal frameworks such as training and supervision. Second, to encourage researchers to conduct high quality studies to inform this process.

The findings of these two studies might be beneficial for both clinicians and patients, both of whom might wish to avoid coercion. I failed to provide evidence that could be used to train clinicians to manage the use of pressures to achieve treatment aims. However, the findings highlighted the general need to change practice and attitude in order to decrease the use of (ineffective) informal coercion, protect patient liberty and reduce risk to the therapeutic relationship.

6.4 The role of the therapeutic relationship and procedural justice in the patients' experience of coercion

The therapeutic relationship in psychiatry is accepted as important although we don't fully understand it. It is not clear whether it spontaneously 'happens' (or not) because a clinician and patient like each other, or if it can be managed and built strategically. Nor do we know how much control clinicians have in this process. There is also an ongoing debate about distinguishing self-reported outcomes (e.g. quality of life, therapeutic relationship) and a suggestion that their assessment may instead reflect a general

tendency of the patient for a positive or negative appraisal of services. Absence of evidence for the influence of the therapeutic relationship on outcomes in my study strengthens this suggestion about a general appraisal factor. This, however, does not mean that we should stop assessing the therapeutic relationship, quality of life or other self-reported measures. It is important to measure them but clinicians and researchers should interpret them more carefully and perhaps consider using a smaller number of such outcomes.

It has been suggested that research into the therapeutic relationship is the principal task of social psychiatry (Priebe and Mccabe, 2008) but there is much we do not know. Both patients and clinicians perceive the therapeutic relationship as important (see Chapter 2, page 151) but quantitative studies like mine do not provide consistent evidence. There may be two explanations. First, the therapeutic relationship is complex and the assessment instruments may not measure all its components. The psychiatrists' role is not only therapeutic and while they are concerned that the therapeutic relationship may be damaged by coercion (Claassen et al., 2007) they continue to use it. The conceptualisation of the therapeutic relationship needs to include this dual role and operationalize both supportive and control functions. Second, its independent impact may be overstated. The way forward may be to continue with investigation of the therapeutic relationship, but also to deconstruct it and focus on less complex components that are easy to manage and measure. One such component may be procedural justice.

The dilemma is whether procedural justice (e.g. listening to patients, giving time and space to express views) is a context specific set of procedures or just one general behaviour within a therapeutic relationship (Catty et al., 2010). My findings strengthen

the suggestion that procedural justice rather than the therapeutic relationship, especially its mechanics such as the interaction around compulsion and how it is delivered, may affect patients' perception of coercion. Procedures used in the specific situation of pressure may have more impact than the general quality of the relationship and this may be beneficial for clinical practice. In busy clinical teams the management of procedural justice may be easier to improve than strengthening the therapeutic relationship and it may not be difficult to learn how to do it. Procedural justice may be the way forward in minimising the perception of coercion in upsetting situations of coercive interventions, but we need more evidence in longitudinal studies in a community setting (Sørgaard, 2004). However, there may be several challenges. Clinicians have different approaches and a range of understanding of 'respect' and how much 'time and space' they should give to patients. This may need more evidence to standardise recommendations provided in clinicians' training and practice. Clearly one size does not fit all, and an individual approach will remain vital. Asking patients for their views is an essential first step in the development of this approach.

6.5 Challenges for research of informal coercion

During the scoping review (Chapter 2) and in the course of my studies, I quickly recognised the challenges of conducting research into informal coercion. This is because of the complexity of community treatment and the nature of various forms of informal coercion. I will highlight how these factors might be problematic for research.

Conceptualisation and generalisability of empirical findings

The lack of theoretical conceptualisation was more problematic in the past. However, the widely accepted broad conceptualisation such as Szmukler and Appelbaum's (2008)

hierarchy of pressures (Szmukler and Appelbaum, 2008) still does not capture the complete spectrum of pressures that are reported in qualitative studies (Canvin et al., 2013). Canvin and colleagues developed a broader framework but their model only covers leverage ((Canvin et al., 2013), Chapter 2). Another challenge is inconsistent terminology and the interchangeable use of different terms such as leverage, informal coercion and mandated community treatment (Canvin et al., 2013, Van Dorn et al., 2006). Szmukler and Appelbaum's hierarchy of pressures does provide more clarity but the current literature remains confusing and comparisons are difficult.

The generalisation of findings is difficult for several reasons. Different mental health services and the provisions in different jurisdictions affect the use and meaning of leverage (e.g. welfare leverage is not entirely informal in the USA). Patterns and types of pressures vary between study sites reflecting the setting, institutional culture, resources available, and staff morale (Monahan et al., 2005, Moser and Bond, 2009, Manuel et al., 2013). Most studies have been conducted in the USA and findings cannot be entirely generalised to Europe. Studies also investigated similar concepts (e.g. 'leverage', 'money warnings', 'therapeutic limit setting'), using different data collection procedures and terminology. Lastly a small group of studies has been analysed to produce several papers each (e.g. 15 papers report the same MacArthur leverage study) (Monahan et al., 2005). Without more conceptual work, broader frameworks and consistent terminology studies will struggle to provide a better understanding of a comparable and full experience of coercion. It may, however, be unrealistic to expect to completely overcome these difficulties given different legislations and services.

Methodological challenges

Many forms of pressure are not overt and as part of the therapeutic relationship it is difficult to acknowledge and therefore assess them. Leverage is probably relatively overt but pressures such as persuasion will be difficult to measure in quantitative studies. The challenge will be to assess these subtle pressures but the ambiguity in their assessment for both researchers and research participants will remain. Qualitative research (Sjöström, 2006) may be a more appropriate approach to start with.

It is possible that various unmeasured aspects of a participant's treatment experience and clinical conditions in community treatment could also impact their experience of leverage and treatment outcomes (Swartz et al., 2002, Van Dorn et al., 2005). It is not possible to control for all potential confounders as they have been shown to vary. For example, patients with more contact with services may experience more leverage because they simply have more occasion to experience them. Similarly leverage may be applied by various professionals, family and friends, not only a clinician.

Challenge of missing data in my empirical studies

All three empirical studies suffered from missing self-reported patient data. However, there was less missing data in studies on the association of informal coercion with legal compulsion (Chapter 3) and treatment outcomes (Chapter 4) than in the study testing the moderating role of the therapeutic relationship (Chapter 5). I consulted literature and two statisticians and found that the appropriate method to handle missing data is an issue of judgment, and opinions are divided. After considering the arguments I used a more robust sensitivity analysis in the form of a multilevel imputation method only in

the study with a substantial amount of missing data (Chapter 5). However, I acknowledge that other researchers may choose different methods.

6.6 Implications for research into informal coercion

As I previously noted, despite the difficulties in research the priority is to investigate the effectiveness of all forms of informal coercion in longitudinal studies, preferably RCTs. The challenge will be to randomly assign various pressures in RCTs (Elbogen et al., 2003a) in a community setting. Most studies included in my review relied on patient reports. Self-reported data is important but it may reflect patients' general tendency in treatment appraisal, and it provides only a description of their experience based on recall, not necessarily on what happened. More certainty may be gained by simultaneously assessing professionals and family members. Clinicians may also give greater insight as to how they use pressures and the logic behind their use, individually and combined.

A lack of evidence for the effectiveness of legal compulsion has not significantly changed its use and the same may be expected for informal coercion. The key is, therefore, to identify factors associated with perceived coercion to inform clinicians how to approach these pressures more sensitively. Procedural justice has strong evidence as one such factor (Angell, 2006) but we need to identify other factors in longitudinal studies. Most published studies are focused on patient views or perception of treatment but I found no investigation of their perception of legislation and policies. Their views are often represented in debates about legislation (Pinfold and Bindman, 2001) but direct investigation may help in understanding how an awareness of

legislation (so called ‘coercive context’) (Sjöström, 2006) influences the subjective experience.

It is essential to confirm the findings from studies of hospital admission in a community setting. Studies in hospital settings are important but the vast majority of patients receive treatment in the community. I found only a handful of studies conducted in the community and most recent studies were still set in hospitals (O'Donoghue et al., 2014, Jaeger et al., 2014). It is striking how researchers so rarely take the challenge to conduct studies in a complex community setting. Such studies are also, of course, more expensive and funds may not be available. My experience is that recruitment and assessments in hospitals are also less demanding for researchers. Research and Development procedures should encourage researchers and clinicians to conduct research in the community by simplifying systems and requirements to reach patients and providing incentives.

My own and other reviews (see Chapter 2, (Newton-Howes and Mullen, 2011, Newton-Howes and Stanley, 2012, Høyer, 2008)) identified limited operationalisation of concepts of treatment pressures and measures of perceived coercion and of the therapeutic relationship. The AES is widely accepted but, as I discussed in Chapter 1, it has many weaknesses and it is used in different ways by different researchers. The main problem is the inconsistent use of items and different scoring strategies. Another key problem is a lack of other validated instruments to measure various forms or aspects of informal coercion. The AES should be used consistently to allow comparisons, and scales for different stakeholders should be generated from AES to improve generalisability. Researchers should be careful in developing new scales because use of different scales may limit the comparison of research findings.

6.7 Implications for clinical practice

As I discussed previously, the most concerning issue about informal coercion is that it is unmonitored and its impact on patient autonomy is not challenged. The nature of these pressures as subtle or 'invisible' and as a 'normal' part of non-clinical relationships may explain why they were ignored by general human rights and mental health legislation (e.g. European human rights legislation) (Richardson, 2008, Kelly, 2011), or professional guidance such as the Code of Practice: MHA 1983 (Department of Health, 2015). These pressures are now acknowledged in a research context but not in clinical practice. Uncertainty remains whether the current body of evidence on informal coercion is sufficient to encourage inclusion of informal coercion in teaching the ethics of medicine, and structured training in a more sensitive use of pressures and systematic individual ethical considerations. However, without formalising this approach in training and policies it is difficult to raise awareness and encourage clinicians to reflect it in their practice.

Clinicians are already doing a lot to minimise coercion by using interventions they know (or believe) are effective. They should, however, focus more on self-observing their own interactions with patients. This is a skill that can best be learned by practising in workshops. Identifying their current routine practices as pressures may be challenging but necessary to achieve change. This may introduce a risk of becoming over self-conscious, exaggerating the prominence of pressures and becoming stilted. Asking patients for their views and feelings may optimise this activity.

Despite limited evidence in community care it may be desirable for clinicians to focus on practices linked to procedural justice. It may be argued that procedural justice is

already practiced by clinicians as they certainly use many similar strategies (Seale et al., 2006) but these are not clearly linked to their use of pressures with patients. This link should be explicitly presented and practised in workshops which may be an extended part of current obligatory MHA training. In addition, introducing an appraisal of the coerciveness of the treatment as a routine assessment in mental health care would provide valuable information to clinicians, researchers and monitoring bodies (e.g. CQC). Balancing the various forms of pressures with ethical considerations is a significant task in the treatment of reluctant patients.

6.8 Final reflection on informal coercion

There is nothing new or unusual about informal coercion in mental health care. What is new is our recognition of its ubiquity. There is, however, much we still don't know. My longitudinal studies were designed to provide a better understanding of the interaction of the different forms of coercion (formal and informal), the contribution of informal coercion and the role of the therapeutic relationship to treatment outcome, and to inform the ethical discourse in mental health practice. This thesis concludes with a call to stimulate attention to informal coercion in staff training, both in its use and relevance to patient experience of treatment.

The majority of mental health practitioners practice non-legislated pressures to encourage patients with SMI to take medication and stay well. Professionals and researchers have to recognise that most pressures are coming from clinicians and it is necessary to address their justification and effectiveness. However, both effective and ineffective pressures may (or may not) reduce patient freedom and be perceived as coercive by them and this has to be assessed. The challenge will be not only to identify

how to systematically use non-legislated pressures effectively but first of all how to recognise it as a pressure in the clinical setting. Changes of clinicians' beliefs in the effectiveness of treatment pressures may be a bigger challenge. This is demonstrated in the ongoing debate about the effectiveness of CTOs despite the consistent failure of three RCTs to identify any benefit. Clinicians and researchers, unconvinced by the evidence, continue to advance arguments based on beliefs and personal experience. The way forward is surely to increase awareness by continuing with high-quality research to inform this debate.

The evidence base of informal coercion is small but growing now that the issue has achieved professional consciousness. The challenge ahead will be to develop and consistently use a vocabulary for discussion and improve measuring instruments to inform the clinical debate with high-quality empirical data. The most important change required from clinicians is to recognise both the potential benefits and harms of treatment pressures and to develop practices that promote careful ethical analysis.

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Appendices

Appendix 1: Ovid Medline search strategy

	Searches
1	mental health services/ or community mental health services/
2	mental disorders/ or *anxiety disorders/ or *panic disorder/ or *phobic disorders/ or exp *stress disorders, traumatic/ or exp *dissociative disorders/ or exp *eating disorders/ or exp *mood disorders/ or exp *personality disorders/ or exp *"schizophrenia and disorders with psychotic features"/ or exp *substance-related disorders/
3	Mentally Ill Persons/
4	((mental* or psychiatr*) adj2 (ill* or disorder? or health or service?)).ti.
5	(depress* or bipolar or ((mood or dysthymi*) adj2 disorder?) or dysthymia?).ti.
6	(psychos?s or psychotic or (personality adj2 disorder?) or schizophreni?).ti.
7	((eating adj2 disorder*) or anorexia or anorexic or bulimia or bulimic).ti.
8	(alcoholic? or alcoholism or ((alcohol or substance or drug?) adj2 (abuse* or addict* or misuse* or disorder?))).ti.
9	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8
10	Coercion/ and (exp Professional-Patient Relations/ or Motivation/)
11	Coercion/ and (Housing/ or exp Public Assistance/ or Social Welfare/ or Child Custody/)
12	Coercion/ and exp Attitude/
13	Persuasive Communication/
14	Negotiating/
15	(informal adj5 coerc*).ti,ab.
16	((endorse* or induce* or encourag* or negotiat* or influen* or persua* or motivat* or threat* or pressur* or sanction* or warn* or covert or persua*) adj5 coerc*).ti,ab.
17	((money* or monetary or cash or financial* or economic*) adj5 coerc*).ti,ab.
18	((money* or monetary or cash or financial* or economic*) adj5 (control* or manage* or responsib*)).ti,ab.
19	representative payee*.ti,ab.
20	((housing or social security or welfare) adj5 coerc*).ti,ab.
21	(((infant? or child*) adj2 (access* or custody)) and coerc*).ti,ab.
22	((professional? or practitioner? or psychiatrist? or physician? or nurse?) adj5 coerc*).ti,ab.
23	((carer? or caregiver? or famil* or spous* or husband? or wife or wives or parent* or mother* or father*) adj5 coerc*).ti,ab.
24	((experience? or perception? or perceive* or attitude? or belief? or believe? or feel or feeling? or emotion* or fair* or frighten* or fear* or scare*) adj5 coerc*).ti,ab.
25	leverag*.ti,ab.
26	(informal adj2 (endorse* or induce* or encourag* or negotiat* or influen* or persua* or motivat* or threat* or pressur* or sanction* or warn*)).ti,ab.

27	((threat* or sanction* or warning?) adj3 (treat* or therap* or medication?)).ti,ab.
28	((money* or monetary or cash or financial* or economic*) adj5 (subsid* or incentiv* or prize? or inducement? or benefit? or reward?)).ti,ab.
29	((money* or monetary or cash or financial* or economic*) adj5 (threat* or pressur* or sanction* or warn*)).ti,ab.
30	((housing or social security or welfare) adj5 (subsid* or incentiv* or prize? or inducement? or reward?)).ti,ab.
31	((housing or social security or welfare) adj5 (threat* or pressur* or sanction* or warn*)).ti,ab.
32	((professional? or practitioner? or psychiatrist? or physician? or nurse?) adj2 alliance).ti,ab.
33	((treatment* or therapeutic* or medication? or medical) adj (alliance or relationship*)).ti,ab.
34	10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33
35	((medication* or treat* or therap*) adj3 (adhere* or nonadhere* or non-adhere* or comply or complian* or noncomplian* or non-complian* or persisten* or refus* or dropout? or drop out?)).ti,ab.
36	"patient acceptance of health care"/ or patient compliance/ or medication adherence/ or patient participation/ or treatment refusal/
37	(adhere* or nonadhere* or non-adhere* or comply or complian* or noncomplian* or non-complian* or persisten* or refus* or dropout? or drop out?).ti.
38	35 or 36 or 37
39	9 and 34 and 38
40	(2014* or 2015*).ed,yr.
41	39 and 40

Appendix 2 Assessment instruments

1. LEVERAGE (MCARTHUR LEVERAGE INTERVIEW) (ADAPTED)

Questions in bold are used to identify experience of leverage.

a. Specific leverage – Housing

levhous2_t3	**In the last 6 months, have you lived somewhere where you felt you were required to stay in mental health or substance use treatment (or required to continue taking your medication) in order to keep living there?** (including family home)	1=Yes 2=No	☐
levhous4_t3	**In the last 6 months, have you been told that obtaining new accommodation is dependent on you taking any treatment?**	1=Yes 2=No	☐
levhous5_t3	Here's a statement I'd like you to rate: *"Being told to get treatment in order to keep their housing helps people stay well."* Do you… [show response card 6]	1= strongly disagree 2= disagree 3= neutral/mixed 4= agree 5= strongly agree	☐
levhous6_t3	If *levhou2* OR *levhous4* is 'yes': *"In your case it helped you to stay well."* Do you… [show response card 6]	1= strongly disagree 2= disagree 3= neutral/mixed 4= agree 5= strongly agree	☐

b. Specific leverage – Money

levmoney2_t3	In the last 6 months have you received your money through an officially appointed financial manager/guardian?	1 = Yes 2 = No	☐
levmoney3_t3	Who is (or was) your financial manager/guardian?	1= parent 2= spouse 3= other relative 4= legal guardian (non-relative) 5= CMHT Staff 6= Social services staff 7= Other	☐
levmoney3spec_t3	If 'other' or 'other relative', specify	_____	
levmoney5_t3	**In the last 6 months did the financial manager/guardian make giving you the money or giving you spending money dependent on whether you did what he or she wanted in terms of getting mental health, alcohol or drug treatment (or taking medication?)**	1 = Yes 2 = No	☐
levmoney6_t3	In the last 6 months, whether or not you have a financial manager/ guardian, was there anyone who handled your money for you or helps you manage your money? (e.g. pays your rent, gives you spending money)	1 = Yes 2 = No	☐
levmoney7_t3	Does any of your incoming money go directly to this person or to an account this person manages?	1 = Yes 2 = No	☐
levmoney8_t3	**In the last 6 months, did this person make giving you the money or giving you spending money depend on whether you did what he or she wanted in terms of getting mental health, alcohol or drug treatment (or taking medication?)**	1 = Yes 2 = No	☐
levmoney9_t3	Here's a statement I'd like you to rate: *"One way to help people stay well is to hold back some of their money unless they keep going to treatment."* Do you… [show response card 6]	1= strongly disagree 2= disagree 3= neutral/mixed 4= agree 5= strongly agree	☐
levmoney10_t3	If *levmoney5* OR *levmoney8* is 'yes': *"In your case it helped you to stay well."* Do you… [show response card 6]	1= strongly disagree 2= disagree 3= neutral/mixed 4= agree 5= strongly agree	☐

c. Specific leverage – Criminal justice system

(cross check answers with notes/written records)

levcrim04_t3	In the last 6 months, have you ever been arrested (read your rights) because you were suspected of breaking the law?	1=Yes	2=No	☐
levcrim05_t3	**Sometimes a member of the legal system might tell you or your lawyer that the charges will be dropped or reduced if you get treatment in the community for your mental health, alcohol or drug problems. In the last 6 months, did anyone tell you or your lawyer this?**	1=Yes	2=No	☐
	If 'yes', who told you or your lawyer this? *(this can be more than one, check all options)*			
levcrim6a_t3	Police	1=Yes	2=No	☐
levcrim06b_t3	Prosecutor	1=Yes	2=No	☐
levcrim06c_t3	Judge	1=Yes	2=No	☐
levcrim06d_t3	Mental health professional or prison psychologist	1=Yes	2=No	☐
levcrim06e_t3	Anyone else	1=Yes	2=No	☐
levcrim06espec_t3	If 'anyone else', specify	_____		
levcrimcourt_t3	In the last 6 months, were you tried in/taken to court?	1=Yes	2=No	☐
levcrim07_t3	**If 'yes', sometimes a magistrate or a judge tells you or your lawyer that you can avoid going to jail or prison if you get treatment in the community for your mental health, alcohol or drug problems. Did anyone ever tell you or your lawyer this in the last 6 months?**	1=Yes	2=No	☐
levcrim12_t3	If *levcrim05* or *levcrim07* is 'yes', what crime were you convicted of when this happened?			☐
levcrim12a_t3		Crime Code (post code)		☐☐
levcrim13_t3	If *levcrim05 or levcrim07* is 'yes', were the charges dropped?	1=Yes	2=No	☐

levcrim14_t3	Here's a statement I'd like you to rate: "*Being told to get treatment by a police officer or someone from the legal system in order to reduce charges helps people stay well."* Do you…[show response card 6]	1= strongly disagree 2= disagree 3= neutral/mixed 4= agree 5= strongly agree	☐
levcrim15_t3	If *levcrim05* or *levcrim07* is 'yes': *"In your case it helped you to stay well."* Do you… [show response card 6]	1= strongly disagree 2= disagree 3= neutral/mixed 4= agree 5= strongly agree	☐
levcrim16_t3	Here's a statement I'd like you to rate: *"Being told to get treatment by a police officer or someone from the legal system in order to reduce charges helps people stay out of trouble with the law."* Do you… [show response card 6]	1= strongly disagree 2= disagree 3= neutral/mixed 4= agree 5= strongly agree	☐
levcrim17_t3	If *levcrim05* or *levcrim07* is 'yes': *"In your case it helped you to stay out of trouble with the law."* Do you... [show response card 6]	1= strongly disagree 2= disagree 3= neutral/mixed 4= agree 5= strongly agree	☐
levcrim18_t3	If you have convictions, are you currently on probation or parole? (If 'yes', they're not eligible)	1=Yes 2=No	☐

d. Specific leverage – Child custody

Section n/a as participant has no children: ☐

levchild3_t3	**In the last 6 months, have you been told that your children might be <u>taken into care</u> if you did not participate in mental health, alcohol or drug treatment (or take your medication)?**	1=Yes 2=No	☐
levchild4_t3	If 'yes', who told you this?		
levchild6_t3	**In the last 6 months, have you been told that <u>your access</u> to see your children would be reduced if you did not participate in mental health, alcohol or drug treatment (or take your medication)?**	1=Yes 2=No	☐
levchild7_t3	Here's a statement I'd like you to rate: *"Being told to get treatment in order to keep custody or access to children helps people stay well."* Do you…[show response card 6]	1= strongly disagree 2= disagree 3= neutral/mixed 4= agree 5= strongly agree	☐
levchild8_t3	If *levchild3* OR *levchild6* is 'yes': *"In your case it helped you to stay well."* Do you... [show response card 6]	1= strongly disagree 2= disagree 3= neutral/mixed 4= agree 5= strongly agree	☐

2. ADMISSION EXPERIENCE SCALE (McArthur AES)

Now let's get back to you and your experiences of treatment. Think back over your experience of contact with the mental health team over the past <u>six months</u>. Think about all of the things people might have done to keep you in contact with the team or taking medications as prescribed. Then tell me how you feel about the following statements. Do you… [show response card 6]

		Strongly agree	Agree	Neutral/ Mixed	Disagree	Strongly disagree
coerc01_t3	**I felt free to do what I wanted about seeing my case worker**	1	2	3	4	5
coerc02_t3	**People tried to force me to see my case worker**	1	2	3	4	5
coerc03_t3	**I had enough of a chance to say whether I wanted to see my case worker**	1	2	3	4	5
coerc04_t3	**I chose to see my case worker**	1	2	3	4	5
coerc05_t3	**I got to say what I wanted about seeing my case worker**	1	2	3	4	5
coerc06_t3	**Someone threatened me to get me to see my case worker**	1	2	3	4	5
coerc07_t3	**It was my idea to see my case worker**	1	2	3	4	5
coerc08_t3	**Someone physically tried to make me see my case worker**	1	2	3	4	5
coerc09_t3	**No one seemed to want to know whether I wanted to see my case worker**	1	2	3	4	5
coerc10_t3	**I have been threatened with sectioning**	1	2	3	4	5
coerc11_t3	**They said they would make me see my case worker**	1	2	3	4	5
coerc12_t3	**No one tried to force me to see my case worker**	1	2	3	4	5
coerc13_t3	**My opinion about going to see my case worker didn't matter**	1	2	3	4	5
coerc14_t3	**I had a lot of control over whether I saw my case worker**	1	2	3	4	5
coerc15_t3	**I had more influence than anyone else on whether I saw my case worker**	1	2	3	4	5

3. FAIRNESS AND EFFECTIVENESS INDEX

Overall, the pressures or things people have done to try to get me to get treatment or stay in treatment...

coerc16_t3	**Made me more likely to keep appointments and take my medications**	1	2	3	4	5
coerc17_t3	**Were done by people who tried to be fair to me**	1	2	3	4	5
coerc18_t3	**Were for my own good**	1	2	3	4	5
coerc19_t3	**Were not done out of real concern for me**	1	2	3	4	5
coerc20_t3	**Helped me get and stay well**	1	2	3	4	5
coerc21_t3	**Helped me gain more control over my own life**	1	2	3	4	5
coerc22_t3	**Did not make me feel respected as a person**	1	2	3	4	5
coerc23_t3	**Should be done again in the future if needed**	1	2	3	4	5

4. PSYCHIATRIC AUTONOMY PREFERENCE INDEX

a) Decision Making Preference Scale

Please indicate how far you agree with the following statements: [show response card 6]

		Strongly agree	Agree	Neutral/ Mixed	Disagree	Strongly disagree
api1_t3	**The important mental health decisions should be made by the psychiatrist, not the patient.**	1	2	3	4	5
api2_t3	**Patients should go along with the psychiatrist's advice even if they disagree with it.**	1	2	3	4	5
api3_t3	**Hospitalised patients should not be making decisions about their own mental health care.**	1	2	3	4	5
api4_t3	**Patients should feel free to make decisions about their own mental health care.**	1	2	3	4	5
api5_t3	**If you were unwell, as your illness became worse, you would want the psychiatrist to take greater control.**	1	2	3	4	5
api6_t3	**You should decide how frequently you need to be seen by the mental health team.**	1	2	3	4	5

b) Information Seeking Preference Scale

Please indicate how far you agree with the following statements: [show response card 6]

		Strongly agree	Agree	Neutral/ Mixed	Disagree	Strongly disagree
api16_t3	**As you become more unwell you should be told more and more about your illness.**	1	2	3	4	5
api17_t3	**You should be kept informed about what is happening inside your body as a result of your illness.**	1	2	3	4	5
api18_t3	**Even if the news is bad, you should be well informed.**	1	2	3	4	5
api19_t3	**Your psychiatrist should explain the purpose of any investigations, e.g. blood tests.**	1	2	3	4	5
api20_t3	**You should be given information only when you ask for it.**	1	2	3	4	5
api21_t3	**It is important for you to know all the side effects of your medication.**	1	2	3	4	5
api22_t3	**Information about your illness is as important to you as treatment.**	1	2	3	4	5
api23_t3	**When there is more than one way to treat a problem, you should be told about all the options.**	1	2	3	4	5

5. INSIGHT AND TREATMENT ATTITUDES QUESTIONNAIRE

Now I'd like your opinion about problems you may have had and the treatment for those problems (Note to interviewer: make sure you read the no, possibly or yes options aloud) [show response card 9]

		No	Possibly	Yes
insight01_t3	**Have you at any time had mental health/drug ("nerves", "worry") problems that were different from most other people's?**	0	1	2
insight02_t3	**Have you at any time needed treatment (hospitalisation or outpatient care) for mental health/drug ("nerves", "worry") problems?**	0	1	2
insight03_t3	**Do you now have mental health/drug ("nerves", "worry") problems?**	0	1	2
insight04_t3	**Do you now need treatment (hospitalisation or outpatient care) for mental health/drug ("nerves", "worry") problems?**	0	1	2
insight05_t3	**Is it possible that in the future you may have mental health/drug ("nerves" or "worries") problems?**	0	1	2
insight06_t3	**Will you in the future need continued treatment (outpatient care or hospitalisation) for mental health/drug problems?**	0	1	2
insight07_t3	**Have you at any time needed to take medication for mental health/drug problems ("nerves" or "worries")?**	0	1	2
insight08_t3	**Do you now need to take medication for mental health/drug problems ("nerves" or "worries")?**	0	1	2
insight09_t3	**Will you in the future need to take medication for mental health/drug problems ("nerves" or "worries")?**	0	1	2
insight10_t3	**Will you in the future take the medication?**	0	1	2
insight11_t3	**Does the medication do you any good?**	0	1	2

6. SCALE TO ASSESS THERAPEUTIC RELATIONSHIPS – Patient Version (STAR-P)

Here is a list of statements that describe experiences case workers and patients may have. For each item, decide which category best describes your experience with your case worker since <u>T2</u>.

[show response card 10]

		Never	Rarely	Sometimes	Often	Always
star01_t3	**My case worker speaks with me about my personal goals and thoughts about treatment.**	0	1	2	3	4
star02_t3	**My case worker and I are open with one another.**	0	1	2	3	4
star03_t3	**My case worker and I share a trusting relationship**	0	1	2	3	4
star04_t3	**I believe my case worker withholds the truth from me.**	0	1	2	3	4
star05_t3	**My case worker and I are honest with one another.**	0	1	2	3	4
star06_t3	**My case worker and I work towards mutually agreed upon goals.**	0	1	2	3	4
star07_t3	**My case worker is stern with me when I speak about things that are important to me and my situation.**	0	1	2	3	4
star08_t3	**My case worker and I have established an understanding of the kind of changes that would be good for me.**	0	1	2	3	4
star09_t3	**My case worker is impatient with me.**	0	1	2	3	4
star10_t3	**My case worker seems to like me regardless of what I do or say.**	0	1	2	3	4
star11_t3	**We agree on what is important for me to work on.**	0	1	2	3	4
star12_t3	**I believe my case worker has an understanding of what my experiences have meant to me.**	0	1	2	3	4

7. CLIENT SATISFACTION QUESTIONNAIRE (CSQ-8)

I am going to ask some questions about the health services you have received since you were last interviewed in [name of month]. We are interested in your honest opinions, whether they are positive or negative, and this information will not be shared with anyone working directly in your health care.

(Note to researcher: This may be done by self completion)

csq1_t3 **How would you rate the quality of service you received?**

Excellent [4] Good [3] Fair [2] Poor [1]

csq2_t3 **Did you get the kind of service you wanted?**

No, definitely not [1] No, not really [2] Yes, generally [3] Yes, definitely [4]

csq3_t3 **To what extent has the program met your needs?**

Almost all of my needs have been met [4] Most of my needs have been met [3] Only a few of my needs have been met [2] None of my needs have been met [1]

csq4_t3 **If a friend were in need of similar help, would you recommend the service to him/her?**

No, definitely not [1] No, I don't think so [2] Yes, I think so [3] Yes, definitely [4]

csq5_t3 **How satisfied are you with the amount of help you received?**

Quite dissatisfied [1] Indifferent or mildly dissatisfied [2] Mostly satisfied [3] Very satisfied [4]

csq6_t3 **Have the services you received helped you deal more effectively with your problems?**

Yes, they helped me a great deal [4] Yes, they helped somewhat [3] No, they didn't really help [2] No, they seemed to make things worse [1]

csq7_t3 **In an overall, general sense, how satisfied are you with the services you received?**

Very satisfied [4] Mostly satisfied [3] Indifferent or mildly dissatisfied [2] Quite dissatisfied [1]

csq8_t3 **If you were to seek help again, would you come back to the service?**

No, definitely not [1] No, not really [2] Yes, generally [3] Yes, definitely [4]

8. DRUG ATTITUDE INVENTORY (DAI)

		Yes	No
dai01_t3	**For me, the good things about medication outweigh the bad.**	1	2
dai02_t3	**I feel weird, like a zombie, on medication.**	1	2
dai03_t3	**I take medication of my own free choice.**	1	2
dai04_t3	**Medication makes me feel more relaxed.**	1	2
dai05_t3	**Medication makes me feel tired and sluggish.**	1	2
dai06_t3	**I take medication only when I am ill.**	1	2
dai07_t3	**I feel more normal on medication.**	1	2
dai08_t3	**It is unnatural for my mind and body to be controlled by medication.**	1	2
dai09_t3	**My thoughts are clearer on medication.**	1	2
dai10_t3	**By staying on medication, I can prevent getting ill.**	1	2

9. BRIEF PSYCHIATRIC RATING SCALE (BPRS) Time frame: past 2 weeks

		Nil/not assessed	Not present	Very Mild	Mild	Moderate	Moderate/ severe	Severe	Extremely Severe
bprs01_t3	**Somatic Concern**	777	1	2	3	4	5	6	7
bprs02_t3	**Anxiety**	777	1	2	3	4	5	6	7
bprs03_t3	**Depression**	777	1	2	3	4	5	6	7
bprs04_t3	**Suicidality**	777	1	2	3	4	5	6	7
bprs05_t3	**Guilt**	777	1	2	3	4	5	6	7
bprs06_t3	**Hostility**	777	1	2	3	4	5	6	7
bprs07_t3	**Elevated Mood**	777	1	2	3	4	5	6	7
bprs08_t3	**Grandiosity**	777	1	2	3	4	5	6	7
bprs09_t3	**Suspiciousness**	777	1	2	3	4	5	6	7
bprs10_t3	**Hallucinations**	777	1	2	3	4	5	6	7
bprs11_t3	**Unusual Thought Content**	777	1	2	3	4	5	6	7
bprs12_t3	**Bizarre Behaviour**	777	1	2	3	4	5	6	7
bprs13_t3	**Self-Neglect**	777	1	2	3	4	5	6	7
bprs14_t3	**Disorientation**	777	1	2	3	4	5	6	7

Rate items 15-124 on the basis of observed behaviour or speech pattern during the interview.

bprs15_t3	**Conceptual Disorganisation**	777	1	2	3	4	5	6	7
bprs16_t3	**Blunted Affect**	777	1	2	3	4	5	6	7
bprs17_t3	**Emotional Withdrawal**	777	1	2	3	4	5	6	7
bprs18_t3	**Motor Retardation**	777	1	2	3	4	5	6	7
bprs19_t3	**Tension**	777	1	2	3	4	5	6	7
bprs20_t3	**Uncooperativeness**	777	1	2	3	4	5	6	7
bprs21_t3	**Excitement**	777	1	2	3	4	5	6	7
bprs22_t3	**Distractibility**	777	1	2	3	4	5	6	7
bprs23_t3	**Motor Hyperactivity**	777	1	2	3	4	5	6	7
bprs24_t3	**Mannerisms and Posturing**	777	1	2	3	4	5	6	7

10. GLOBAL ASSESSMENT OF FUNCTIONING (GAF) Time Frame: past 2 weeks

Domain	Symptom Severity	Level of Functioning
1-10	Persistent danger of severely hurting self or others (e.g. recurrent violence) or serious suicidal act with clear expectation of death.	Persistent inability to maintain minimal personal hygiene
11-20	Some danger of hurting self or others (e.g. suicide attempts without clear expectation of death; frequently violent; manic excitement).Gross impairment in communication (e.g. largely incoherent or mute)	Occasionally fails to maintain minimal personal hygiene (e.g. smears faeces)
21-30	Behaviour is considerably influenced by delusions or hallucinations or serious impairment in communication or judgment (e.g. sometimes incoherent, acts grossly inappropriately, suicidal preoccupation)	Inability to function in almost all areas (e.g. stays in bed all day, no job, home or friends)
31-40	Some impairment in reality testing or communication (e.g. speech is at times illogical, obscure or irrelevant)	Major impairment in several areas, such as work or school, family relations, judgment, thinking, or mood (e.g. depressed man avoids friend, neglects family, and is unable to work; child frequently beats up younger children, is defiant at home and is failing in school).
41-50	Serious symptoms (e.g. suicidal ideation, severe obsessional rituals, frequent shoplifting).	Any serious impairment in social, occupational, or school functioning (e.g. no friends, unable to keep a job).
51-60	Moderate symptoms (e.g. flat affect and circumstantial speech, occasional panic attacks)	Moderate difficulty in social, occupational, or school functioning (e.g. few friends, conflicts with co-workers).
61-70	Some mild symptoms (e.g. depressed mood and mild insomnia)	Some difficulty in social, occupational or school functioning (e.g. occasional truancy, or theft within the household), but generally functioning pretty well, has some meaningful interpersonal relationships.
71-80	If symptoms are present, they are transient and expectable reactions to psychosocial stressors (e.g. difficulty concentrating after family argument).	No more than slight impairment in social, occupational, or school functioning (e.g. temporarily falling behind in school work).
81-90	Absent or minimal symptoms (e.g. mild anxiety before an exam). Generally satisfied with life. No more than everyday problems or concerns (e.g. an occasional argument with family members).	Good functioning in all areas, interested and involved in a wide range of activities, socially effective.
91-100	No symptoms	Superior functioning in a wide range of activities, life's problems never seem to get out of hand. Is sought out by others because of his or her many positive qualities
gaf_t3		**GAF Score** ☐☐☐