Involuntary Hospitalization and Treatment in First-Episode Psychosis

Characteristics of patients involuntarily hospitalized and/or treated

Nina Fainman-Adelman

Department of Psychiatry

McGill University, Montreal

A thesis submitted to McGill University in partial fulfillment of the requirements of the degree of Master of Science (MSc) in Psychiatry.

Table of Contents

Acknowledgements **3**

Contribution of Authors **5**

Abstract **6**

Resume **7**

CHAPTER 1- Backgrounds and Objectives

1.1 What is involuntary hospitalization and treatment 11

1.2 Current controversy 13

1.3 What we know, what is left to be understood 16

1.4 First-episode psychosis and involuntary hospitalization & treatment 18

1.5 Objectives 19

1.6 References 21

CHAPTER 2- Methods

2.1 Systematic review of the literature 25

2.2 Characteristics of FEP patients receiving CTO 26

CHAPTER 3- Manuscript #1: ***Coercive measures in the care of first-episode psychosis patients: A systematic review of current knowledge***

3.1 Abstract 29

3.2 Introduction 31

3.3 Methods 34

3.4 Results 37

3.5 Discussion 45

3.6 References 52

3.7 Figures 59

CHAPTER 4- Manuscript #2: ***Coercive measures in the care of first-episode psychosis patients: A systematic review of current knowledge***

4.1 Abstract 67

4.2 Introduction 69

4.3 Methods 73

4.4 Results 76

4.5 Discussion 79
4.6 Conclusion 87
4.7 References 88
4.8 Figures 94

CHAPTER 5- General Discussion and Conclusions
5.1 Synthesis 103
5.2 Implications 103
5.3 Future directions 105
5.4 References 106

Appendix 108

Acknowledgements

There are a number of people, without whom I would not have been able to do this project, and to whom I would like to extend my endless gratitude.

First and foremost, I wish to thank my supervisor, Dr. Srividya Iyer, who has been a constant source of guidance and support not only during my master's but over the three years I have worked under her supervision. The remarkable growth I have felt over the course of my graduate studies is a true testament to Dr. Iyer's mentorship where I have been challenged and pushed to go further beyond what I believed I was capable of, and I thank her sincerely for all the opportunities she has given me.

I wish to thank my advisory committee members, Dr. Jai Shah, Dr. Emanuelle Bernheim, and Dr. Geneviève Gariépy for their guidance and input. I further wish to highlight the support I received from Dr. Bernheim, who contributed greatly to my thesis by sharing with me her expert knowledge of the topic as well as providing me with important resources. Thank you as well to Dr. Shah for helping revise and edit my thesis, this was enormously helpful and I deeply appreciate the support.

I am very grateful to all of my colleagues for their overwhelming support and advice throughout my program. Thank you to Sofia Danna, Kathleen MacDonald, Matthew Peters, Anne-Catherine Lemonde and Helen Martin, for creating a space for growth, support, and critical thinking. I especially wish to thank Franz Veru and Sarah MacIlwaine who not only selflessly took time away from their own work to help me with my project when I needed it, but patiently worked to teach me invaluable statistical skills. It has been a true honor to work with and learn from you both.

Words cannot adequately convey my appreciation for my partner, Étienne Gauthier-Lafrenière, who has provided me endless support and encouragement throughout, and beyond, my graduate studies, and whose valuable advice has added so much to my projects. Étienne, I could not have done this without you. I would also like to thank my family. My parents, Karen Fainman and Jason Adelman, continue to be my pillars of knowledge and intellectual guidance and throughout my Master's took time from their schedules to help advise me on my work. My sister, Liat Fainman-Adelman, has provided me unconditional support far beyond my Master's degree and has inspired my achievements. From the bottom of my heart, thank you.

Finally, I am deeply grateful to PEPP patients who agreed to have their information used for research purposes. Thank you so much for helping contribute to development and growth in the mental health field.

Contribution of Authors

As first author of both manuscripts, I (**Nina Fainman-Adelman**) made a significant contribution to the design of the project, data analyses, interpretation of results, and writing of both manuscripts.

Dr. Srividya Iyer provided overall supervision and guidance on the design of the project, data analyses, and contributed significantly to the interpretation of results and revisions of both manuscripts.

Dr. Jai Shah provided overall supervision and guidance on the design of the project and contributed significantly to the revisions of both manuscripts.

Franz Veru contributed significantly to data analysis and interpretation of the results for the second manuscript.

Sarah MacIlwaine contributed significantly to the data analysis and interpretation of the results for the second manuscript.

Emily Crombie contributed significantly to the data collection, data analysis and interpretation of the results for the first manuscript.

David Gifuni contributed significantly to the project proposal for the first manuscript.

Jill Boruff contributed significantly to the search strategy and data collection for the first manuscript.

Étienne Gauthier-Lafrenière contributed to the translation of my abstract from English to French.

ABSTRACT

Background: The use of involuntary hospitalization and treatment in psychiatry remains a controversial issue. While some have argued for their importance in prevention of harm, others have cited the inconclusive evidence for their effectiveness as highly problematic. Youth with first-episode psychosis (FEP) represent a group whose engagement in services is particularly important as it is often their first time encountering mental health care. The use of coercive measures such as involuntary hospitalization and treatment has been largely under-studied in this population. Since these measures continue to be used in this population, it is important to ensure their proper use. **Objectives:** The objectives of the following studies were (1) to synthesize what is known about characteristics of FEP patients receiving involuntary hospitalization and treatment, and (2) to examine the characteristics of FEP patients receiving community treatment orders (CTOs) in a sample from a catchment area in Montreal Quebec. **Methods:** A systematic review was conducted (PROSPERO CRD ID: 42019117885, registered in January 2019), in which all studies on the characteristics of FEP patients receiving involuntary hospitalization and treatment was critically analyzed. A quantitative descriptive study was then undertaken. Characteristics that increased the likelihood of FEP patients receiving CTOs were analyzed using a patient sample (N = 688) from a catchment-area based early intervention service in Montreal, Quebec. **Results:** The systematic review identified a wide variance in frequencies of the use of involuntary hospitalization and treatment. Even more, characteristics associated with increased likelihood of receiving involuntary hospitalization and treatment varied across jurisdictions and between studies. Only one study had analyzed the characteristics of FEP patients receiving community treatment orders (CTOs). The quantitative study revealed that, in this treatment setting, FEP patients may be more likely to be given a CTO if they are more uncooperative, less

anxious, have lower levels of functioning, and lower levels of judgement and insight.

Discussion: Taken together, it is evident from these studies that characteristics of patients who are involuntarily hospitalized or treated is an important area for continuous exploration. It is important to continue to track and investigate whether these measures are being used as intended in order to hold clinicians accountable and reduce any potential biases towards patients. This area is, as a whole, largely under-studied in early psychosis and requires more research attention to ensure proper use.

RÉSUMÉ

Contexte: Le recours à des mesures coercitives en psychiatrie reste une pratique controversée. Tandis que certains ont plaidé leur importance préventive contre la violence et le suicide, d'autres ont souligné les preuves peu concluantes de leur efficacité comme problématiques. Les jeunes atteints de psychose de premier épisode (PPE) représentent un groupe dont l'engagement dans les services est particulièrement important car il s'agit souvent de leur première rencontre avec des soins de santé mentale. Le recours à des mesures coercitives telles que l'hospitalisation et l'administration de traitements sans consentement a été largement sous-étudié dans cette population. Étant donné que ces mesures continuent d'être utilisées, il est important de s'assurer qu'elles soient correctement utilisées. **Objectifs:** Les objectifs des études suivantes ont été (1) d'établir ce que l'on sait des caractéristiques des patients de PPE recevant des mesures coercitives et (2) celles des patients de PPE recevant des ordonnance de traitement. **Méthodes:** Une revue systématique a été réalisée, dans laquelle toutes les études sur les caractéristiques des patients de PPE recevant des mesures coercitives ont été analysées de manière critique. Une étude descriptive quantitative a ensuite été entreprise. Les caractéristiques qui augmentaient la probabilité des patients de PPE de recevoir des ordonnance de traitement ont été identifées à l'aide d'un échantillon complet de patients provenant d'une zone de recrutement située à Montréal, au Québec. **Résultats:** La revue systématique a identifié une grande variance dans les fréquences d'utilisation de mesures coercitives. De plus, les caractéristiques associées à la probabilité accrue de recevoir des mesures coercitives variaient selon les juridictions et les études. Une seule étude avait analysé les caractéristiques des patients de PPE recevant des

ordonnances de traitement avant notre étude. Notre étude quantitative a révélé que, dans ce contexte de traitement, les patients de PPE pourraient être plus susceptibles de recevoir une ordonnance de traitement s'ils étaient moins coopératifs, moins anxieux, avaient des niveaux de fonctionnement inférieurs, et un jugement et une conscience de leur psychose plus faible.

Discussion: Dans l'ensemble, il ressort de ces études que les caractéristiques associées à l'utilisation de mesures coercitives chez les patients de PPE constituent un domaine où des études plus approfondies sont nécessaires. Il est important de continuer à suivre et à déterminer si les mesures coercitives sont utilisées comme prévu afin de responsabiliser les cliniciens et de réduire les biais possibles envers les patients. Dans l'ensemble, ce domaine est largement sous-étudié et a des impacts légaux majeurs, ce qui souligne d'avantage la nécessité d'avantage l'attention de la part des chercheurs pour garantir une utilisation appropriée.

Chapter 1: Background and Objectives

North America in the 1960s saw radical changes in attitudes surrounding the treatment of mental illness. Coincident with the counterculture movement, which embraced and appreciated alternate realities through the use of psychedelic drugs, an "anti-psychiatry" sentiment began to spread. Further, deinstitutionalization of psychiatric hospitals, whose population had risen from 8,500 in the mid-1800s to 559,000 by 1955, provoked moral and ethical debates surrounding the treatment of patients with mental illness. Soon, the focus shifted from the right to obtain treatment to the right to refuse treatment. By the mid-1970s, two major lawsuits (Rennie v. Klein & Rogers v. Okin) had established the right to refuse treatment in the United States (Isaac & Armat, 1990). Moreover, these legal events differentiated the right to treat a patient solely due to their need for treatment, from treating a patient due to their risk of being a danger to themselves or the community (Isaac & Armat, 2000). Still, the ethical issues surrounding the treatment of persons with mental illness continued to be heavily debated.

Today, involuntarily treating patients with mental illness continues to be controversial in the psychiatric field (O`Reilly, 2004; Prinsen & Delden, 2008). While such measures are typically reserved for situations where other, non-invasive, approaches have failed, the use of involuntary hospitalization and treatment in psychiatry draws out conflicting philosophical principles in the treatment and management of individuals with mental illness, and the protection of public health and safety. On the one hand, modern psychiatric practice is rooted in a commitment to honouring individual patient autonomy and building a physician-patient alliance (Dyer& Bloch, 1987; Gehrs & Goering, 1994; Blake, 2001). On the other hand, mental health

practitioners have a duty to protect against imminent harm to their patient, or to others in the community. Without a clear guide or reliable risk assessment, psychiatrists must face the challenge of determining whether the infringement on individual autonomy is necessary in order to prevent harm, a complex dilemma that often reaches beyond the scope of typical training (Sjöstrand et al., 2015).

1.1 What is involuntary hospitalization and treatment

While involuntary hospitalization and involuntary treatment may be simply defined as situations where individuals are detained in the hospital against their will, and given medication against their will, respectively, there exist specific legal definitions and applications, which vary widely across jurisdictions. Even within Canada, provinces have their own set of laws and practices for involuntary hospitalization and treatment for persons with mental illness. For example, in Ontario, psychiatrists have the right to hospitalize a patient (who is determined to be a risk of harm to themselves or to others) without court approval. However, the psychiatrist has the obligation to inform the patient of their right to contest the decision in the court, and provide patients access to "rights advisors" (Hartford, 2003; Psychiatric Patient Advocacy Office, 2016). In Quebec, the psychiatrist must obtain permission from the court in order to involuntarily hospitalize a patient for a prolonged period of time (Otero, 2016; Bernheim, 2016).

A more operationalized understanding of involuntary hospitalization can be provided by summarizing some of the requirements stated in sections 26 to 30 of the Civil Code of Québec (Confinement in an institution and psychiatric assessment): "Involuntary hospitalization is a measure that can only be authorized by law or the court if the person is unable to consent, the court has serious reasons to believe that a person is a danger to himself or to others owing to his mental state, the court has ordered an examination and the physician who carried it out

concluded that confinement in an institution is necessary, the court may not authorize confinement unless the court itself believes that the person's confinement is necessary, and the person must be released from it as soon as a physician reaches the conclusion that the measure is no longer necessary."

In Quebec, CTOs came into existence in 1994 resulting from a ruling by Quebec's Court of Appeal (Kouri & Philips-Nootens, 2003). A psychiatrist can obtain a compulsory treatment order by petitioning a judge in the Superior Court. Section 16 of the Quebec civil code states: "the authorization of the court is necessary where the person who may give consent to care required by the state of health of a minor or a person of full age who is incapable of giving his consent is prevented from doing so or, without justification, refuses to do so; it is also necessary where a person of full age who is incapable of giving his consent categorically refuses to receive care, except in the case of hygienic care or emergency." At a hearing, the psychiatrist presents the rationale for the request, and can be challenged by the patient and his/her legal representative. The orders generally state that the patient must attend outpatient facilities for a specified time period (often one to three years) and comply with the medications and treatment plan of the treating physician. CTOs may also include a placement clause that requires the patient to live in a place deemed suitable by the treating psychiatrist. The decision of the Superior Court can be appealed through the legal system. A CTO can be renewed if deemed necessary by the patient's treating psychiatrist, requiring a new application to the Superior Court of Quebec, a new hearing, and the court's decision. Patients under a CTO can be brought back to the hospital by the police at the request of their treating physician if they are nonadherent to their treatment plans. Depending on the severity of their presentation, they may be discharged, kept in the emergency department for further assessment, or admitted to a hospital.

1.2 Current controversy: Patient autonomy vs. protection

The use of involuntary hospitalization and treatment remains a highly contentious issue implicating many different stakeholders and an array of ethical considerations. One such consideration involves the centrality, globally, of patient rights and the functioning of the Convention for the Rights of Persons with Disabilities (U.N., 2008). The idea, effectuated by the aforementioned United Nations' 2008 treaty, that we must vigorously protect rights of persons with disabilities in order to afford full equality under the law, may seem at odds with the premise of involuntary hospitalization and treatment. In most jurisdictions, individuals have the right to refuse medical treatment, and taking away this right from individuals with a mental illness could be seen as a violation of the Convention. This issue is complicated, however, by the fact that involuntary hospitalization is used when individuals lack the capacity to consent to treatment deemed "medically necessary." Still, the far-from-clear ethical implications necessitate a deep consideration of whether involuntary hospitalization and treatment really are "medically necessary," whether psychiatrists can accurately determine if an individual lacks capacity to consent, and whether less-restrictive alternatives could be made available instead.

While much of the debate has remained outside the bounds of academia, media reports and books have documented personal narratives of patients that highlight where the controversy lies. Some tell stories of a time when involuntary hospitalization or treatment saved their life, while others tell stories of how these measures have ruined them. In June 2012, *The National Post* released a story by a young woman, Erin Hawkes, titled *How Forced Medication Saved My Life*. Hawkes describes how being involuntarily hospitalized and treated prevented her from an

inevitable suicide and asserts that "the right to live supersedes the 'right' to not be involuntarily treated for mental illness." Further speaking to her history of suicidal ideation, Hawkes notes that there should be a safety net of physicians to prevent suicidal action, especially since for many, including Hawkes, suicidality tends to disappear when an individual returns to a healthy mental state (Hawkes, 2012). These positive outcomes cannot easily be overlooked, especially when they can be associated with life-saving treatment. Even in more mild cases, involuntary hospitalization and treatment can intervene in what might otherwise be a very lengthy journey to recovery. When individuals' recovery is inhibited by unwillingness to adhere to treatment regimes, a legal tool that allows physicians to treat regardless of consent may aid recovery. Still, the pivotal question is: at what cost? While individuals will undoubtedly adhere to treatment when they receive a court order to do so, can being involuntary treated permanently alter an individuals' trust in the mental healthcare system? In *Committed: The Battle Over Involuntary Psychiatric Care* written by psychiatrists Dinah Miller and Annette Hanson (2018), the personal narratives included capture another reality of experience with involuntary psychiatric care. One story is from a young woman named Elanor who reports on how she still believes that her experience being injected with psychiatric medication caused her permanent psychological harm. It is important to deeply understand how involuntary hospitalization and treatment may lead to both overall positive as well as negative outcomes for different people.

Psychiatrists have also expressed moral difficulties in deciding upon involuntary hospitalization and treatment cases. A 2015 study by Sjöstrand et al. used in-depth interviews with eight Swedish psychiatrists to better understand ethical issues relating to involuntary psychiatric treatment. Through the interviews, it was revealed that the Swedish Mental Health Act leaves room for individual judgements when making decisions about involuntary treatment.

While cases concerning suicidal patients and psychotic patients who did not recognize their need for care were more clear-cut, other cases involved more complex decision-making and nuanced judgement. Moreover, it was argued that organizational factors would, at times, lead to decisions about compulsory treatment that could have been avoided.

The controversial nature of involuntary hospitalization and treatment is compounded by the fact that insufficient research on the topic exists. It may be more acceptable to involuntarily hospitalize or treat severely mentally ill persons if it could be definitively concluded that involuntary hospitalization or treatment has an overall positive outcome. However, both quantitative and qualitative studies on the effectiveness of these measures have been largely inconclusive (Maughan et al., 2013; Kjellin & Wallsten, 2010; Jacobsen, 2012). Even more, the question of whether there are less-restrictive alternatives that can be used to involuntary hospitalization and treatment comes up and raises yet another question of how care systems altogether may influence the use of involuntary hospitalization and treatment as measures. Because these measures are often considered last-resort options when psychiatrists cannot voluntarily enlist patients in hospitalization or treatment, it logically follows that resource-depleted care systems may more readily resort to these measures.

This sets forth a complicated reality. On one hand, as a society we face emergency mental health situations every day, including situations where it is unclear whether irreversible harms will arise if the suffering individual is not constrained. At the same time, we recognize the deep ethical obligation to protect individuals' autonomy rights in the healthcare setting, especially in light of the 2008 U.N. Convention for the Rights of Persons with Disabilities. This leaves researchers with the important task of delving into some of the more seminal questions—i.e., whether involuntary hospitalization and treatment lead to longer-term recovery, whether

psychiatrists possess the tools to determine if an individual requires involuntary treatment or hospitalization, and whether these measures are over-applied to some groups of people and under-applied to others—to direct our policies and practices moving forward.

1.3 What we know, what is left to be understood

As mentioned above, the evidence concerning the effectiveness of involuntary hospitalization and treatment for persons with severe mental illness is conflicting. A systematic review (Maughan et al., 2013) of the use of community treatment orders (CTOs), a legal regime that obliges involuntary treatment outside a hospital setting, revealed that there remains a lack of evidence –from both randomized and non-randomized studies– that CTOs are associated with, or affected by admission rates, number of inpatient days, or community service use. In this study, which included studies published between 2006 to 2013, eighteen studies including one randomized control trial (RCT), met inclusion criteria and were included in the final analysis. The RCT included in the review (Burns et al., 2013) compared 167 patients who were discharged after involuntary hospitalization to a CTO, with 169 patients who were discharged after involuntary hospitalization to treatment as usual, and found no significant impact from CTOs on admission rate or number of days in hospital. Some other studies included in the review also had conflicting results. Studies that used the New York State Office of Mental Health dataset (administrative database of all clinical contacts for mental health services; N=5) found a significant association with *reduced* readmission, while studies using the Victoria Psychiatric Case Register, in Australia (administrative database of all clinical contacts with mental health patients in the public sector; N=3), generally found a significant association with *increased* readmission. Qualitative studies (e.g., grounded theory, thematic analysis, phenomenological analysis) similarly reported mixed findings. Studies on patients' attitudes to involuntary

hospitalization and treatment have revealed that while many patients believe such measures to be necessary and morally justifiable, many also disapproved of having been subjected to them (Sjöstrand et al., 2015). It is important to note that one of the limitations of the Maughan et al. review, as well as most other studies exploring involuntary treatment and hospitalization, is that the definitions and use of these measures vary widely across jurisdictions. Thus, it can be difficult to meaningfully compare findings between studies, without highlighting the differences in treatment settings, differences in treatment populations, and differences in laws regarding involuntary hospitalization and treatment. The authors additionally note that there is only one RCT included in the review. Other studies had difficulty matching intervention and control groups. The difficulty in matching intervention and control groups makes it hard to draw meaningful conclusions about the effects of CTOs, and may help explain the conflicting results of some studies.

Another notable limitation of the studies included in this review, as well as with other studies on involuntary hospitalization and treatment, is that very few have explored the outcomes accounting for the characteristics of patients receiving involuntary hospitalization and treatment to begin with. As we have already noted, the outcomes may be highly variable across varied treatment settings and treatment populations. It is thus paramount that patient characteristics be considered in future studies. Furthermore, the few studies that have explored the characteristics of patients who are more likely to receive involuntary hospitalization and treatment have found that certain vulnerabilities, such as visible minority status or homelessness, may predict higher odds of receiving coercive care even when controlling for confounding factors (Bernheim, 2016; Otero, 2016; Barnett et al., 2018). In order to obtain a more complete understanding of the use

and effectiveness of these measures, it is necessary to better understand what factors predict their use to begin with.

1.4 First-episode psychosis and involuntary hospitalization & treatment

First-episode psychosis (FEP) patients make up an especially important subset of the patient population receiving involuntary hospitalization and treatment. A study on the status of FEP patients admitted to a hospital within a catchment area of 390,0000 in Ontario, Canada, revealed that 60.3% of FEP patients were admitted involuntarily (Payne et al., 2005). A recent study on involuntary hospitalization of FEP patients in Ontario, Canada, further revealed that of the 38% of patients who were hospitalized, 81% of the admissions were involuntary (Rodrigues et al., 2019). FEP patients may feel that they are in a particularly vulnerable position due to the fact that they are typically young (early-20s) and many have little to no prior experience in a mental health setting. Early-intervention (EI) services for psychosis have been developed in order to engage this population in the early course of their illness in order to promote recovery. Such services prioritize the promotion of early engagement in services through building patient trust in the mental healthcare system and in mental health practitioners, whereas the use of involuntary hospitalization and treatment can jeopardize this trust and thus undermine the goals of early intervention. It is therefore crucial to critically examine the use of involuntary hospitalization and treatment in FEP patients.

In line with studies on involuntary hospitalization and treatment in the general population, studies on involuntary hospitalization and treatment for FEP patients provide very mixed evidence (Suetani et al., 2014; Opjordsmoen et al., 2010; Levy et al., 2018; Burns et al., 2013). The study by Seutani et al. (2014), which explored the effect of CTOs on depot antipsychotic medication compliance in Australia, found that there was a trend for greater compliance to depot

medications among those not on CTOs compared to those on CTOs, but there was no statistically significant difference between the two groups. The study by Opjordsmoen et al. (2010), which aimed at understanding the influence of involuntary on adherence and outcome in Norway, found that there was no significant difference in psychopathology and functioning between voluntarily and involuntarily admitted patients at follow-up. Levy et al. (2018), found that, in a Canadian sample, statistically significant improvements in clinical and functional outcomes were observed for patients on CTOs. Finally, Burns et al. (2013) conducted an RCT of individuals with a diagnosis of psychosis to test whether CTOs reduce admission compared to the use of Section 17 leave which gives patients less compulsory supervision. They found that even though the length of initial compulsory treatment differed significantly between groups (183 in CTO group vs. 8 days in the Section 17 group), the number of patients readmitted did not differ between groups. Again, the main limitation of this body of literature is the heterogeneity in outcome variables, follow-up times, and coercive measures. Although that these mixed results can be largely explained by methodological differences between studies, it is also important to consider the differences in patient populations—something that has yet to be done—in order to achieve a more comprehensive picture of outcomes associated with the use of involuntary hospitalization and treatment measures, applied to patients with FEP. Additionally, because FEP patients do represent a relatively younger group, and thus a more vulnerable population, it is especially important to understand the patient characteristics that predict a higher likelihood of receiving involuntary hospitalization and treatment, in order to ensure that these measures are, in fact, being applied appropriately.

1.5 *Objectives*

The global objective of this thesis was to increase the understanding of the factors associated

with the use of involuntary hospitalization and treatment in FEP patients. More specifically, the aim was to document the characteristics of FEP patients who are more likely to be involuntarily hospitalized and treated. First, a systematic review was conducted that sought to aggregate studies that have analyzed the clinical and sociodemographic characteristics of FEP patients who are more likely to be involuntarily hospitalized and treated. Next, an original research study of the characteristics of FEP patients placed on CTOs in a Montreal-based EI clinic was implemented. This study is aimed at filling the gaps in the knowledge identified by the aforementioned systematic review. Further, despite CTOs continuing to be applied to FEP patients, there is remarkably little information available on the characteristics of patients more likely to be placed on CTOs. This research study sought to address this gap by comparing the characteristics of patients placed on CTOs to those not placed on CTOs.

1.6 ***References***

Barnett, P., Matthews, H., Lloyd-Evans, B., Mackay, E., Pilling, S., & Johnson, S. (2018). Compulsory community treatment to reduce readmission to hospital and increase engagement with community care in people with mental illness: A systematic review and meta-analysis. *The Lancet Psychiatry, 5*(12), 1013-1022. doi:10.1016/s2215-0366(18)30382-1

Bernheim, E., Chalifour, G., & Laniel, R. (2016) La santé mentale en justice: invisibilité et déni de droits: une étude statistique de la jurisprudence en autorisation de soins. *McGill Journal of Law and Health,* 9(2), 337-382.

Blake, M. (2001). Distributive Justice, State Coercion, and Autonomy. *Philosophy Public Affairs, 30*(3), 257-296. doi:10.1111/j.1088-4963.2001.00257.x

Bodenner, C. (2016, December 14). Feeling Coerced Into Psychiatric Care. *The Atlantic*. Retrieved from https://www.theatlantic.com/notes/2016/12/bonding-between-mental-patients/510875/

Burns, T., Rugkåsa, J., Molodynski, A., Dawson, J., Yeeles, K., Vazquez-Montes, M., . . . Priebe, S. (2013). Community treatment orders for patients with psychosis (OCTET): A randomised controlled trial. *The Lancet,381*(9878), 1627-1633. doi:10.1016/s0140-6736(13)60107-5

Kouri, R.P. & Philips-Nootens S. (2003) Le majeur inapte et le refus catégorique de soins de santé: un concept pour le moins ambigu. *Revue du Barreau, 63*:1–29. French

Dyer, A. R., & Bloch, S. (1987). Informed consent and the psychiatric patient. *Journal of Medical Ethics, 13*(1), 12-16. doi:10.1136/jme.13.1.12

Gehrs, M., & Goering, P. (1994). The relationship between the working alliance and

rehabilitation outcomes of schizophrenia. *Psychosocial Rehabilitation Journal, 18*(2), 43-54. doi:10.1037/h0095517

Hartford, K., Schrecker, T., Wiktorowicz, M., Hoch, J., & Sharp, C. (2003). Four decades of mental health policy in Ontario. *Administration and Policy in Mental Health, 31*(1), 65-73.

Hawkes, E. (2012, June). Forced medication saved my life. *National Post*. Retrieved from https://nationalpost.com/opinion/erin-l-hawkes-forced-medication-saved-my-life

Isaac, R. J., & Armat, V. C. (2000). *Madness in the streets: How psychiatry and the law abandoned the mentally ill*. Arlington, VA: Treatment Advocacy Center.

Jacobsen, T. B. (2012). Involuntary treatment in Europe. *Current Opinion in Psychiatry, 25*(4), 307-310. doi:10.1097/yco.0b013e32835462e3

Kjellin, L., & Wallsten, T. (2010). Accumulated coercion and short-term outcome of inpatient psychiatric care. *BMC Psychiatry, 10*(1). doi:10.1186/1471-244x-10-53

Levy, E., Mustafa, S., Naveed, K., & Joober, R. (2018). Effectiveness of Community Treatment Order in Patients with a First Episode of Psychosis: A Mirror-Image Study. *The Canadian Journal of Psychiatry, 63*(11), 766-773. doi:10.1177/0706743718777389

Maughan, D., Molodynski, A., Rugkåsa, J., & Burns, T. (2013). A systematic review of the effect of community treatment orders on service use. *Social Psychiatry and Psychiatric Epidemiology, 49*(4), 651-663. doi:10.1007/s00127-013-0781-0

Miller, D., Earley, P., & Hanson, A. (2018). *Committed: The battle over involuntary psychiatric care*. Baltimore: John Hopkins University Press.

O' Brien, A. J., & Golding, C. G. (2003). Coercion in mental healthcare: The principle of least coercive care. *Journal of Psychiatric and Mental Health Nursing, 10*(2), 167-173.

doi:10.1046/j.1365-2850.2003.00571.x

O' Brien, A. A., & Farrell, S. J. (2005). Community Treatment Orders: Profile of a Canadian Experience. *The Canadian Journal of Psychiatry, 50*(1), 27-30. doi:10.1177/070674370505000106

Opjordsmoen, S. , Friis, S. , Melle, I. , Haahr, U. , Johannessen, J. O., Larsen, T. K., Røssberg, J. I., Rund, B. R., Simonsen, E. , Vaglum, P. and McGlashan, T. H. (2010), A 2-year follow-up of involuntary admission's influence upon adherence and outcome in first-episode psychosis. *Acta Psychiatrica Scandinavica*, 121: 371-376. doi:10.1111/j.1600-0447.2009.01536.x

O' Reilly, R. (2004). Why are Community Treatment Orders Controversial? *The Canadian Journal of Psychiatry, 49*(9), 579-584. doi:10.1177/070674370404900902

Otero, M. (2016). Traiter les intraitables. *Nouvelles Pratiques Sociales, 28*(2), 203. doi:10.7202/1041188ar

Payne, J., Malla, A., Norman, R., Windell, D., & Brown, N. (2006). Status of First-Episode Psychosis Patients Presenting for Routine Care in a Defined Catchment Area. *The Canadian Journal of Psychiatry, 51*(1), 42-47. doi:10.1177/070674370605100108

Prinsen, E. J., & Delden, J. J. (2009). Can we justify eliminating coercive measures in psychiatry? *Journal of Medical Ethics, 35*(1), 69-73. doi:10.1136/jme.2007.022780

Psychiatric Patient Advocacy Office. (2016, June). Retrieved from https://www.sse.gov.on.ca/mohltc/ppao/en/Pages/InfoGuides/2016_Involuntary_Patients.aspx?openMenu=smenu_InfoGuides

Quirion B. Modalités et enjeux du traitement sous contrainte auprès des toxicomanes [The Nature and Issues of Drug Addiction Treatment under Constraint]. Santé Mentale au Québec. Fall 2014;39(2):39-56.

Rodrigues, R., Macdougall, A. G., Zou, G., Lebenbaum, M., Kurdyak, P., Li, L., . . . Anderson, K. K. (2019). Involuntary hospitalization among young people with early psychosis: A population-based study using health administrative data. *Schizophrenia Research*. doi:10.1016/j.schres.2019.01.043

Sjöstrand, M., Sandman, L., Karlsson, P., Helgesson, G., Eriksson, S., & Juth, N. (2015). Ethical deliberations about involuntary treatment: Interviews with Swedish psychiatrists. *BMC Medical Ethics, 16*(1). doi:10.1186/s12910-015-0029-5

Suetani, S., Foo, E., & Wilson, D. (2014). We need to talk about depot: Effect of Community Treatment Order on depot antipsychotic medication compliance. *Australasian Psychiatry,22*(4), 357-359. doi:10.1177/1039856214539859

CHAPTER 2

Methods

In order to address the thesis's objectives, which were to explore characteristics of FEP patients and to determine which characteristics were more predominately associated with an increased likelihood of being involuntarily hospitalized and/or treated, two studies were proposed. The first was a systematic review of the literature, which was designed to provide information on the current state of the knowledge, and identify important gaps on this topic. The second was an original study conducted with a population of FEP patients that address the gaps found by the aforementioned review, particularly in the context of the Quebec jurisdiction.

2.1 Systematic Review

A systematic review was first undertaken to document what is known about the characteristics associated with an increased likelihood of being involuntarily hospitalized and/or treated in first episode psychosis (FEP) patients. An extensive, librarian-assisted search strategy was conducted to pull together all studies, spanning multiple disciplines, on coercive measures in FEP. Study selection and analysis was conducted in four phases: title/abstract search, full text screening, data extraction, and data analysis. Relevant articles were additionally appraised for their quality. A detailed description of the search and analysis strategies is detailed in chapter 3, and a full list of search terms is provided in appendix A.

A meta-analysis was considered but was decided against due to the large heterogeneity of the tools for measuring clinical and sociodemographic characteristics, as well as different outcome measures across studies, which made any comparisons inadequate. More importantly, most characteristics were only analyzed by two to four studies, which combined with the relatively small size of the studies, would have yielded a limited number of patients per meta-

analytical comparison. Such underpowered comparisons were at a high risk of bias, and conclusions from these might have been spurious.

2.2 Characteristics study

Given the lack of research directly investigating characteristics of FEP patients receiving community treatment orders (CTOs), a quantitative descriptive study was conducted with the aim of exploring the patient characteristics associated with an increased likelihood of obtaining a CTO. A full description of the methods is provided in chapter 4. Briefly, this study was conducted using the database from the Prevention and Early Intervention Program for Psychosis in Montreal, Quebec (PEPP-Montreal), an early-intervention service providing mental health support to a catchment area of over 350,000 individuals. Given that individuals with a FEP in the catchment area are channelled to receive services at PEPP and that this area has no other specialized early intervention service, this sample is quite representative of the treatment-seeking FEP population in this area. Since PEPP combines clinical care with research, it conducts a thorough characterization of its population. Available data included clinical, sociodemographic, structural characteristics, and whether a CTO had been used. Given the dichotomous nature of this variable, i.e., patients are given or not a CTO, logistic regression analyses were selected as the main statistical tool for the analysis of this data. This was conducted in two steps. First, data was analyzed with a series of univariate logistic regression analyses, which individually pinpointed those characteristics that were significantly associated with a CTO. Those characteristics that reached statistical significance in the univariate analyses were then further analyzed together in a multivariate logistic regression analysis. This was done since sociodemographic characteristics are related with each other, and as such, by simultaneously

controlling for their effects, a clearer picture of the main characteristics associated with a CTO can be obtained.

CHAPTER 3

Manuscript #1: Involuntary Hospitalization and Treatment in the Care of First-Episode Psychosis Patients: A Systematic Review of Current Knowledge

Authors: Nina Fainman-Adelman, BA
Emily Crombie, BA
Jai Shah, MD
David Gifuni, MD
Jill Boruff, MLIS
Srividya N. Iyer, PhD*

***Corresponding author:**

Srividya N. Iyer, PhD
Researcher, Douglas Mental Health University Institute and the Prevention and Early Intervention Program for Psychoses (PEPP-Montreal)
Associate Professor, Department of Psychiatry, McGill University
6875 LaSalle Blvd.,
Montreal, QC, Canada
H4H 1R3
Email: srividya.iyer@mcgill.ca
Tel: 1-514-761-6131 ext. 6219 Fax: 1-514-888-4458

3.1 Abstract

Background and Objectives: Use of involuntary hospitalization and treatment for persons with first-episode psychosis remains a controversial issue in psychiatric practice. A search of the literature reveals that this area has not yet been reviewed. A review of the literature is necessary to determine what characteristics are associated with an increased likelihood of being involuntarily detained or treated. **Method:** Eight major databases (Embase, MEDLINE, PsycINFO, ProQuest Dissertations and Theses Online, CINAHL, Cochrane Library, and HeinOnline Law Journal Library) were searched to identify relevant primary studies. **Results:** 15 studies were included in the review. One reported on involuntary treatment alone and fourteen reported on involuntary hospitalization or involuntary hospitalization in conjunction with involuntary treatment. Among persons with first-episode psychosis, rates of involuntary hospitalization ranged from 21.7% to 61.6% and rates of involuntary treatment ranged from 19.2% to 36%. Clinical characteristics most consistently associated with the likelihood of being involuntarily hospitalized or treated were: symptom severity (higher positive symptoms, lower negative symptoms); lack of insight into illness; history of substance abuse, lower levels of premorbid functioning; violence; and aggression. Pathway to care characteristics most consistently associated with the likelihood of being involuntarily hospitalized or treated were an absence of a GP referral and referral through the criminal justice system or through the police. Sociodemographic factors (e.g., ethnicity) associated with coercive measures differed markedly between studies. **Conclusion:** While a substantial proportion of FEP patients are involuntarily hospitalized or treated, there is still a lack of knowledge about who the patients are who are subject to these coercive measures, and whether such measures are being applied in an appropriate manner to patients truly displaying “high risk” behavior. It is particularly important

to further break down the sociodemographic factors associated with involuntary treatment and involuntary hospitalization. Further studies are needed to explore these factors.

Note: This study has not yet been submitted for publication.

3.2 Introduction

The implementation of involuntary hospitalization and treatment remains a controversial issue since it can conflict with some of the principles of modern clinical practice such as patient autonomy and therapeutic alliance (Fistein, et al., 2009). The controversial nature of their use is compounded by the fact that existing studies that have analyzed the effectiveness of their use have revealed mixed results. Measures that restrict individual autonomy in this invasive way should only be used when the type, magnitude, and rapid onset of psychiatric disorders is such that more restrictive measures need to be taken. Thus, involuntary hospitalization and treatment may be measures most likely to be implemented among patients presenting with their first episode of a severe psychiatric illness.

At the same time, first-episode patients tend to be much younger and have much less experience with the mental healthcare system, making them a particularly vulnerable population. The ethical concerns of trading individual autonomy for health and safety necessarily raise the question of whether involuntary hospitalization and involuntary treatment are even effective means to achieve those results. While some studies have found such means to be effective at reducing symptoms (Levy et al., 2018), others have found an association between involuntary treatment and increased hospital admission rates and inpatient days (Burgess et al., 2006). A recent study (Lin et al., 2018) on compulsory admission for schizophrenia patients found that compulsory admission was associated with higher subsequent psychiatric readmissions.

Still, the use of involuntary hospitalization and treatment remains common practice in mental healthcare settings around the world (McLaughlin et al., 2016). The use of involuntary admission and treatment is rationalized by many as a necessary approach in the most severe psychiatric cases, where a person poses a risk to themselves or to others or demonstrates major functional impairment (Pompili et al., 2010; Large et al., 2011). However, these practices may

also have adverse consequences, including the erosion of trust in the medical system leading to service disengagement, and the rupturing of therapeutic alliance. These consequences are especially concerning for early intervention (EI) services for psychosis which have developed over the past 20 years as the preferred service model for the early course of psychotic illnesses (Correll et al., 2018; Bird et al., 2010; Penn et al., 2005). For such patients (who tend to be in their adolescence or early adulthood), EI services are often their first encounter with mental healthcare (Goldstein et al., 2014). A 2005 study using a FEP sample from a catchment area in Ontario, Canada, revealed that 60.3% of FEP patients are involuntary hospitalized upon admission, and a recent study from the same catchment area revealed that 38% of FEP patients were hospitalized within 2 years and 81% of those admissions were involuntary (Payne et al., 2006). Whereas EI services are philosophically committed to fostering engagement, hope and autonomy, the use of involuntary hospitalization and treatment may stand to undermine these principles. To better justify the use of these measures in FEP cases, it is important to understand how often and to whom these measures are being applied.

While involuntary hospitalization and treatment are used in patients with a variety of mental health conditions, patients with a diagnosis of schizophrenia are more likely to be subject to coercive measures compared to patients with other psychiatric diagnoses (Kelly et al., 2004). Still, little is specifically known about the use of involuntary hospitalization and treatment among patients with FEP. It remains even less clear why measures such as involuntary hospitalization and treatment are more likely to be applied to some patients with FEP than others. A growing body of literature is acknowledging that patients with FEP from certain ethnic minority groups have less desirable pathways to care, including higher levels of police involvement (MacDonald et al., 2018; Archie et al., 2008).

Involuntary treatment and involuntary hospitalization are two distinct measures, but may, at times, be used in conjunction. While definitions of each respective measure vary widely across jurisdictions, involuntary hospitalization generally refers to non-consensual detention in a hospital setting and involuntary treatment generally refers to situations when a patient is being forced to adhere to the treatment plan recommended by their physician/psychiatrist (usually, take medications as prescribed, but may, at times, also refer to forced uptake of psychosocial treatments). Terms used for involuntary hospitalization typically include: involuntary detention, hospitalization against one's will, forced hospitalization, compulsory admission, compulsory detention, and forced detention. Terms used for involuntary treatment typically include: coercive treatment, compulsory treatment, and forced treatment. Involuntary treatment may also be referred to directly by the type of involuntary treatment, such as community treatment order (CTOs), or forced medication adherence. Though involuntary treatment and involuntary hospitalization may be applied in different situations, they are both often rooted in the goals of preventing patients from causing harm to themselves or to others or of intervening in cases where the patient displays severe functional impairment.

A literature search on the characteristics of FEP patients receiving involuntary hospitalization or treatment reveals that this area has not yet been systematically reviewed. A review of the current knowledge on this topic is a critical first step in developing a better understanding of the nature, implications and appropriateness of involuntary measures in the treatment of first-episode psychosis. Even more, it is necessary to explore the clinical, structural, and sociodemographic patient characteristics in order to sift through the possible driving forces that may increase the likelihood of being involuntarily hospitalized or treated. If these measures are being used on more clinically severe patients who lack the capacity to consent, as was

intended, we would expect significant differences in clinical profiles and characteristics between the group of patients involuntarily hospitalized and treated. In contrast, sociodemographic characteristics such as sex, ethnicity, and education should not differ significantly between groups independent of clinical differences. Finally, differences in structural characteristics between groups (e.g., pathway to care, duration of untreated illness, etc.) may highlight issues in healthcare settings and direct future allocation of resources.

The aim of this review was to synthesize current knowledge on the clinical (e.g., symptoms), structural (e.g., pathway to care), and sociodemographic (e.g., ethnicity) characteristics of FEP patients that are more likely to be found in those patients who were involuntarily hospitalized or treated. Understanding which patient factors are tied to a patient's likelihood of being involuntarily hospitalized or treated is an important first step in understanding the issues involved in these practices.

3.3 Methodology

The protocol for this systematic review was developed in accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analysis (PRISMA) and was registered at the PROSPERO Centre for Reviews and Dissemination (ID: 42019117885) in January 2019.

Search Strategy

Search terms were generated with the help of a university librarian. We used the following search terms and variants of these keywords: terms related to diagnosis (i.e., schizophrenia, schizophrenic, psychotic, psychosis); terms related to the first episode (i.e., early, initial, first, primary); and terms related to involuntary hospitalization or treatment (i.e., involuntary, detention, compulsory, treatment order, mental health act, coercive). Articles were identified from a systematic search of seven major electronic databases including Embase,

MEDLINE, PsycINFO, ProQuest Dissertations and Theses Online, CINAHL, Cochrane Library, and HeinOnline Law Journal Library. Our literature search covered the period ending October 2018, with no specified start date. The electronic search was conducted in September 2018 and updated in October 2018. The search will be updated before submitting this article for publication.

Study selection

Two researchers independently screened titles, abstracts and keywords and resolved disagreements by consensus. Articles were included if they were peer-reviewed; were written in English or French; and reported quantitative findings. To be selected, studies had to pertain to patients with first-episode psychosis, regardless of the kind of service/clinic/setting in which they were treated. Since the definition of first-episode psychosis can differ slightly between studies, we employed a wide definition and included studies whose subjects were patients with psychosis first-admitted for treatment; subjects with their first diagnosis of a psychotic disorder; subjects who had not previously been treated for psychosis; or subjects who had taken antipsychotic medication for less than 30 days. Papers pertaining to patients of any age, ethnicity, or gender were eligible, as long as they were identified as having a first episode of psychosis or schizophrenia. Studies on interventions related to the use of involuntary hospitalization or treatment in any jurisdiction were included. These included: involuntary admission to hospital and involuntary inpatient, outpatient or community treatment. We included both involuntary hospitalization and treatment because they may be used in conjunction. While it could be seen as broad to have focused on both involuntary hospitalization and involuntary treatment, we also thought it feasible because we had narrowed our focus to first-episode psychosis, and to examining characteristics associated with the use of these measures.

Studies on other coercive measures in the treatment of psychiatric patients, such as non-psychiatric treatment received while hospitalized (chemical and physical restraints and temporary seclusion measures) were excluded because their use is not subject to legal requirements and because they are often of short duration. Studies on hospitalization under criminal warrants were excluded due to their arguably different purpose—as a response to crimes committed rather than preventative efforts. Affected individuals can also be seen as representing a specific sub-group. Furthermore, such patients are not commonly treated in EI services, and often transferred to facilities specialized and dedicated for this level of treatment complexity. Two reviewers independently screened the full text of each article to check whether it met inclusion criteria. Articles meeting the inclusion criteria were then hand searched by one author to find references to studies potentially missed by the database search (*Fig. 1)*.

Data extraction

Using a purpose-built data extraction sheet, two reviewers independently extracted and compared data from the 15 included studies and resolved disagreements by discussion. Data were extracted on study design, study aim, and study setting; participant clinical characteristics [severity of illness, insight into illness, pre-morbid functioning, duration of untreated psychosis (often referred to as DUP), history of psychiatric diagnoses, and aggression/violence/offending behavior]; sociodemographic characteristics (sex, race/ethnic identity, unemployment, education, living arrangements, and involvement of family/friends); and pathway to care. The authors of nine studies were contacted for clarification and missing information, and four responded. As the laws and definitions pertaining to involuntary hospitalization/treatment vary markedly between jurisdictions, we extracted information about the jurisdiction in which each study was conducted, and its respective laws/definitions of the measures (*Table 2*). All included studies were assessed

for methodological quality using the Newcastle-Ottawa Quality Assessment Scale (Wells et al., 1999), which was adapted for thematic relevance. A meta-analysis was considered but ultimately selected against. Tools used to assess clinical characteristics were not the same across studies, and results were therefore not meta-analyzable. In addition, the number of studies per meta-analytical test would have been small, which combined with the relatively low number of patients in some studies, would have resulted in low-powered analyses, and the potential for spurious conclusions.

3.4 Results

The electronic search generated 4,885 articles, including the 331 from the updated October 2018 search. Hand searching generated another four articles. After duplicates were removed, 4,673 articles remained. Of these, 59 studies were retained following the review of titles and abstracts. Full texts of these articles were then obtained and reviewed. Of these, 15 studies met full inclusion criteria (see *Fig. 1*). The main reason for exclusion was that studies did not specifically pertain to patients with first-episode psychosis (n=16). Nine studies were either qualitative or review studies. Eight did not measure patient characteristics. A further eight studies were conference abstracts only. These studies were cross-checked to ensure that full texts associated with these were not available. Three studies were excluded as they were neither in French nor in English.

Study characteristics and settings

The characteristics of included studies are summarized in *Table 1*. A majority of studies were published after 2009 (n=10). Included studies had been conducted in six different countries (England, n=6; Ireland, n=3; Canada, n=2; Norway, n=2; Australia, n=1; France, n=1). Their

sample sizes ranged from 78 to 2,026 (mean =388.8). Most studies reported on patients with first-episode psychosis specifically, while one study (Boydell et al., 2014) reported on their caregivers.

A number of studies (n=6) did not report the average age of participants. Overall, the average age of participants was 24.2 years (excluding the Boydell et al., 2014 study which only reported the average age of caregivers). Seven studies were conducted in early intervention services. Other studies were conducted in psychiatric hospitals (n=4); secondary services (n=2); both secondary and tertiary services (n=1); or a combination of primary, secondary, and tertiary services (n=1). One study (Morandi et al., 2016) reported on involuntary treatment, while the rest reported on involuntary hospitalization (n=14).

Jurisdiction requirements

Involuntary hospitalization was the term most frequently used across studies (n=4) to define coercive detention. These studies came from Norway (n=2), Canada, and Ireland. However, terms varied widely across jurisdictions and included: compulsory admission (n=3), involuntary admission (n=2), compulsory detention (n=2), compulsory hospital admission (n=1), and admitted under section (n=1). The one study (Morandi et al., 2016) study reporting exclusively on involuntary treatment, use the legal term "community treatment order" (CTO) to define involuntary treatment. Eight studies reported on their jurisdiction's definition of involuntary hospitalization or involuntary treatment, and a further four authors reported the jurisdiction definition via email, as can be seen in *Table 2*.

Frequency

Twelve studies reported on the percentages of their subjects to whom either involuntary hospitalization or treatment had been applied (*Table 2*). Eleven studies reported on the rates of

involuntary hospitalization in patients with first-episode psychosis, which ranged from 21.7% to 61.6%. The average in these studies was 37.6%. The Morandi et al (2016) study, which explored the characteristics of patients who were involuntarily treated (through CTOs), found that 19.2% of subjects had been placed on such an order at some point during their 18 months of treatment.

Involuntary Treatment

The only study that reported on the characteristics of FEP patients receiving involuntary treatment alone was the study by Morandi et al., 2017 in Australia, which reported on community treatment orders (CTOs)—a legal regime that obliges patients to be treated outside a hospital setting. The average age of subjects included in the study was 22 years with a range between 15 and 29 years old. Approximately 66% of subjects were male and the study setting was an early intervention service. In this study, both the clinical and sociodemographic characteristics were explored in the analysis. The clinical variables most strongly associated with an increased likelihood of receiving a CTO included: overall higher severity of symptoms, significantly lower levels of insight into illness, lower pre-morbid functioning, longer DUP, less of a history of suicide attempts but a higher frequency of substance use disorder, and a greater history of offending behavior. The sociodemographic variables most likely to be associated with an increased likelihood of receiving a CTO included: male sex, higher rates of unemployment, and fewer years of education. Variables that did not differ between groups included race/ethnicity, family history of schizophrenia, family history of mental illness, and living arrangements. Variables that were not mentioned included pathways to care and involvement of family/friends. For clarity, this study is not further reported in the results below.

Clinical Characteristics

Seven studies reported on the clinical characteristics of subjects (*Table 3*), including substance misuse, history of psychiatric diagnosis, duration of untreated psychosis, psychotic symptoms, aggression/violence/offending behavior, insight into illness, and functioning.

Substance misuse: Three (Opsal et al., 2011; Cougnard et al., 2004; Patel et al., 2016) of the five studies analyzing the association of substance use with coercive treatment found a significant association between substance use or abuse and being involuntarily hospitalized. One study (Opsal et al., 2011) found that patients with substance abuse at baseline experienced significantly more involuntary hospitalizations during a two-year follow-up period and had a mean length of involuntary stay more than twice as long as that for those without substance abuse. One study (Opjordsmoen et al., 2010) found no significant association between drug use and involuntary status. The study by Kelly et al. (2004) found that voluntary patients had higher rates of drug use in the month prior to admission, though the difference was not significant in predicting admission status.

History of psychiatric diagnosis: Psychiatric history was reported in one study (Cougnard et al., 2004) and was found to be significantly associated with involuntary hospitalization. Their study looked at factors influencing compulsory admission in first-episode psychosis patients in France and found that having a diagnosis of schizophrenia broadly defined, as opposed to another psychotic disorder, adjusted OR-2.8, 95% CI 1.02-7.4) and an absence of depressive or anxiety symptoms (adjusted OR=0.05, 95% CI 0.005-0.5) were significant predictors.

Duration of untreated psychosis and treatment delays: Two studies (Kelly et al., 2004; Opsal et al., 2011) reported on duration of untreated psychosis (delay between onset of psychosis and the start of adequate treatment) and neither found a significant association between duration of

untreated psychosis and coercive treatment. Kelly et al. (2004) found that the mean duration of untreated psychosis for involuntary patients was 42.2 months while for voluntary patients, it was 24.7 months, though this was still not a significant predictor of status. The study by Cougnard et al. (2004) explored whether the length of delays between the onset of psychotic symptom and the first help-seeking contact, the initiation or first psychotropic treatment, or the first hospitalization influenced the likelihood of being involuntarily admitted. In this study, the median was used to categorize delays as long vs. short. Their findings revealed that none of these delays were significantly associated with an increased likelihood of being involuntarily admitted.

Psychotic symptoms: Three studies reported on psychotic symptoms, all of which found a significant association between illness severity and coercive treatment. Two studies (Opsal et al., 2011; Opjordsmoen et al., 2010) found that more severe psychiatric symptoms as measured by the Positive and Negative Symptom Scale (PANSS) excitement component were associated with involuntary admission. One of the two studies (Opjordsmoen et al., 2010) further reported that voluntary patients had higher depressive component scores on the PANSS than involuntary patients ($p<0.05$). Women, who had been involuntarily hospitalized, had significantly higher PANSS excitative component scores than women who had been voluntarily hospitalized. This difference was not significant in the case of men. The study by Kelly et al. (2004), which explored the clinical predictors of admission status for FEP patients in Dublin, found that involuntarily admitted patients had significantly higher scores for grandiosity, suspiciousness/persecution, hostility and stereotyped thinking.

Aggression, violence and offending: Aggression, violence, and offending behavior were reported in three studies. Two of these studies (Foley et al., 2005; Keane et al., 2017) found a significant association between these behaviors and involuntary admission status. Foley et al. (2005) found

that individuals who demonstrated aggression were significantly more likely to be involuntarily admitted (OR=3.62, 95% CI, 1.45-9.01), and pre-contact violence was associated with involuntary admission status (OR=3.21, 95% CI 1.21-8.50). Keane et al. (2017) found that aggression was independently associated with involuntary treatment (OR=4.09, 95% CI 1.31-12.73) in the week prior and following presentation, and violence was associated with involuntary status (OR=3.69, 95% CI 1.2-11.38) in the week prior to presentation.

Insight into illness: One study (Kelly et al., 2004) reported on insight into illness, and found insight to be the sole significant factor associated with involuntary admission status after controlling for confounding factors.

Functioning: One study (Opjordsmoen et al., 2010) reported on pre-morbid functioning, and found a significant association with involuntary status. In their sample, involuntarily admitted patients had lower global functioning and psychopathology scores at baseline.

Sociodemographic characteristics

10 of the 15 studies reported on the sociodemographic characteristics of subjects including race/ethnicity, sex, education level, living arrangements, unemployment status, and involvement of family/friends (*Table 4*).

Ethnicity/Race: Five studies, reported on ethnic/racial identity, three of which (Archie et al., 2010; Mann et al., 2014; Singh et al., 2015) found a significant association between race and compulsory admission. Mann et al., (2014) and Singh et al., (2015) both found that Black patients were significantly more likely to be compulsorily detained/hospitalized than White and Asian patients. Mann et al. (2014) analyzed ethnic variations in compulsory detention for FEP patients in the UK and found that Black African EI service users had three times greater odds of being hospitalized than White British patients, even after adjustment for confounders. Mann et

al. found that this was most marked in Black African women. Singh et al.'s (2015) study, which also looked at ethnic differences in FEP patients in the UK, found that Black patients were significantly more likely to be compulsorily detained in comparison to White (OR=4.67, 95% CI 1.77-12.32) and Asian (OR=3.08, 95% CI 1.21-7.83) patients. Archie et al.'s (2010) study, which looked at ethnic diversity in FEP patients in Canada, found that Asian participants experienced less involuntary hospitalizations ($p=0.023$) compared to all other ethnic groups.

Education: Education level was analyzed in four studies but only one found a significant association with involuntary status. Burnett et al. (1999) found that White patients whose highest level of education was primary or secondary level were more likely to be involuntarily admitted than White patients who had achieved vocational/tertiary education ($p<0.03$).

Sex: Sex differences were analyzed in four studies. Cougnard et al. (2004) found that being male was significantly associated with compulsory admission (adjusted OR=3.2, 95% CI 1.2-8.6, $p=0.02$). Opjordsmoen et al. (2010), on the other hand, found that more female patients were involuntarily admitted than male patients ($p<0.01$). Two studies (Cole et al., 1995; Opsal et al., 2011) did not find a significant difference in the rates of involuntary hospitalization between men and women.

Living arrangements: Living arrangements were analyzed in three studies and two found a significant association between living situation and involuntary admission. Burnett et al. (1999) found that African-Caribbean patients who lived alone were more likely to be sectioned than African-Caribbean patients who lived with family/friends. Asian patients who lived in public housing were more likely to be admitted on a compulsory basis than Asian patients living in private housing ($p<0.001$). In the study by Cole et al. (1995), living in public housing, living away from family, and living alone were significantly associated with compulsory admission.

Cougnard et al (2004) did not find any significant influence of patients' living arrangements on the likelihood of being involuntarily admitted.

Employment: Unemployment status was examined in two studies (Cole et al., 1995; Cougnard et al., 2004) neither of which found a significant association with involuntary hospitalization.

Family/friends: The involvement of family and friends was explored as a factor in three studies (Boydell et al., 2014; Cougnard et al., 2004; Cole et al., 1995), one of which found a significant association with admission status. The study by Boydell et al. (2014) explored the association between "caregiver burden", defined as the level of distress felt by caregivers of FEP patients, and the likelihood of FEP patients being involuntarily hospitalized. Burden or distress was measured using the Experience of Caregiving Inventory (ECI). They found that compulsory treatment was not associated with overall caregiver burden, but associated with a group of items described as *problems with services.* This association was particularly evident in the Black Caribbean group of carers.

Structural Characteristics

The only structural or systems characteristic examined in the included studies was the pathway to mental health care.

Pathways to care: Four studies reported on pathways to care, three of which reported that GP referral significantly reduced likelihood of involuntary admission. Burnett et al. (1999) reported that patients who were admitted following referral from their GP and who visited their GP of their own volition were less likely to be sectioned than patients who had taken alternative routes into care ($p<0.01$). In addition, in this study, family referral and police involvement increased the risk for involuntary admission, particularly for White patients. Cole et al. (1995) reported that an absence of GP involvement was significantly associated with compulsory admission (OR=5.9,

95% CI 2.0-17.9). In the study by Mann et al. (2014), self-referral (OR=0.23, 95% CI 0.13-0.39) and GP involvement in the pathway (OR=0.30, 95% CI 0.18-0.50) were each linked with a reduced risk of detention. Criminal justice referral was associated with increased odds of detention (OR=17.2, 95% CI 6.0-49.5). All these associations were highly significant ($p<0.0005$). Cougnard et al. (2004) did not find a significant association between pathways to care and involuntary status.

Quality Appraisal

The methodological quality of these studies was mixed (*Table 5*). While no study met all of the criteria, six of the studies met partial or full criteria on all points. All studies had a clearly identified research question, and met full criteria on that point. However, seven studies did not identify their jurisdictional definition of the explored coercive measures. Six studies did not identify the non-participation rate.

3.5 Discussion

The use of involuntary hospitalization and treatment, as applied to young patients with first-episode psychosis, remains a highly controversial issue (O' Reilly, 2004). Central to this controversy is the fact that the evidence of their effectiveness is yet to be established (Maughan et al., 2013; Kjellin & Wallsten, 2010; Jacobsen, 2012). Studies on the subject have been largely divided in their results, with some reporting that coercive measures are highly beneficial (Levy et al., 2018), and others reporting no difference in outcomes at all (Burns et al., 2013; Opjordsmoen et al., 2010). Moreover, no systematic review or meta-analysis has been undertaken to date on the outcomes of coercive measures for patients with first-episode psychosis.

The results from the current review reveal that very little research exists on this subject. Only 14 studies have examined the characteristics that made FEP patients have a greater likelihood to have been involuntarily admitted. Only one study has focused on the characteristics of patients with first-episode psychosis who were placed on community treatment orders (CTOs). With the mean of 37.6% of patient across studies, and as many as 61.6% of patients in one study, being involuntarily hospitalized, it is apparent that coercive measures are not infrequently used tools in treating patients with FEP. The width of the range of rates at which coercive measures are applied indicates that there are significant differences across treatment settings in their use. This further highlights the need to think critically about what factors increase the likelihood of a patient being involuntarily hospitalized or treated. It also points to the need to examine how much of the variance is accounted for by individual patient factors and clinician and system characteristics.

Only six countries were represented in the fifteen studies included in the systematic review, despite involuntary hospitalization and involuntary treatment being used in over 70 countries around the world (Morandi et al., 2016; Maughan et al., 2013; Salize, H. J., & Dressing, H., 2004). One possible reason for this may be that certain jurisdictions do not mandate a recording of instances of involuntary hospitalization or treatment, and thus do not have the data to conduct research. Another possibility is that first-episode psychosis (FEP) cases are not recorded separately from other psychosis cases.

Involuntary Treatment vs. Involuntary Hospitalization

Though involuntary treatment and involuntary hospitalization may be applied in different situations, they are both rooted in similar rationales of use, such as preventing harm to the patient and to others, and when the patient is unable to consent to necessary treatment and has

categorically refused such options. Thus, for the purpose of this review, we did not expect the characteristics associated with receiving involuntary hospitalization or involuntary treatment to be significantly different from one another. We are unable to unequivocally test this expectation because our review only included one study of involuntary treatment. This study (Morandi et al., 2017) found that DUP was significantly associated with being placed under CTOs, while none of the studies on involuntary hospitalization that examined DUP found an association between DUP and being involuntarily hospitalized. Similarly, the clinical and sociodemographic characteristics associated with reception of coercive measures did not significantly differ between involuntary treatment and hospitalization. However, unemployment was associated with an increased likelihood of receiving a CTO but not associated with an increased likelihood of being involuntarily hospitalized in the studies that explored this variable.

Sociodemographic factors

While the sociodemographic factors associated with a risk of harm to self or to others vary across settings and between populations, the factors most commonly identified in the literature (Large & Nielssen, 2011; Pompili et al., 2010) have been: being male; having little or no social support; living alone; having recent contact with psychiatric services; and being unemployed or having employment problems. The studies in this review found mixed results for most of these factors. Being male was associated with involuntary hospitalization only in one study (Cougnard et al., 2004), and with CTOs in another (Morandi et al., 2017), while being female was also associated with involuntary hospitalization in one study (Opjordsmoen et al., 2010). Involvement of family and friends was analyzed in three studies, only one of which (Boydell et al., 2014) reported a significant association with compulsory admission. In this study, it was not the overall burden of family/caregivers that was predictive of compulsory admission

status, but rather the problems that family/caregivers encountered with services that predicted involuntary hospitalization. Recent contact with psychiatric services was not a factor analyzed in any of the included studies. Finally, being unemployed was not significantly associated with involuntary hospitalization in the studies that explored unemployment. However, the study by Morandi et al., (2017) explored unemployment in association with being under CTOs. It found that patients under CTOs were less likely to have been employed. These findings suggest that further research is needed to critically examine the relationship between some of the factors identified as increasing the risk of causing harm to self and others, and the characteristics of patients' subject to involuntary hospitalization and involuntary treatment.

One factor that was significantly associated with involuntary hospitalization and involuntary treatment was race and/or ethnic identity. At the same time, race and/or ethnic identity were not identified in these studies as a risk factor independent of other factors (i.e., socioeconomic status, access to mental health care, unemployment, education, etc.). More research is necessary to clarify the role of race and/or ethnic identity in the deployment of involuntary treatment and involuntary hospitalization and in judgments of risk of harm to self or to others. This is particularly important to explore as a major criticism levelled against the use of coercive measures is that they tend to be disproportionately applied to certain populations.

Clinical factors

A large selective literature review (Pompili et al., 2011) of suicide risk in first episode psychosis explored the clinical risk factors associated with the risk of harm to self in FEP. Of the approximately 100 studies included in the review, the risk factors that were identified included: higher levels of substance misuse, a history of suicide attempt, higher levels of depression, and lower intensity of positive symptoms. A systematic review and meta-analysis (Large & Nielssen,

2011) on violence in FEP, identified the clinical factors associated with an increased risk of harm towards others as: higher levels of substance misuse, DUP, hostile affect, and mania (Large & Nielssen, 2011).

Our review found that most of these factors were also significantly associated with involuntary hospitalization or treatment. A history of suicide attempts was significantly associated with receiving coercive measures in one study (Morandi et al., 2017), while no other study explored this as a factor. Substance use and abuse was significantly associated with involuntary hospitalization and involuntary treatment in four of six studies that explored it as a factor, but was not associated with involuntary status in two other studies. Finally, a history of violence was significantly associated with involuntary status in the two studies that explored it.

Clinical factors were more consistently associated with involuntary status across studies in comparison to sociodemographic factors which varied widely across studies. This is likely due to the fact that sociodemographic profiles vary widely across jurisdictions, while clinical profiles are likely less variable.

Risk of harm to self and/or to others

One of the widely proffered justifications for the use of coercive treatment for patients suffering from mental illness, including FEP, has been that it can help prevent harm to one's self and/or to others (Otero et al., 2016). In fact, most jurisdictions make this criterion mandatory in determining who should be placed under court-ordered treatment or involuntary hospitalization.

While some clinicians favor having the option to involuntarily hospitalize and treat patients based on the empirical knowledge that individuals suffering from severe mental illness are significantly more vulnerable to being harmed or harming themselves (Teplin, 2005), others have argued that we lack the proper knowledge and tools to determine "risk." Though the method of

assessment may vary across jurisdictions, it is ultimately left to the clinician and/or courtroom judge to determine whether or not a patient is at "risk" of harm to themselves or to others, despite research continuing to show that clinicians are largely limited in their capacity to assess risk (Monahan et al., 2005). This is primarily because "risk" is not a unitary phenomenon, and the assessment tools available to clinicians do not capture its complexity, and, moreover, are not even always deployed. Thus, clinicians are oftentimes left to rely on subjective impressions and/or characteristics that may be considered "risk factors". While a few literature reviews (Large & Nielssen, 2011; Pompili et al., 2010) have identified certain factors associated with an increased risk of harm to self or to others, there is not enough evidence to properly establish the predictive power of these factors. It still remains necessary to critically examine the patient characteristics that are associated with a higher likelihood of being involuntarily treated or hospitalized and discuss whether these characteristics can be truly linked to "risk of harm".

Quality of studies

The overall quality of the included studies was very mixed, as a relatively small number of studies only explored one characteristic without controlling for confounding factors. Future studies should explore the interaction of characteristics in order to better understand which combination of characteristics increase the likelihood of involuntary hospitalization and/or treatment.

Limitations

The primary limitation of this review is that there were not many studies available on the characteristics of FEP patients being placed on involuntary treatment or involuntary hospitalization. Further, a number (n= 5) of included studies only explored a few characteristics and did not control for confounding factors.

Another limitation was that the requirements for using involuntary treatment or involuntary hospitalization, and what these measures entail, varies between, and even within, countries. While this variance is most relevant in comparisons of outcomes of coercive measures, it may also play a role in contributing to the differences in the characteristics of patients who are subject to involuntary hospitalization or treatment.

Conclusion

Given that psychiatry has moved toward more patient-centered models of treatment by emphasizing patient autonomy and therapeutic alliance (Fistein, et al., 2009), questions surrounding the appropriateness of measures such as involuntary hospitalization and treatment are that much more important to address. An important subgroup of patients receiving such measures are FEP patients whose early experiences with mental health services may determine their future willingness to seek support and remain engaged in services (Monteiro et al., 2006). A high proportion of patients with first-episode psychosis experience involuntary hospitalization and likely also involuntary treatment. Yet, very few studies have explored the differences in characteristics between patients who receive coercive measures and those who do not. Additionally, capacity to consent was not described in any of the included studies. Nonetheless, one study (Kelly et al., 2004) measured insight into illness which may be seen as a proxy for capacity to consent. Overall, this is surprising as demonstrable incapacity to consent is a requirement for involuntary hospitalization or treatment in many jurisdictions.

Due to the ethical issues surrounding the use of coercive measures, namely, loss of autonomy, it is necessary to better understand why and to whom coercive measures are applied. Future studies must also explore the frequency of the use of coercive measures in patients with first-episode psychosis across the globe and by jurisdiction.

3.6 References

Archie, S., Akhtar-Danesh, N., Norman, R., Malla, A., Roy, P., & Zipursky, R. B. (2008). Ethnic Diversity and Pathways to Care for a First Episode of Psychosis in Ontario. *Schizophrenia Bulletin, 36*(4), 688-701. doi:10.1093/schbul/sbn137

Bernheim, E., Chalifour, G., & Laniel, R. (2016) La santé mentale en justice: invisibilité et déni de droits: une étude statistique de la jurisprudence en autorisation de soins. *McGill Journal of Law and Health,* 9(2), 337-382.

Bird, V., Premkumar, P., Kendall, T., Whittington, C., Mitchell, J., & Kuipers, E. (2010). Early intervention services, cognitive–behavioural therapy and family intervention in early psychosis: Systematic review. *British Journal of Psychiatry, 197*(5), 350-356. doi:10.1192/bjp.bp.109.074526

Boydell, J., Onwumere, J., Dutta, R., Bhavsar, V., Hill, N., Morgan, C., . . . Fearon, P. (2013). Caregiving in first-episode psychosis: Social characteristics associated with perceived 'burden' and associations with compulsory treatment. *Early Intervention in Psychiatry, 8*(2), 122-129. doi:10.1111/eip.12041

Burgess, P., Bindman, J., Leese, M., Henderson, C., & Szmukler, G. (2006). Do community treatment orders for mental illness reduce readmission to hospital? *Social Psychiatry and Psychiatric Epidemiology, 41*(7), 574-579. doi:10.1007/s00127-006-0063-1

Burnett, R., Mallett, R., Bhugra, D., Hutchinson, G., Der, G., & Leff, J. (1999). The first contact of patients with schizophrenia with psychiatric services: Social factors and pathways to care in a multi-ethnic population. *Psychological Medicine, 29*(2), 475-483. doi:10.1017/s0033291798008125

Burns, T., Rugkåsa, J., Molodynski, A., Dawson, J., Yeeles, K., Vazquez-Montes, M., . . .

Priebe, S. (2013). Community treatment orders for patients with psychosis (OCTET): A randomised controlled trial. *The Lancet, 381*(9878), 1627-1633. doi:10.1016/s0140-6736(13)60107-5

Cole, E., Leavey, G., King, M., Johnson-Sabine, E., & Hoar, A. (1995). Pathways to care for patients with a first episode of psychosis. A comparison of ethnic groups. *British Journal of Psychiatry, 167*(6), 770-776.

Cougnard, A., Kalmi, E., Desage, A., Misdrahi, D., Abalan, F., Brun-Rousseau, H., . . . Verdoux, H. (2004). Factors influencing compulsory admission in first-admitted subjects with psychosis. *Social Psychiatry and Psychiatric Epidemiology, 39*(10), 804-809. doi:10.1007/s00127-004-0826-5

Edwards, J., Norman, R., Kurdyak, P., Macdougall, A. G., Palaniyappan, L., Lau, C., & Anderson, K. K. (2019). Unmet need for mental health services among people screened but not admitted to an early psychosis intervention program. *Schizophrenia Research,204*, 55-57. doi:10.1016/j.schres.2018.08.002

Fistein, E., Holland, A., Clare, I., & Gunn, M. (2009). A comparison of mental health legislation from diverse Commonwealth jurisdictions. *International Journal of Law and Psychiatry, 32*(3), 147-155. doi:10.1016/j.ijlp.2009.02.006

Foley, S. (2004). Incidence and clinical correlates of aggression and violence at presentation in patients with first episode psychosis. *Schizophrenia Research*. doi:10.1016/s0920-9964(04)00106-9

Gleerup CS, Østergaard SD, Hjuler RS. Seclusion versus mechanical restraint in psychiatry - a systematic review. Acta Neuropsychiatr. 2019 Oct;31(5):237-245. doi: 10.1017/neu.2019.22.

Goldstein, A., Heinssen, R., & Azrin, S. (2014). Evidence-Based Treatments for First Episode Psychosis: Components of Coordinated Specialty Care. *National Institute of Mental Health*.

Isaac, R. J., & Armat, V. C. (2000). *Madness in the streets: How psychiatry and the law abandoned the mentally ill*. Arlington, VA: Treatment Advocacy Center.

Jacobsen, T. B. (2012). Involuntary treatment in Europe. *Current Opinion in Psychiatry,25*(4), 307-310. doi:10.1097/yco.0b013e32835462e3

Kallert TW. Coercion in psychiatry. Curr Opin Psychiatry. 2008ep;21(5):485-9. doi: 10.1097/YCO.0b013e328305e49f.

Keane, S., Szigeti, A., Fanning, F., & Clarke, M. (2018). Are patterns of violence and aggression at presentation in patients with first-episode psychosis temporally stable? A comparison of 2 cohorts. *Early Intervention in Psychiatry*. doi:10.1111/eip.12694

Kelly, B., Clarke, M., Browne, S., Gervin, M., Lane, A., Larkin, C., & Ocallaghan, E. (2002). Predictors of admission status in first episode schizophrenia. *European Psychiatry, 17*, 181-182. doi:10.1016/s0924-9338(02)80780-5

Kjellin, L., & Wallsten, T. (2010). Accumulated coercion and short-term outcome of inpatient psychiatric care. *BMC Psychiatry, 10,* Article ID 53. http://dx.doi.org/10.1186/1471-244X-10-53

Large, M. M., & Nielssen, O. (2011). Violence in first-episode psychosis: A systematic review and meta-analysis. *Schizophrenia Research, 125*(2-3), 209-220. doi:10.1016/j.schres.2010.11.026

Levy, E., Mustafa, S., Naveed, K., & Joober, R. (2018). Effectiveness of Community Treatment Order in Patients with a First Episode of Psychosis: A Mirror-Image Study. *The*

Canadian Journal of Psychiatry, 63(11), 766-773. doi:10.1177/0706743718777389

Lin, C., Chung, C., Chen, L., Chen, P., Cheng, H., & Chien, W. (2018). Compulsory admission is associated with an increased risk of readmission in patients with schizophrenia: A 7-year, population-based, retrospective cohort study. *Social Psychiatry and Psychiatric Epidemiology, 54*(2), 243-253. doi:10.1007/s00127-018-1606-y

Luciano M, Sampogna G, Del Vecchio V, Pingani L, Palumbo C, De Rosa C, Catapano F, Fiorillo A. Use of coercive measures in mental health practice and its impact on outcome: a critical review. Expert Rev Neurother. 2014 Feb;14(2):131-41. doi: 10.1586/14737175.2014.874286.

Macdonald, K., Fainman-Adelman, N., Anderson, K. K., & Iyer, S. N. (2018). Pathways to mental health services for young people: A systematic review. *Social Psychiatry and Psychiatric Epidemiology, 53*(10), 1005-1038. doi:10.1007/s00127-018-1578-y

Mann, F., Fisher, H. L., Major, B., Lawrence, J., Tapfumaneyi, A., Joyce, J., . . . Johnson, S. (2014). Ethnic variations in compulsory detention and hospital admission for psychosis across four UK Early Intervention Services. *BMC Psychiatry, 14*(1). doi:10.1186/s12888-014-0256-1

Maughan, D., Molodynski, A., Rugkåsa, J., & Burns, T. (2013). A systematic review of the effect of community treatment orders on service use. *Social Psychiatry and Psychiatric Epidemiology, 49*(4), 651-663. doi:10.1007/s00127-013-0781-0

Mclaughlin, P., Giacco, D., & Priebe, S. (2016). Use of Coercive Measures during Involuntary Psychiatric Admission and Treatment Outcomes: Data from a Prospective Study across 10 European Countries. *Plos One, 11*(12). doi:10.1371/journal.pone.0168720

Monahan, J., Steadman, H. J., Robbins, P. C., Appelbaum, P., Banks, S., Grisso, T., . . .

Silver, E. (2005). An Actuarial Model of Violence Risk Assessment for Persons With Mental Disorders. *Psychiatric Services,56*(7), 810-815. doi:10.1176/appi.ps.56.7.810

Molodynski A, Rugkåsa J, Burns T. Coercion and compulsion in community mental health care. Br Med Bull. 2010;95:105-19. doi: 10.1093/bmb/ldq015.

Morandi, S., Golay, P., Lambert, M., Schimmelmann, B. G., Mcgorry, P. D., Cotton, S. M., & Conus, P. (2017). Community Treatment Order: Identifying the need for more evidence based justification of its use in first episode psychosis patients. *Schizophrenia Research, 185*, 67-72. doi:10.1016/j.schres.2016.12.022

Monteiro, V.B. M., Dos Santos, J.Q. & Martin, D. (2006). Patients` relatives delayed help seeking after a first psychotic episode. Rev. Bras. Psiquiatr 28, 104-110.

Opjordsmoen, S., Friis, S., Melle, I., Haahr, U., Johannessen, J. O., Larsen, T. K., . . . Mcglashan, T. H. (2010). A 2-year follow-up of involuntary admission's influence upon adherence and outcome in first-episode psychosis. *Acta Psychiatrica Scandinavica, 121*(5), 371-376. doi:10.1111/j.1600-0447.2009.01536.x

Opsal, A., Clausen, T., Kristensen, Ø, Elvik, I., Joa, I., & Larsen, T. K. (2011). Involuntary hospitalization of first-episode psychosis with substance abuse during a 2-year follow-up. *Acta Psychiatrica Scandinavica, 124*(3), 198-204. doi:10.1111/j.1600-0447.2011.01700.x

O' Reilly, R. (2004). Why are Community Treatment Orders Controversial? *The Canadian Journal of Psychiatry, 49*(9), 579-584. doi:10.1177/070674370404900902

Otero, M. (2016). Traiter les intraitables. *Nouvelles Pratiques Sociales, 28*(2), 203.

doi:10.7202/1041188ar

Patel, R., Wilson, R., Jackson, R., Ball, M., Shetty, H., Broadbent, M., . . . Bhattacharyya, S. (2016). Association of cannabis use with hospital admission and antipsychotic treatment failure in first episode psychosis: An observational study. *BMJ Open, 6*(3). doi:10.1136/bmjopen-2015-009888

Payne, J., Malla, A., Norman, R., Windell, D., & Brown, N. (2006). Status of First-Episode Psychosis Patients Presenting for Routine Care in a Defined Catchment Area. *The Canadian Journal of Psychiatry, 51*(1), 42-47. doi:10.1177/070674370605100108

Penn D., Waldheter E., Perkins D., Mueser K., & Lieberman J. (2005). Psychosocial treatment for firstepisode psychosis: A research update. *American Journal of Psychiatry*, 162, 2220–2232.

Pompili, M., Serafini, G., Innamorati, M., Lester, D., Shrivastava, A., Girardi, P., & Nordentoft, M. (2011). Suicide risk in first episode psychosis: A selective review of the current literature. *Schizophrenia Research, 129*(1), 1-11. doi:10.1016/j.schres.2011.03.008

Salize, H. J., & Dressing, H. (2004). Epidemiology of involuntary placement of mentally ill people across the European Union. *British Journal of Psychiatry, 184*(02), 163-168. doi:10.1192/bjp.184.2.163

Sampogna G, Luciano M, Del Vecchio V, Pocai B, Palummo C, Fico G, GiallonardoV, De Rosa C, Fiorillo A. Perceived Coercion Among Patients Admitted in Psychiatric Wards: Italian Results of the EUNOMIA Study. Front Psychiatry. 2019 May 21;10:316. doi: 10.3389/fpsyt.2019.00316.

Singh, S. P., Brown, L., Winsper, C., Gajwani, R., Islam, Z., Jasani, R., . . . Birchwood, M. (2015). Ethnicity and pathways to care during first episode psychosis: The role of

cultural illness attributions. *BMC Psychiatry, 15*(1). doi:10.1186/s12888-015-0665-9

Teplin, L. A., Mcclelland, G. M., Abram, K. M., & Weiner, D. A. (2005). Crime Victimization in Persons with Severe Mental Illness. *PsycEXTRA Dataset*. doi:10.1037/e501242006-001

Wells GA, Shea B, Peterson J, Welch V, Losos M, Tugwell P. The Newcastle-Ottawa Scale (NOS) for assessing the quality if nonrandomized studies in meta-analyses. 1999. http://www.ohri.ca/programs/clinical_epidemiology/oxford.htm. Accessed February 15, 2016

Zhang, S., Mellsop, G., Brink, J., & Wang, X. (2015). Involuntary admission and treatment of patients with mental disorder. *Neuroscience Bulletin,31*(1), 99-112. doi:10.1007/s12264-014-1493-5

3.7 Figures

Fig. 1 PRISMA flow chart of included studies

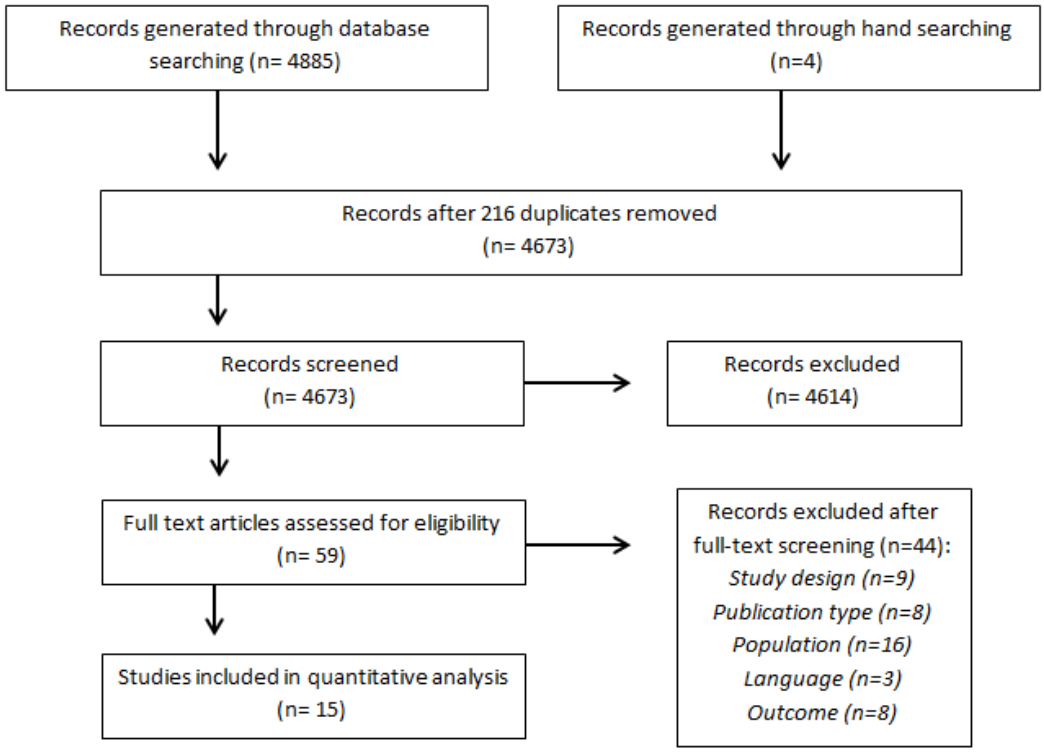

Table 1 Study characteristics and settings

Involuntary Treatment Alone

Study	Country	Year	*N*	Mean Age (*range*)	% Male	Study Aim	Study Setting
Morandi	Australia	2017	660	22 (*15-29*)	65.8%	To determine the frequency of use of CTO, and characteristics of patients on CTO	EI services

Involuntary Hospitalization (in some jurisdictions, involuntary hospitalization may have allowed for involuntary treatment while hospitalized)

Study	Country	Year	*N*	Mean Age (*range*)	% Male	Study Aim	Study Setting
Boydell	England	2014	124	47.8 (*n/a)*	17.7%	To investigate how caregiver burden in FEP relates to compulsory treatment	Secondary or tertiary services
Burnett	England	1999	100	n/a (*17-62*)	65%	To explore the pathways to care in a multi-ethnic population	All-primary, secondary and tertiary services
Opsal	Norway	2011	103	n/a (*15-65*)	48.5%	To examine substance use as a factor influencing treatment outcomes in FEP patients	EI service
Cole	England	1995	93	n/a (*17-53*)	53.7%	To examine how ethnic diversity plays into pathways to care in FEP	Psychiatric hospital
Kelly	Ireland	2004	78	27.5 (*n/a*)	62.8%	To analyze the clinical predictors of involuntary/voluntary admission status in first-episode schizophrenia	Psychiatric hospital
Cougnard	France	2004	86	27.8 (*17-45*)	63.9%	To explore the sociodemographic and clinical factors as well as pathways to care that influence compulsory admission status	Psychiatric hospital
Foley	Ireland	2005	157	28.2 *(16-65)*	55%	To examine aggression and violence in FEP patients	Secondary psychiatric service
Opjordsmoen	Norway	2010	217	26.5 (*n/a*)	55.2%	To explore the outcomes resulting from involuntary admission in FEP patients	Psychiatric hospital
Archie	Canada	2010	200	24.2 (*n/a*)	78%	To examine how ethnic diversity plays into pathways to care in FEP	EI service
Mann	England	2014	674	24 (*18-35*)	65%	To report on the ethnic differences in admission status in EI services	EI service
Patel	England	2016	2026	n/a	63.9%	To examine the association between cannabis use, admission status, and antipsychotic treatment failure	EI service
Singh	England	2015	123	23.2 (*14-37*)	74%	To examine how ethnic diversity plays into pathways to care in FEP	EI service
Edwards	Canada	2018	1059	n/a	n/a	To report on the unmet needs of FEP patients who were screened but not admitted to an EI service	EI service
Keane	Ireland	2017	132	*(18-65)*	54.3%	To examine aggression and violence in FEP patients	Secondary psychiatric service

Table 2 Jurisdiction Requirements

Study	Measure	Frequency	Jurisdiction	Jurisdiction requirements
Morandi	Community treatment orders (1986)	19.2% of patients were placed under CTO at some point during 18 months of treatment	Australia	A legal regime that obliges patients suffering mental disorders to adhere to treatment in the community and allows for swift admission to hospital if necessary. Not restricted to patients 18 years or over at the time of the study.
Boydell	Compulsory admission	37% of patients of the 124 used in the study-- taken from a community sample of 592 FEP patients eligible	England	Not defined
Burnett	Mental Health Act (1983)	28% of patients were admitted to the hospital under section; further divided, 43% of those patients were admitted under section 2 of the Mental Health Act.	England	**Section 2** Requires two medical recommendations, and an application made by an approved social worker (ASW) or nearest relative. Duration of up to 28 days. It allows compulsory assessment, or assessment followed by treatment for mental disorder. It is not renewable. It allows 14 days from the date of admission to appeal to the Mental Health Review Tribunal (MHRT). **Section 37** Requires a Court Order and two medical recommendations. Duration of up to 6 months. It allows the court to direct the admission to hospital of an offender who is suffering from mental disorder at the time of sentencing. It can be renewed for a further 6 months and then yearly. It allows between 6 and 12 months from the date of section and during each renewal period. There is an automatic referral if 3 years elapse since the last MHRT. **Section 136** Allows the police to take a person who is found in a public place, and who appears to be suffering from a mental disorder, to a place of safety (usually a hospital). The police must believe that the person is in immediate need of care and control, and that removal is necessary for the patient's own interests or for the protection of others.
Opsal	Involuntary hospitalization	40.7% of the patients were involuntarily hospitalized	Norway	Norwegian Mental Health Care Act details that compulsory observation and compulsory mental health care may take place when the patient is suffering from a mental disorder, and if application of mental health care is necessary to prevent severe deterioration of the patient`s health status or if there is an obvious threat to the patient`s own life or others'.
Cole	Compulsory admission	31% of subjects were compulsory admitted	England	Not defined
Kelly	Involuntary hospitalization	21.7% of subjects were involuntarily hospitalized	Ireland	An individual is admitted on an involuntary basis if he or she suffers from a mental illness of sufficient severity to require inpatient treatment in his or her own interests or in the interests of other persons, and is unwilling to accept admission and treatment on a voluntary basis. There are no `community treatment orders`.
Cougnard	Compulsory admission	61.6% of subjects were compulsorily admitted	France	One modality for compulsory admission is based upon a medical decision and concerns persons with a mental state "requiring urgent treatment and permanent medical supervision". This hospitalization has to be requested by a third party, i.e.by any person "feeling concerned" about the health of the patient, and its necessity has to be certified by two medical doctors. The second modality ("Hospitalisation d'office") is decided by a state administrator ("Préfet") for patients threatening the public order or the safety of persons". This decision has to be justified by the description

				based upon a medical report of the facts requiring the hospitalisation. There is no legal duration of compulsory admission, but a medical report confirming that hospitalisation is still required has to be provided after 24 h, then after 15 days, then monthly.
Foley	Involuntary admission	23.5% of subjects were involuntarily admitted.	Ireland	Not defined
Opjordsmoen	Involuntary hospitalization	58.1% of subjects were involuntarily admitted	Norway	Involuntary admission was carried out by a physician after clinical assessment and a request from relatives, police, or public health officers. Involuntary admission could either be for observation (when the presence of a severe mental disorder was in doubt) or for detention for a long period of time. Moreover at least one of three additional criteria had to be present; dangerousness to self or others, need for treatment or inability to care for oneself.
Archie	Involuntary hospitalization	Not mentioned	Canada	Not defined
Mann	Compulsory detention	42.7% of service users had been compulsory detained under the UK Mental Health Act for psychosis.	England	All detentions in the study were under the civil Sections of the UK Mental Health Act for psychosis, generally sections 2 and 3.
Patel	Compulsory hospital admission	20.9% of patients were compulsorily admitted at 1 year follow up. 37.5% were compulsorily admitted at 5 years follow up.	England	The Mental Health Act is a UK statute law which allows for compulsory admission to hospital for assessment and/or treatment of a mental illness whose nature and/or degree necessitates hospital admission and where a patient does not consent to be voluntarily admitted. Admission under section 2 of the MHA allows for up to 28 days of compulsory admission for assessment of mental illness. Admission under section 3 of the MHA allows for up to 6 months compulsory admission for treatment of mental illness. The study defined compulsory admission as admission to a hospital under section 2 or 3 of the MHA.
Singh	Compulsory detention	Not mentioned	England	Sections 2 and 3 of the Mental Health Act (UK); criminal sections were excluded. Amendment of the 1983 Act did not change criteria for detention for these sections.
Edwards	Involuntary admission	33% of screened by not admitted FEP patients had been involuntarily hospitalized. 26% of admitted FEP patients had been involuntarily hospitalized.	Canada	Involuntary admission was defined as a patient admitted under a Form 1 or a Form 3 under the Ontario Mental Health Act. A Form 1 is an Application for Psychiatric Assessment, which provides authority for any person to take the patient to a psychiatric facility where he or she may be detained for up to 72 h (Ontario Hospital Association, 2016). A Form 3 is a Certificate of Involuntary Admission which allows the patient to be involuntarily admitted for up to two weeks (Ontario Hospital Association, 2016). .
Keane	Involuntary treatment	36% of inpatients were treated on an involuntary basis.	Ireland	Not defined

Table 3 Clinical Characteristics

Characteristic	Number of studies that explored this characteristic	Number of studies that found the characteristic significant	Notes
Psychotic symptoms	3	3	Involuntary patients had higher scores for grandiosity, suspiciousness/persecution, hostility and stereotyped thinking (Kelly et al.) More severe psychiatric symptoms measured by PANSS excitement and negative components (Opsal et al.) Involuntary women had higher PANSS excitement component scores at baseline; the difference between. involuntary/voluntary men was not significant. (Opjordsmoen et al.)
Insight into illness	1	1	Lack of insight was the sole significant predictor of admission status after controlling for confounder (Kelly et al.)
Functioning	1	1	Involuntary patients had the worst global functioning scores at baseline. (Opjordsmoen et al.)
DUP/ treatment delays	3	0	Did not differ between groups (Opsal et al., Kelly et al., Cougnard et al.)
Substance use/ disorder	5	3	Patients with substance abuse at baseline experienced more, and longer lengths of involuntary hospitalization. (Opsal et al.) Voluntary patients had higher rates of drug abuse in the month prior to admission but it was not significant. (Kelly et al.) Compulsory admission was significantly more frequent in subjects with substance use disorder. (Cougnard et al.) Drug and alcohol use did not differ. (Opjordsmoen et al.) Cannabis use was associated with increased likelihood of compulsory admission. (Patel et al.)
History of psychiatric diagnosis	1	1	Having a diagnosis of schizophrenia broadly defined and absence of depressive or anxiety symptoms predicted compulsory admission. (Cougnard et al.)
Violence/aggression/ offending behavior	3	2	Individuals who demonstrated aggression were significantly more likely to have involuntary admission status. (Foley et al.) Pre-contact violence was associated with involuntary admission status. (Foley et al.) Aggression was independently associated with involuntary treatment in the week prior and following presentation. (Keane et al.) Violence was associated with involuntary status in the week prior to presentation (Cougnard et al.)

Table 4 Sociodemographic and structural characteristics

Characteristic	Number of studies that explored this characteristic	Number of studies that found the characteristic significant	Notes
Sex	4	2	Being male was significantly associated with compulsory admission. (Cougnard et al.) More female patients were involuntarily admitted than male patients. (Opjordsmoen et al.) Did not differ between groups (Opsal et al., Cole et al.)
Race/ethnicity	5	3	Ethnic status had no effect upon likelihood of compulsory admission (Burnett et al.) Black patients were more likely to have compulsory admission than White or Asian patients but difference was not significant. (Cole et al.) Black patients were significantly more likely to be detained than White and Asian patients. (Mann et al., Singh et al.) Participants from the Asian group experienced less involuntary hospitalizations than all other groups (Archie et al.).
Unemployment	2	0	Did not differ (Cole et al., Opjordsmoen et al.)
Living situation	3	2	Black patients who lived alone were more likely to be sectioned. Asian patients who lived in public housing were more likely to be compulsorily admitted (Burnett et al.). Living in public housing, living away from family and living alone were significantly associated with compulsory admission (Cole et al.) Patients whose admission had been compulsory were no likelier to have been living alone at than those who were admitted voluntarily (Cougnard et al.)
Family involvement	3	1	Compulsory treatment was associated with family burden measured by "problems with services" on the Experience with Caregiving Inventory (ECI) (Boydell et al.) Did not differ (Cole et al., Cougnard et al.)
Education	4	1	White patients whose highest level of education achievement was primary/secondary level were more likely to be sectioned than White patients who achieved vocational/tertiary education (Burnett et al.). Did not differ (Cole et al., Cougnard et al., Opjordsmoen et al.)
Pathway to care	4	3	GP involvement in the pathway to care was linked with a reduced risk of detention (Cole et al., Burnett et al., Mann et al.). Criminal justice referral was associated with increased odds of detention (Mann et al.) Family referral and police involvement increased the risk for involuntary admission, particularly for White patients (Burnett et al.). Self-referral reduced the risk of involuntary detention (Mann et al.). Did not differ (Cougnard et al.)

Table 5 Quality appraisal of included studies

Study	Representative ness of subjects	Definition of catchment area	Non-participation rate	Research question	Adjustment for confounding factors	Definition of coercive measures	Definition of jurisdiction requirements
Morandi	+	*	+	+	*	+	+
Burnett	*	*	*	+	+	+	+
Boydell	*	*	+	+	+	*	-
Opsal	*	*	+	+	*	+	+
Cole	*	+	*	+	+	*	-
Kelly	+	*	-	+	+	+	+
Cougnard	*	*	+	+	+	+	+
Foley	*	+	-	+	+	*	-
Opjordsmoen	+	+	+	+	*	+	+
Archie	+	+	+	+	+	*	-
Mann	*	+	+	+	+	*	*
Patel	-	*	-	+	+	+	+
Singh	*	+	-	+	+	*	-
Edwards	*	+	-	+	*	-	-
Keane	*	+	-	+	+	*	-

+ Criterion fully met, * Criterion partially met, - Criterion not met

CHAPTER 4

Manuscript #2: Characteristics of first-episode psychosis patients placed on community treatment orders (CTOs)

Authors: Nina Fainman-Adelman, BA
Franz Veru, MD, MSc
Sarah McIlwaine, MSc
Jai Shah, MD
Srividya N. Iyer, PhD*

***Corresponding author:**

Srividya N. Iyer, PhD
Researcher, Douglas Mental Health University Institute and the Prevention and Early Intervention Program for Psychoses (PEPP-Montreal)
Associate Professor, Department of Psychiatry, McGill University
6875 LaSalle Blvd.,
Montreal, QC, Canada
H4H 1R3
Email: srividya.iyer@mcgill.ca
Tel.: 1-514-761-6131 ext. 6219 Fax: 1-514-888-4458

4.1 Abstract

Background: Community treatment orders (CTOs) are a legal regime put in place as an alternative to inpatient involuntary treatment programs, to instead oblige patients with serious mental illness to adhere to treatment in the community. The application of CTOs to patients with first-episode psychosis (FEP) has been largely under-studied. Less understood, still, are the characteristics of FEP patients who are more likely to be placed on CTOs. In order to ensure proper use, and possibly reduce the use of unnecessary uses of coercive measures, it is crucial to understand which patient characteristics are associated with an increased likelihood of receiving CTOs. The aim of this study was to analyze the clinical and sociodemographic characteristics of FEP patients receiving early intervention who were placed under CTOs. **Methods:** Data were obtained from case notes, standardized interviews, and clinical assessment tools from all FEP patients consecutively treated at the Prevention and Early-Intervention Program for Psychosis (PEPP) in Montreal, Quebec, between 2003 and 2018. PEPP-Montreal covers the catchment area of Southwest Montreal (350,000 inhabitants). Univariate logistic regression analyses were conducted to explore the patient characteristics associated with an increased likelihood of being placed on a CTO. The selection of patient characteristics for the univariate analyses was guided by previous literature. A multivariate logistic regression analysis was conducted using all significant variables from the univariate analysis. **Results:** 688 patients with first-episode psychosis were included in this study. 68 (9.9%) of patients were on a CTO at some point during their treatment. Findings revealed that FEP patients with a long duration of untreated psychosis (DUP), lower levels of baseline functioning, lower levels of anxiety, more uncooperativeness, and lower levels of judgement and insight were significantly more likely to be placed on a CTO, even after controlling for confounding factors. **Conclusion:** Overall, this study revealed that in this specific treatment setting, CTOs are used relatively infrequently compared to many other

clinical settings. No sociodemographic factors were associated with receiving CTOs in this sample. Clinical characteristics associated with poorer functioning and insight were associated with a higher likelihood of receiving CTOs. These findings tend to suggest that in this clinical sample, CTOs are being used primarily to improve functioning in patients who are deemed unable to consent to treatment. It is evident from this study that the characteristics associated with the use of CTOs in FEP patients need additional exploration. It is important to continue to track and investigate whether CTOs are being used as intended in order to hold clinicians accountable and reduce any potential biases towards patients. This area is, as a whole, largely under-studied and requires more research attention to ensure proper use.

Note: this article has not been submitted or published

4.2 Introduction

Community treatment orders (CTOs) allow medical practitioners to seek a court order to treat persons against their will. Although their manifestations vary across jurisdictions, they are implemented in many locations through the order of a judge when individuals are considered to lack the capacity to consent to treatment that is considered "necessary," oftentimes when the individual is considered at risk of harm to themselves or to others (Otero et al., 2016). These measures, that oblige involuntary treatment in a community-setting, were proposed in Quebec (and other jurisdictions worldwide) as a less-restrictive alternative to involuntary hospitalization or involuntary inpatient treatment. In Quebec, if a person refuses treatment and is suspected of lacking the capacity to consent, the psychiatrist must request authorization from the Superior Court in order to provide care to the person despite their refusal. In court, the psychiatrist must demonstrate that the person is incapable of providing consent and that the benefits of the treatment outweigh the drawbacks (Bernheim et al., 2016)

CTOs are thus tools applicable to mental health practice including but not limited to psychotic disorders, where they are more frequently used compared with other mental health conditions (e.g., anxiety disorders). The distortion of reality and lack of insight (i.e., awareness of one`s own behavior, illness or need for treatment) sometimes observed in psychotic disorders often leads to socially objectionable behaviors, and may cause difficulty in therapeutic alliance and cooperation with treatment. Further, some psychotic symptoms such as hallucinations and delusions may lead to an increased risk of harm to oneself or to others. CTOs are therefore seen by many clinicians as a necessary measure to treat severely ill patients and prevent any potential harm. However, a systematic review on the outcomes of patients given CTOs concluded that overall there is "little evidence to suggest that CTOs are associated with any positive outcomes" (Maughan et al., 2013). Originally used in the United States, CTOs are now widely used in

approximately 70 different jurisdictions worldwide (Morandi et al., 2016; Maughan et al., 2013, Burns & Molodynski, 2014). While the aim of CTOs was to offer a less restrictive alternative to involuntary hospitalization, some have argued that in recent years, CTOs have been overused (Morandi et al., 2016). Moreover, recent studies have shown that CTOs may be disproportionately applied to certain groups such as ethnic minorities and the homeless (Otero et al., 2016). CTOs were originally implemented to provide care for people outside a hospital setting in order to avoid the negative health and social consequences associated with hospitalization and to prevent relapse into institutional placements (O'Reilly, 2004). Today, CTOs can be used to oblige many different types of treatments. A study exploring all CTOs in Quebec issued from 1989 to 2012 found that only 16% of CTOs were used exclusively to oblige individuals to comply with their prescribed medication. The majority of the time (57%) CTOs required medication in conjunction with medical visits. These visits may have included electrocardiograms, urine samples, blood tests, etc. The CTO was also used to ensure compliance with both taking medication as prescribed, presenting for outpatient appointments, agreeing to medical examinations and laboratory monitoring of adverse effects, and living in protective or recommended housing. However, CTOs have also been used to order electroshock therapy and even the use of contraception, albeit all in the case of the mentally ill (Bernheim et al., 2016).

While the decision of whether or not to grant a CTO in Quebec is left in principle to judges, recent research has revealed that, in practice, judges almost always agree with the opinions of psychiatrists (Bernheim et al., 2016). In 2012, the most recent year for which data is available, the judge only disagreed with the opinion of the psychiatrist 2.2% of the time (Bernheim et al., 2016).

CTOs are used with patients undergoing psychosis for the first time, a remarkably stressful period that puts patients in an especially vulnerable position. The notable risks associated with the use of CTOs, along with their controversial nature, have made their use in first-episode psychosis (FEP) patients a growing area of interest in research. A number of studies have emerged in recent years exploring the outcomes associated with CTOs in FEP patients (Opjordsmoen et al., 2010; Levy et al., 2018 Maughan et al., 2013). However, the characteristics of FEP patients receiving CTOs have only been explored in one paper (Morandi et. al., 2016). Considering the intrusive nature of CTOs and the importance of engaging FEP patients in treatment, it is crucial to better understand how often and to whom CTOs are applied in practice. Understanding patient characteristics that are more predictive of being placed on a CTO can help us critically evaluate whether CTOs are being used for more clinically-severe cases, where the patient lacks capacity to consent and treatment is necessary to prevent harm to one's self or to others. If CTOs are being used as intended, we would expect to see significantly lower functioning, lower insight into illness, higher suicidality and/or hostility/violent behavior in patients placed on CTOs because these characteristics are directly related to the purpose of CTOs. Conversely, if sociodemographic characteristics such as homelessness, socioeconomic status, or unemployment are greater predictors of being placed on a CTO, it would tend to indicate CTOs are being used for another purpose from which it was originally intended for.

Early intervention (EI) services for psychotic disorders have received increasing research attention due to their purported effectiveness at reducing the duration of untreated psychosis (DUP), a factor that is strongly associated with poorer outcomes (Anderson et al., 2018). A recent meta-analysis (Correll et al., 2018) of RCTs comparing EI services to treatment as usual for FEP revealed that EI services are associated with better clinical (positive symptom severity, negative symptom severity, total symptom severity, treatment discontinuation, psychiatric

hospitalization) and functional (involvement in school or work) outcomes. An important goal of EI services is to engage young people in the early course of their illness in order to promote recovery. The success of EI programs thus largely rests on engagement in services promoted through the fostering of a therapeutic alliance and trust in the medical system.

The treatment of patients with a FEP poses a particularly complex situation regarding the implementation of coercive measures such as CTOs, which is a practice issue that needs to be thoroughly explored. This matter is important because, on one hand, it is known that an early initiation of treatment in FEP has a positive impact on the prognosis of this illness in the long term (Correll et al., 2018), and suicide rates are higher in the first years after diagnosis (Nordentoft, Madsen & Fedyszyn, 2015). Both facts support the use of measures such as CTOs to improve outcomes and reduce the risk of harm to themselves or to others. On the other hand, EI services heavily rely on promoting agency, trust and therapeutic alliance, which can also have a profound influence on prognosis, quality of life, and social functioning in the long-term. The heavy emphasis on alliance and agency may suggest that the use of CTOs might be seen in early intervention services as potentially affecting therapeutic and recovery goals, which would discourage their use. Thus, psychiatrists working with FEP patients may feel the need to maintain a delicate balance between adequate care and patient autonomy. A first step to gain insight on this issue is to characterize this population. To date, only one study has documented this issue (Morandi, 2014), but none has done it in the context of the Quebec jurisdiction.

Accordingly, the purpose of this study was to examine differences (if any) in the clinical and sociodemographic characteristics of FEP patients who were placed on a CTO compared to those who were not. This will provide a more precise understanding of the type of characteristics that are more closely associated with receiving a CTO. Given the nature and purpose of CTOs, our hypothesis that clinical characteristics such as suicidality, poor functioning, or violent behavior

would be more common in patients receiving a CTO. In contrast, we hypothesized that sociodemographic characteristics, particularly after accounting for clinical characteristics, would not differ between these groups. Delineating a profile of those patients who are receiving CTOs, may help us begin to understand if the implementation of these measures is following their original purpose (e.g., these are given to reduce risk of harm or to improve poor functioning), or if these measures are disproportionally being given for other reasons (e.g., are given to young patients or those belonging to minorities, after accounting for any differences in their clinical presentations).

4.3 Material and Methods

Patient Sample

The sample was composed of a population-based cohort of FEP patients consecutively treated at the Prevention and Early Intervention Program for Psychosis (PEPP-Montreal) between January 9th, 2003 and March 26th, 2018. PEPP-Montreal is a publicly funded specialized EI program situated within the Douglas Mental Health University Institute. Because it is the only EI program in the specified geographic catchment area of South West Montreal (350,000 inhabitants), it serves a nearly complete treated incidence sample (Iyer et al., 2015), making its sample representative of the surrounding population. PEPP is a comprehensive program for young people aged between 14 and 35 years experiencing their first episode of psychosis. Inclusion criteria for PEPP are a diagnosis of an affective or non-affective psychosis not induced by substances and not attributable to an organic brain disorder; not having previously taken antipsychotic medication for more than 1 month; and having an IQ above 70. PEPP operates on rapid, easy, open access principles and offers a two-year regimen of low-dose antipsychotic medication, case management and individual and group psychosocial interventions such as cognitive-behavior therapy, family psychoeducation, etc. (Iyer et al., 2015).

All PEPP patients were eligible to be included in this study. This is part of a larger study approved by the Research Ethics Board at the Douglas Mental Health University Institute. The current study used data from 688 patients (80.2% of the total PEPP patient population) who consented to the PEPP research protocol, whereby patients consented to participate in periodic evaluations over their 2-year follow-up at PEPP and that these evaluations can be used for research purposes.

Assessment of CTO

The existence of CTO was determined on the basis of case notes in the file. Patients who had been under or were currently under CTO had a legal form inserted into their case notes. The population was then dichotomized between patients who were treated under CTO for one or more periods and those who were never under CTO.

Assessment of Clinical and Sociodemographic Characteristics

Sociodemographic and clinical variables were selected for analysis based on our previous systematic literature review of coercive measures in FEP. Data was extracted by one evaluator from patient files regarding the patient`s characteristics at the time of entry into PEPP. All clinical and sociodemographic characteristics were taken from baseline evaluations (patients' characteristics upon entering PEPP). Baseline functioning was assessed using the Social and Occupational Functioning Assessment Scale (SOFAS, Goldman et al., 1992). Diagnostic data was derived from information obtained in the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID) (First et al., 2002), conducted by trained evaluators. Relationship status was recoded as either single (including divorced or separated) or in a relationship (including married or in a romantic relationship). Education was dichotomized into whether the patient had completed high school or not. Employment included part-time and full-time work as well as being a student or a homemaker. A patient was considered unemployed if they were not currently

working or not in school or not a home-maker. Additional demographic characteristics that were examined included age at entry and visible minority status (as classified by Statistics Canada in 2011). Living situation was divided into whether the patient was living alone or with others (including family, roommates, or significant other) at time of entry. Because homeless patients only made up twelve (12) of the total 688 patients analyzed, we were unable to include homelessness as a factor in our statistical analysis and derive meaningful conclusions from such an analysis. Family involvement was defined by whether or not there was contact between the treatment team and family.

Substance abuse and dependence disorder were dichotomized based on whether or not they met DSM-IV for disorder at baseline, as measured by the SCID. Duration of untreated psychosis (DUP) was assessed using the Circumstances of Onset and Relapse Schedule (CORS, long version, Norman & Malla, 2002) and was defined as the time between onset of first psychotic symptoms and reception of appropriate treatment. Adequate treatment was defined as taking antipsychotic medication for 1 month or until significant response, whichever came first. DUP was then classified either as "short" DUP (under 3 months) and "long" DUP (3 months or over) based on previous literature that has demonstrated significant outcome differences between DUPs shorter than 3 months and DUPs of 3 months or longer in FEP patients, in keeping with the Bertolote & McGorry's WHO statement (Bertolote & Mcgorry, 2005; Crumlish et al., 2009; Albert et al., 2017). Family involvement was a categorical variable (yes/no), depending on whether the family was in contact with the treatment team.

Psychopathology symptoms (bizarre behavior, hallucinations, depression, anxiety, suicidality, uncooperativeness, grandiosity, suspiciousness, and unusual thoughts) were mainly assessed using the using the Brief Psychiatric Rating Scale (BPRS), Version 4.0 (Ventura et al.,

1993), and supplemented with the Positive and Negative Syndrome Scale (PANSS) for items that were unavailable from the BRPS (namely, lack of judgement and insight, poor impulse control).

Statistical Analyses

Demographic comparisons between the CTO and non-CTO groups were conducted with Student's t-tests for continuous variables, and with chi-square tests for nominal variables. The influence of patients' characteristics on the likelihood of receiving a CTO was examined with a series of univariate binary logistic regression analyses, where CTO (yes/no) was the dependent variable, and the individual characteristics (at admission to treatment) were the predictors. From these analyses, odds ratios (OR) and their 95% confidence intervals (CIs) were reported. Statistical significance was defined as $p < 0.05$. Apart from determining the individual effects, univariate analyses guided the selection of the main predictors for the multivariate model. Only those predictors with significant effects were considered for inclusion in the multivariate model, which also consisted of a logistic regression. The Statistical Package for the Social Sciences (SPSS) version 22 was used for the statistical analyses.

4.4 Results

688 (480 males, 208 females) patients with first-episode psychosis were included in this study. Their mean age was 23.7 (S.D. = 4.8). 68 (9.9%) patients received a community treatment order (CTO) at some point during their involvement in the program and the remainder 620 (90.1%) had not been placed on a CTO. The groups were divided into CTO and non-CTO groups, respectively. 69% of the non-CTO group and 78% of the CTO group were male ($p > 0.05$). Demographic and Clinical characteristics for patients placed on CTOs and patients not placed on CTOs are further described in *Table 1*.

Those who had completed high school and those who were employed at baseline were significantly less likely to have been placed on a CTO later in the course of their treatment (OR=0.35, 95% CI 0.31-0.93, $p < 0.05$ and OR=0.32, 95% CI 0.16-0.64, $p < 0.01$ respectively). Individuals with a long DUP and lower levels of functioning at baseline were significantly more likely to have been placed on a CTO (OR=2.00, 95% CI 1.09-3.67, $p < 0.05$ and OR=0.96, 95% CI 0.93-0.99, $p < 0.05$ respectively). The psychopathological factors significantly associated with a reduced likelihood of receiving a CTO were higher levels of anxiety and depression (OR=0.79, CI 0.68-0.93, $p < 0.01$ and OR=0.84, CI 0.72-0.98). Higher scores on measures of uncooperativeness (OR= 1.36, CI 1.17-1.58, $p < 0.01$); suspiciousness (OR=1.24, CI 1.03-1.49, $p < 0.05$); bizarre behaviour (OR=1.25, CI 1.07-1.46, $p < 0.01$); poor impulse control (OR=1.25, CI 1.05-1.49, $p = 0.01$); and lack of judgement and insight (OR= 1.86, CI 1.46-2.37, $p < 0.01$) were significantly associated with an increased likelihood of being placed on a CTO (*Table 2*).

After running the multivariate logistic regression analysis with all significant variables from the univariate analysis, only lower levels of functioning (OR=0.94, CI 0.90-0.98, $p < 0.01$), lower levels of anxiety (OR=0.75, CI 0.56-1.00, $p = 0.05$), higher levels of uncooperativeness (OR= 1.35, CI 1.04-1.76, $p < 0.05$), and lack of judgment and insight (OR=1.53, CI 1.05-2.23, $p < 0.05$) were significantly associated with a higher likelihood of receiving a CTO. In order of magnitude (highest to lowest), the variables that independently predict likelihood of being placed on treatment orders were lack of judgment and insight; uncooperativeness; functioning; and anxiety. Every point increase on the lack of judgement and insight item of the PANSS was significantly ($p < 0.05$) associated with a 53% higher likelihood of being placed on a CTO. Our confidence intervals ranged from 1.05 to 2.23 indicating that even at the lower limit, every point increase in lack of judgement and insight was associated with 5% higher odds of being placed on a CTO. For every point increase in uncooperativeness scores on the BPRS, patients were 35%

more likely to have been placed on a CTO ($p < 0.05$). Our confidence intervals ranged from 1.04 to 1.76, indicating that even at the lower limit, every increase in the uncooperativeness score led to 4% higher odds of being placed on a CTO. For every point decrease in the baseline functioning score, measured through SOFAS, PEPP patients had 6% higher odds of being placed on a CTO ($p < 0.01$). Our 95% confidence intervals (CIs) indicate that even at the upper limit, every point decrease in functioning is associated with a 2% increase in the odds of being placed on a CTO. Patients with lower social and occupational functioning scores at admission to treatment had significantly higher odds of being placed on a CTO. PEPP patients with higher levels of uncooperativeness also had higher odds of being placed on a CTO. Finally, higher levels of anxiety were associated with a lower likelihood of being placed on a CTO. For every point increase in anxiety on the BPRS, PEPP patients had 25% lower odds of being placed on a CTO ($p = 0.05$). However, the confidence intervals ranged from 0.56 to 1.00, indicating that higher levels of anxiety may have no impact on the likelihood of being placed on a CTO.

Notably, DUP was no longer significant in the multivariate analyses. Nonetheless, we conducted some additional analyses to better understand the relationship between DUP and the likelihood of being placed on a CTO. Specifically, we undertook post-hoc univariate analyses to examine if help-seeking DUP—duration between onset of symptoms and first help-seeking contact; referral-DUP—duration between help-seeking and referral to appropriate care (in this case, PEPP); and the number of help-seeking contacts were linked with the likelihood of being placed on CTOs. This was important in order to understand how the entire pathway into care beyond just the duration between onset and entry affects the trajectory of care. From these analyses (see *Table 4*), we did not find any significant association between these variables and an increased likelihood of being placed on a CTO.

4.5 Discussion

The objective of our study was to understand the patient characteristics that were associated with an increased likelihood of obtaining a CTO. After controlling for other pertinent factors, we found that FEP patients with lower levels of social and occupational functioning, lower levels of anxiety, more uncooperativeness, and lower levels of judgement and insight were significantly more likely to have been placed on a CTO over the course of their treatment.

Only 9.9% of FEP patients at PEPP-Montreal had been placed on CTOs. In comparison, in the only other available study on the characteristics of FEP patients who are more likely to receive CTOs in an Australian EI service (Morandi et al., 2017), 19.2% of 660 patients who started treatment between 1998 and 2000 had been placed on CTOs. A follow-up in the same Australian setting [Early Psychosis Prevention and Intervention Centre (EPPIC), with 544 patients starting treatment between 2011 and 2013) found a rate of 17.3% for the use of CTOs.

CTOs in Australia, like in Canada, allow clinicians the ability to provide unconsented treatment to patients living with mental illness. The discrepancy in frequency of use between this study and ours is unsurprising, however, considering that in Australia (and New Zealand), the use of CTOs has historically been the highest in the world (Burns & Molodynski, 2014). Even more, there has been a greater scrutiny applied to the use of CTOs in recent years in Quebec (Gagné, 2018). This may cause clinicians to exercise greater caution to applying CTOs to their patients. To the best of our knowledge, no other study has been published on the rates of CTOs in FEP, and thus there is a need for more studies on this specific issue, particularly in other treatment settings and across countries.

Findings

One of the major goals of exploring patient characteristics associated with an increased likelihood of receiving a CTO is to ascertain whether they are being used for more clinically

severe cases where the patient lacks a capacity to consent to treatment. Results from this study reveal that certain patient characteristics including lower levels of functioning at baseline, lower levels of anxiety, higher levels of uncooperativeness, and a greater lack of judgement and insight may be disproportionately selected for in administering CTOs. It is critical to evaluate if these characteristics are in line with the formal purpose of utilizing CTOs.

In Quebec, where the community treatment order is used for patients who refuse "necessary" treatment—which could be interpreted as meaning that, without intervention, patients display significant functional impairment—and who demonstrate incapacity to given informed consent for treatment (Otero et al., 2016), we would expect to see a significant difference in the judgement and insight into illness variable, uncooperativeness, and functioning between those placed on CTOs and those who are not —all of which were seen in this analysis. This would tend to indicate that in this clinical setting, CTOs are being used in line with their intended purpose. Still, it is important to further address this issue, exploring, for instance, whether a lack of judgement and insight into illness is a reliable and valid indicator of an incapacity to consent, or whether a low level of functioning is sufficient to warrant coercive measures. Even more, as we do not yet have conclusive evidence demonstrating the effectiveness of using CTOs in FEP, it is important to analyze whether or not mandating treatment through the use of CTOs can be deemed "necessary."

Comparison to previous literature

Literature on the characteristics of FEP patients receiving involuntary measures of any kind, especially CTOs, is highly limited. Only one other paper (Morandi et al., 2017) has explored characteristics of FEP patients receiving CTOs. Consistent with their findings, results from our univariate analysis revealed that PEPP patients being placed on CTOs were less educated, had lower pre-morbid functioning, longer DUP, and poorer insight. The study by Morandi et al.

(2017) found that the overall severity of illness was predictive of being placed on a CTO. Our study extended this finding by breaking down illness severity into specific symptoms and behaviors.

From our univariate analysis, we found that lower levels of anxiety, higher levels of bizarre behavior and more uncooperativeness were the symptoms most strongly associated with a higher likelihood of being placed on a CTO. In line with the findings by Morandi et al. (2017) that lack of insight into illness was the sole significant predictor of receiving a CTO after controlling for confounders, our findings from both the univariate and multivariate analyses revealed that lack of judgement and insight significantly increase the likelihood of being placed on a CTO. However, our multivariate analysis additionally revealed that lower anxiety, more uncooperativeness and lower functioning were significantly associated with an increased likelihood of being placed on a CTO.

The finding that lack of insight into illness was a significant factor in both the study by Morandi et al. (2017) and in our study is not surprising, but signals a need for further investigation into how this characteristic is measured and determined. In our study, lack of judgement and insight is measured through the PANSS. This measures the patients' denial or lack of awareness of the presence or impact of symptoms or need for treatment (CITE). How this characteristic relates to the use of CTOs is intuitive: a patient who denies having symptoms but displays severe symptoms and functional impairment would seem to "need" treatment yet could be unlikely to agree to treatment on their own volition. The problem is when an individual "lacks insight into illness" but does not display severe functional impairment. In the study by Morandi et al. (2017), where lack of insight was the sole significant predictor of being placed on a CTO, independent of other clinical symptoms, this indicates a potential misuse of CTOs, and is cause for further investigation. In our multivariate analysis, both lower functioning and lack of

judgement and insight (as well as other characteristics) significantly predicted placement on CTOs. This tends to indicate that in this clinical setting, CTOs are being used more for the purpose of treating patients with functional impairment who do not recognize their impairment or illness, which is more in line with the goals of CTOs.

While no other studies have explored the characteristics of FEP patients on CTO, a number (n=14) of studies have explored the characteristics of FEP patients involuntarily hospitalized or detained. In these studies, some of the significant predictive characteristics have been: higher scores of grandiosity, suspiciousness, and hostility (Kelly et al., 2004); lower depressive and anxiety scores (Opjordsmoen et al., 2010; Cougnard et al., 2004); substance use disorder (Opsal et al., 2011; Cognard et al., 2004); lack of insight into illness (Kelly et al., 2004); lower baseline functioning (Opjordsmoen et al., 2010); higher levels of violence and aggression (Foley et al., 2005; Keane et al., 2017); living alone (Burnett et al., 1999; Cole et al., 1995), and being Black (Cole et al., 1995; Archie et al., 2010; Singh et al., 2015). Although significant differences in the use of involuntary hospitalization exist across jurisdictions, some of the results from our study were still in line with these findings. An important difference, however, was that ethnic minority status was not a significant predictor of being placed on a CTO in the PEPP-Montreal population. This can likely be explained by the methodological differences between this study and the other studies that have explored minority status. In this study, ethnicity was studied as a binary variable due to the small number of subjects in each specific group (e.g., Asian). In other words, participants were categorized as either “white” or a “visible minority”, in line with the Statistics Canada categorization that defines visible minorities as “persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in colour” (Statistics Canada, 2019). Previous studies (Cole et al., 1995; Archie et al., 2010; Singh et al., 2015) have found that being Asian is predictive of not being placed on a CTO, while being Black is predictive of being placed

on a CTO. Therefore, it is possible that grouping both Asian and Black patients into the "visible minority" category may have obscured the effects of each individual group.

It is important to emphasize the difficulty in truly comparing the characteristics of FEP patients on CTOs to other studies due to jurisdictional differences in the definitions of CTOs. Nonetheless, we have used studies on involuntary hospitalization as a comparison above because very few studies on the characteristics of FEP patients receiving coercive measures of any kind exist. What is interesting to see is that despite these jurisdictional and legal differences, there are some robust and consistent findings between study populations in the characteristics predictive of receiving coercive measures, such as lower levels of anxiety and lack of insight into illness.

Provider Characteristics and Treatment Setting

It is also important to note that while this study focuses solely on patient characteristics as predictors of an increased likelihood of obtaining a CTO, provider characteristics, institutional characteristics, and contextual characteristics (i.e., geographic location) may also be important considerations. A number of studies have found that provider characteristics are as predictive as, if not more predictive than patient characteristics, of differences in treatment for both mental and physical health issues. One example is a study (Franz et al., 2012) of neuroleptic treatment in schizophrenia that found that physicians` age and practice setting were related to the treatment selected. Another study (Bowers et al., 2007) on nurses' attitudes towards the use of containment for patients with a personality disorder found that nursing students who reported more enjoyment working with patients with a personality disorder were also more likely to approve of containment practices such as the use of physical restraints ($p = 0.04$). At this time, however, no study exists on the impact of provider characteristics on the likelihood of FEP patients being placed on a CTO or any other coercive measures. It is crucial that future studies consider these characteristics in light of the fact that involuntary measures are often seen as last-resort efforts

when a patient is not otherwise willing to accept "necessary" treatment. As such, extra attention should be paid to treatment settings and providers that are over-burdened and under-resourced. A logical hypothesis would be that in those instances, CTOs and other involuntary measures may be more readily used in comparison to treatment settings and providers who have more resources available to use at their discretion and have more time to spend with patients and their families. If it is the case that use of CTOs and other involuntary measures arise largely in settings that are under-resourced, it would raise important policy questions about reconsidering care models that may reduce the need for said measures.

Duration of Untreated Psychosis

It is also interesting to note that despite a number of studies (Morandi et al., 2017; Opsal et al., 2011; Kelly et al., 2004; Opjordsmoen et al., 2010) looking at the relationship between DUP and coercive measures for FEP patients, none found a significant association after controlling for confounding factors. In the univariate analysis of this study, a long DUP was seen as a significant predictor of FEP patients being placed on a CTO (OR=2.00; p = 0.03). However, in the multivariate analysis, having a long DUP was no longer significantly associated with an increased likelihood of being placed on a CTO (OR= 2.37, p= 0.08). These results are surprising as duration of untreated illness, and especially duration of untreated psychosis, have been linked to a number of adverse symptoms and outcomes, such as a lower treatment response (Albert et al., 2017), more pronounced psychopathological symptoms (Bottlender et al., 2003), and lower global functioning even 15 years after admission (Bottlender et al., 2003).

Strengths

A key strength of this study is that it is, as far as we know, the second study ever done on the characteristics of FEP patients receiving CTOs. Additionally, the sample is representative in that it includes all patients with first-episode psychosis from a geographically defined catchment

area. A large majority (80.2%) of subjects entering into PEPP-Montreal during the time frame included in the analysis gave consent to have their information used for research purposes, thus very few (n=170; 19.8%) eligible subjects were excluded from this study.

Limitations

In PEPP-Montreal, only 9.9% of patients received a CTO at any point during their time in treatment during the time frame of this analysis, thus the sample size of the CTO group was modest in comparison to the non-CTO group. This may have limited our statistical power to detect differences. Also, we examined patient characteristics at baseline, while CTOs were granted at any point during treatment. For patients who did not get a CTO until later on in the course of their treatment, their scores on psychopathological characteristics may have differed from their initial baseline scores.

Although our sample was inclusive of most of the patients treated at PEPP, it is possible that more patients who refused to consent to research had been placed on treatment orders. If this is the case, our study sample of those on CTOs may not have captured the characteristics of all those on CTOs at PEPP. In the future, we plan to ascertain this possibility through a review of charts

Additionally, we used items from PANSS and BPRS the scales to assess clinical characteristics of the patients. While these scales were designed for this purpose, and their reliability and validity have been tested, and are widely used, the item subscales are still rough (and arguably, not perfect) measures of these clinical constructs.

Another limitation is our reliance on proxy variables to measure capacity to consent. Although in Quebec there are specific guidelines for measuring capacity to consent, this information is not available for data analysis and thus we relied on lack of judgement and insight to measure capacity to consent. An interesting and perhaps important line of investigation in the

future would be the use of a standardized tool to assess capacity to consent to treatment (Girsso & Appelbaum, 1998; Lamont et al., 2013; Newberry & Pachet, 2008)

Future Directions

In our analysis, we found a larger proportion of homeless subjects in the CTO group (4.4%) compared to the non-CTO group (1.5%). However, there were not enough homeless subjects altogether to conduct any meaningful statistical analysis. Still, the difference between groups suggests that this may be an area of further exploration in larger samples.

To our knowledge, no study currently exists on the influence of provider characteristics on the likelihood of FEP patients being placed on coercive measures. This may be an important knowledge gap to address in the future. A recent study (Gowda et al., 2019) on clinicians' attitudes towards the use of coercion in psychiatry revealed that, of the 189 psychiatrists participating in the study, almost all perceived coercion as care and as a necessary form of protection against risk of harm. 66% of psychiatrists perceived physical and chemical restraint as necessary and acceptable in acute emergency situations. Nonetheless, approximately 33% believed that some patients could have been treated with fewer coercive measures and recognized the potentially harmful effects of their use. The variance in clinician attitudes toward the use of coercion in psychiatry, including the use of CTOs, may be worth exploring in the context of FEP and may contribute to the variance in the frequency of use of coercive measures across treatment settings.

Clinicians have reported that in younger populations, such as with FEP, families are oftentimes the ones initiating or requesting the CTO from the clinicians and/or court. In our study, an equal number of family members of patients in the CTO and non-CTO groups were involved in treatment. We acknowledge that our treatment of family involvement in relation to coercive measures is somewhat narrow. Future research should explore the role of families in

initiating or supporting CTOs more directly. One study (Boydell et al., 2014), on the use of involuntary hospitalization on FEP patients explored the possibility that caregiver burden may be associated with the greater use of involuntary hospitalization in FEP patients. Findings from their study revealed that the "problems with services" variable, rather than overall caregiver burden, was significantly associated with involuntary hospitalization. It is important to better understand these relationships as it may point out to areas for service improvement, such as providing better supports to caregivers.

Finally, studies on the effectiveness of CTOs in FEP patients have produced mixed results, where some studies have concluded that CTOs have no significant effects on functional and service use outcomes (Maughan et al., 2013), while other studies have concluded that CTOs are significantly associated with positive outcomes (Levy et al., 2018). One possible explanation for these inconsistent findings may be that CTOs have a positive impact on some individuals but not others. Future studies that explore the effectiveness of CTOs in FEP patients should consider how outcomes may differ depending on patient characteristics.

4.6 Conclusion

Overall, this study revealed that in this specific treatment setting, CTOs are used relatively infrequently compared to other clinical settings which treat individuals with psychosis. Sociodemographic factors were not associated with receiving CTOs in this sample, while clinical characteristics associated with lower functioning and poorer insight were associated with a higher likelihood of receiving CTOs. These findings tend to suggest that in this clinical sample, CTOs are being used primarily to improve functioning in patients who are deemed unable to consent to treatment

It is evident from this study that understanding the characteristics associated with the use of CTOs in FEP patients is an important area for continuous exploration. Studies that have explored

the treatment outcomes associated with the use of CTOs in FEP patients should be cognisant of who these measures are being applied to. It is important to continue to confirm whether CTOs are being used as intended—that is, for more clinically-severe cases where the individual lacks a capacity to consent to necessary treatment—in order to hold clinicians accountable and reduce any potential biases towards patients demonstrating specific characteristics. This area is largely under-studied and requires more research attention to ensure the proper use of coercive measures such as CTOs.

4.7 References

Albert, N., Melau, M., Jensen, H., Hastrup, L. H., Hjorthøj, C., & Nordentoft, M. (2017). The effect of duration of untreated psychosis and treatment delay on the outcomes of prolonged early intervention in psychotic disorders. *Npj Schizophrenia,3*(1). doi:10.1038/s41537-017-0034-4

Anderson, K. K., Norman, R., Macdougall, A., Edwards, J., Palaniyappan, L., Lau, C., & Kurdyak, P. (2018). Effectiveness of Early Psychosis Intervention: Comparison of Service Users and Nonusers in Population-Based Health Administrative Data. *American Journal of Psychiatry,175*(5), 443-452. doi:10.1176/appi.ajp.2017.17050480

Archie, S., Akhtar-Danesh, N., Norman, R., Malla, A., Roy, P., & Zipursky, R. B. (2008). Ethnic Diversity and Pathways to Care for a First Episode of Psychosis in Ontario. *Schizophrenia Bulletin, 36*(4), 688-701. doi:10.1093/schbul/sbn137

Bardell-Williams, M., Eaton, S., Downey, L., Bowtell, M., Thien, K., Ratheesh, A., ... & O'Donoghue, B. (2019). Rates, determinants and outcomes associated with the use of community treatment orders in young people experiencing first episode psychosis. *International journal of law and psychiatry*, *62*, 85-89.

Bernheim, E., Chalifour, G., & Laniel, R. (2016) La santé mentale en justice: invisibilité et déni de droits: une étude statistique de la jurisprudence en autorisation de soins. *McGill Journal of Law and Health,* 9(2), 337-382.

Bertolote, J., & Mcgorry, P. (2005). Early intervention and recovery for young people with early psychosis: Consensus statement. *British Journal of Psychiatry,187*(S48). doi:10.1192/bjp.187.48.s116

Bodnar, M., Malla, A., Joober, R., & Lepage, M. (2008). Cognitive markers of short-term

clinical outcome in first-episode psychosis. *British Journal of Psychiatry,193*(4), 297-304. doi:10.1192/bjp.bp.107.040410

Bottlender, R., Sato, T., Jäger, M., Wegener, U., Wittmann, J., Strauss, A., & Möller, H. (2003). The impact of the duration of untreated psychosis prior to first psychiatric admission on the 15-year outcome in schizophrenia. *Schizophrenia Research,62*(1-2), 37-44. doi:10.1016/s0920-9964(02)00348-1

Bowers L., Douzenis A., Galeazzi G., Forghieri M., Tsopelas C., Simpson A., Allan T. (2005). Disruptive and dangerous behaviour by patients on acute psychiatric wards in three European centres. *Soc. Psychiatry Psychiatr. Epidemiol.* 40:822–828.

Boydell, J., Onwumere, J., Dutta, R., Bhavsar, V., Hill, N., Morgan, C., . . . Fearon, P. (2013). Caregiving in first-episode psychosis: Social characteristics associated with perceived 'burden' and associations with compulsory treatment. *Early Intervention in Psychiatry, 8*(2), 122-129. doi:10.1111/eip.12041

Burnett, R., Mallett, R., Bhugra, D., Hutchinson, G., Der, G., & Leff, J. (1999). The first contact of patients with schizophrenia with psychiatric services: Social factors and pathways to care in a multi-ethnic population. *Psychological Medicine, 29*(2), 475-483. doi:10.1017/s0033291798008125

Burns, T., & Molodynski, A. (2014). Community treatment orders: Background and implications of the OCTET trial. *The Psychiatric Bulletin,38*(1), 3-5. doi:10.1192/pb.bp.113.044628

Cole, E., Leavey, G., King, M., Johnson-Sabine, E., & Hoar, A. (1995). Pathways to care for patients with a first episode of psychosis. A comparison of ethnic groups. *British Journal of Psychiatry, 167*(6), 770-776.

Correll, C. U., Galling, B., Pawar, A., Krivko, A., Bonetto, C., Ruggeri, M., . . . Kane, J. M. (2018). Comparison of Early Intervention Services vs Treatment as Usual for Early-Phase Psychosis. *JAMA Psychiatry,75*(6), 555. doi:10.1001/jamapsychiatry.2018.0623

Cougnard, A., Kalmi, E., Desage, A., Misdrahi, D., Abalan, F., Brun-Rousseau, H., . . . Verdoux, H. (2004). Factors influencing compulsory admission in first-admitted subjects with psychosis. *Social Psychiatry and Psychiatric Epidemiology, 39*(10), 804-809. doi:10.1007/s00127-004-0826-5

Crumlish, N. et al. (2009) Beyond the critical period: longitudinal study of 8-year outcome in first-episode non-affective psychosis. *Br. J. Psychiatry* 194, 18–24.

First, M.B., Spitzer, R.L., Gibbon, M., & Wiliams, J.B.W. (2002). *Structured clinical interview for DSM-IV-TR axis I disorders, research version, patient edition. (SCID-I/P).* New York: Biometrics Research, New York State Psychiatric Institute.

Foley, S. (2004). Incidence and clinical correlates of aggression and violence at presentation in patients with first episode psychosis. *Schizophrenia Research*. doi:10.1016/s0920-9964(04)00106-9

Franz, M., Ranger, J., Hanewald, B., Gallhofer, B., & Lay, B. (2012). Influences on Therapist's Decisions for Neuroleptic Treatment in Schizophrenia: The Role of Characteristics of the Patient and the Physician. *Pharmacopsychiatry,45*(07), 261-268. doi:10.1055/s-0032-1312609

Gagné, L. (2018). Des patients « dangereux » injustement maintenus sous garde. Radio Canada. https://ici.radio-canada.ca/nouvelle/1129006/patients-sous-garde-contre-leur-gre-protecteur-citoyen-recours-contestation

Goldman, H.H., Skodol, A.E., & Lave, T.R. (1992). Revising axis V for DSM-IV: A review of measures of social functioning. *American Journal of Psychiatry,149*(9), 1148-1156. doi:10.1176/ajp.149.9.1148

Gowda, G. S., Lepping, P., Ray, S., Noorthoorn, E., Nanjegowda, R. B., Kumar, C. N., & Math, S. B. (2019). Clinician attitude and perspective on the use of coercive measures in clinical practice from tertiary care mental health establishment - A cross-sectional study. *Indian journal of psychiatry*, *61*(2), 151–155. doi:10.4103/psychiatry.IndianJPsychiatry_336_18

Grisso, T., & Appelbaum, P. S. (1998). Assessing competence to consent to treatment: A guide for physicians and other health professionals. *Oxford University Press*, USA.

Iyer, S., Jordan, G., Macdonald, K., Joober, R., & Malla, A. (2015). Early Intervention for Psychosis. *The Journal of Nervous and Mental Disease,203*(5), 356-364. doi:10.1097/nmd.0000000000000288

Kelly, B., Clarke, M., Browne, S., Gervin, M., Lane, A., Larkin, C., & Ocallaghan, E. (2002). Predictors of admission status in first episode schizophrenia. *European Psychiatry, 17*, 181-182. doi:10.1016/s0924-9338(02)80780-5

Lamont, S., Jeon, Y. H., & Chiarella, M. (2013). Assessing patient capacity to consent to treatment: An integrative review of instruments and tools. *Journal of clinical nursing*, 22(17-18), 2387-2403.

Levy, E., Mustafa, S., Naveed, K., & Joober, R. (2018). Effectiveness of Community Treatment Order in Patients with a First Episode of Psychosis: A Mirror-Image Study. *The Canadian Journal of Psychiatry, 63*(11), 766-773. doi:10.1177/0706743718777389

Maughan, D., Molodynski, A., Rugkåsa, J., & Burns, T. (2013). A systematic review of the

effect of community treatment orders on service use. *Social Psychiatry and Psychiatric Epidemiology, 49*(4), 651-663. doi:10.1007/s00127-013-0781-0

Minster of Industry. (2013). *Visible minority and population group, reference guide: National household survey 2011*. Ottawa: Statistics Canada.

Morandi, S., Golay, P., Lambert, M., Schimmelmann, B. G., Mcgorry, P. D., Cotton, S. M., & Conus, P. (2017). Community Treatment Order: Identifying the need for more evidence based justification of its use in first episode psychosis patients. *Schizophrenia Research, 185*, 67-72. doi:10.1016/j.schres.2016.12.022

Nordentoft, M., Madsen, T., & Fedyszyn, I. (2015). Suicidal behavior and mortality in first-episode psychosis. *The Journal of nervous and mental disease, 203*(5), 387-392.

Newberry AM & Pachet AK (2008) An innovative framework for psychosocial assessment in complex mental capacity evaluations. *Psychology Health & Medicine.* 13, 438–449.

Norman, R., & Malla, A. (2002). Prevention and Early Intervention for Psychoses Program (PEPP). Course of onset and relapse schedule. Interview and coding instruction guide. London, Ontario: London Health Sciences Center

Opjordsmoen, S., Friis, S., Melle, I., Haahr, U., Johannessen, J. O., Larsen, T. K., . . . Mcglashan, T. H. (2010). A 2-year follow-up of involuntary admission's influence upon adherence and outcome in first-episode psychosis. *Acta Psychiatrica Scandinavica, 121*(5), 371-376. doi:10.1111/j.1600-0447.2009.01536.x

Opsal, A., Clausen, T., Kristensen, Ø, Elvik, I., Joa, I., & Larsen, T. K. (2011). Involuntary hospitalization of first-episode psychosis with substance abuse during a 2-year follow-up. *Acta Psychiatrica Scandinavica, 124*(3), 198-204. doi:10.1111/j.1600-0447.2011.01700.x

O' Reilly, R. (2004). Why are Community Treatment Orders Controversial? *The Canadian Journal of Psychiatry, 49*(9), 579-584. doi:10.1177/070674370404900902

Otero, M. (2016). Traiter les intraitables. *Nouvelles Pratiques Sociales, 28*(2), 203. doi:10.7202/1041188ar

Robins, L. N. (1981). National Institute of Mental Health Diagnostic Interview Schedule. *Archives of General Psychiatry,38*(4), 381. doi:10.1001/archpsyc.1981.01780290015001

Saraswat, N., Rao, K., Subbakrishna, D., & Gangadhar, B. (2006). The Social Occupational Functioning Scale (SOFS): A brief measure of functional status in persons with schizophrenia. *Schizophrenia Research,81*(2-3), 301-309. doi:10.1016/j.schres.2005.09.008

Singh, S. P., Brown, L., Winsper, C., Gajwani, R., Islam, Z., Jasani, R., . . . Birchwood, M. (2015). Ethnicity and pathways to care during first episode psychosis: The role of cultural illness attributions. *BMC Psychiatry, 15*(1). doi:10.1186/s12888-015-0665-9

Spitzer, R. L. (1992). The Structured Clinical Interview for DSM-III-R (SCID). *Archives of General Psychiatry,49*(8), 624. doi:10.1001/archpsyc.1992.01820080032005

Statistics Canada. (2019, April 03). Visible minority of person. Retrieved from http://www23.statcan.gc.ca/imdb/p3Var.pl?Function=DEC&Id=45152

Ventura, J., Green, M. F., Shaner, A., & Liberman, R. P. (1993). Training and quality assurance with the Brief Psychiatric Rating Scale: "The drift busters." *International Journal of Methods in Psychiatric Research, 3*(4), 221-

4.8 Figures

Table 1 Demographic and Clinical characteristics for patients placed on CTOs and patients not placed on CTOs

Variable		Total (n = 688)	Community Treatment Order	
			Yes (n = 68)	No (n = 620)
Demographic				
Age at Entry	M (*SD*)	23.7 (*4.8)*	22. 7 (4.7)	23. 8 (*4.8*)
Gender (% male)	n (%)	480 (*70)*	53 (*77.9*)	427 (*69)*
Education				
High-school not completed	n (%)	325 (50.5)	38 (*64.4*)	287 (*49.1*)
High school completed	n (%)	318 (*49.5*)	21 (*35.6*)	297 (*50.9*)
Relationship status				
Single	n (%)	603 (*89.3*)	64 (95.5)	539 (*88.7*)
In a relationship	n (%)	72 (*10.7*)	3 (*4.5*)	69 (*11.3*)
Race/ethnicity				
White	n (%)	393 (*57.3*)	39 (*65*)	354 (*61.6*)
Visible minority	n (%)	242 (*38.1*)	21 (*35*)	221 (*38.4*)
Employment				
Unemployed	n (%)	390 (*64.7*)	52 (*83.9*)	338 (*62.5*)
Employed	n (%)	213 (*35.3*)	10 (*16.1*)	203 (*37.5*)
Family involvement				
Involved	n (%)	496 (*83.2*)	48 (80)	448 (83.6)
Not involved	n (%)	100 *(16.8)*	12 *(15)*	88 *(16.4)*
Living Situation				
Alone	n (%)	98 (*15.1*)	10 (*15.4*)	88 (*14.2*)
With others	n (%)	541 (*83.1*)	52 (*80*)	489 (*78.9*)
Homeless	n (%)	12 (*1.8*)	3 (*4.4*)	9 (*1.5*)
Substance Use				
Yes	n (%)	307 (*52.8*)	30 (*51.7*)	277 (*53*)
No	n (%)	274 (*47.2*)	28 (*48.3*)	246 (*47*)
Pre-morbid				
DUP (weeks)	M (SD)	52 (*109.6*)	70.8 (*160.83*)	50.05 (*102.66*)
Functioning (SOFAS)	M (SD)	41.4 (18.6)	33.1 ()	40.5 ()
Psychopathology				
Anxiety (BPRS)	M (SD)	4.11 (*1.60*)	3.56 (*1.68*)	4.17 (*1.59*)

Suicidality (BPRS)	M (SD)	2.34 (*1.66*)	2.12 (*1.52*)	2.36 (*1.67*)
Depression (BPRS)	M (SD)	3.46 (*1.75*)	2.98 (*1.78*)	3.51 (*1.74*)
Hostility (BPRS)	M (SD)	3.25 (*1.85*)	4.11 (*1.82*)	3.27 (*1.85*)
Uncooperativeness (BPRS)	M (SD)	1.89 (*1.41*)	2.80 (*1.37*)	1.82 (*1.37*)
Grandiosity (BPRS)	M (SD)	3.30 (*2.28*)	3.80 (*2.33*)	3.42 (*2.29*)
Suspiciousness (BPRS)	M (SD)	5.17 (*1.71*)	5.52 (*1.59*)	5.16 (*1.73*)
Hallucinations (BPRS)	M (SD)	3.88 (*1.98*)	4.17 (*1.96*)	3.83 (*1.95*)
Unusual thought (BPRS)	M (SD)	5.21 (*1.41*)	5.13 (*1.48*)	5.33 (*1.33*)
Bizarre behavior (BPRS)	M (SD)	3.61 (*1.79*)	4.52 (*1.60*)	3.64 (*1.75*)
Poor impulse control (PANSS)	M (SD)	2.43 (*1.52*)	2.93 (*1.66*)	2.38 (*1.49*)
Judgement & insight (PANSS)	M (SD)	4.15 (*1.54*)	5.19 (*1.33*)	4.07 (*1.51*)

M= mean; SD=standard deviation

Table 2 Univariate binary logistic regression analysis results

Variable	N	*B*	S.E.	*p*	OR	95% CI	
						Lower	Upper
Demographic							
Age at Entry	688	-0.05	0.03	0.08	0.95	0.90	1.01
Gender	688	-0.42	0.30	0.16	0.66	0.37	1.18
Completed high school	643	-0.63	0.28	**0.03**	**0.53**	**0.31**	**0.93**
Relationship status	675	-1.00	0.60	0.10	0.37	0.11	1.20
Race/ethnicity	636	-0.15	0.28	0.61	0.87	0.50	1.51
Employment	603	-1.14	0.36	**< 0.01**	**0.32**	**0.16**	**0.64**
Family involvement	596	-0.24	0.34	0.48	0.79	0.40	1.54
Living Situation	639	-0.07	0.36	0.86	0.94	0.46	1.91
Substance Use	581	-0.05	0.28	0.86	0.95	0.55	1.64
Pre-morbid							
DUP (short vs. long)	572	0.69	0.31	**0.03**	**2.00**	**1.09**	**3.67**
SOFAS	609	-0.06	0.01	**< 0.01**	**0.94**	**0.91**	**0.96**
Psychopathology							
Anxiety (BPRS)	659	-0.23	0.08	**< 0.01**	**0.79**	**0.68**	**0.93**
Suicidality (BPRS)	659	-0.10	0.08	0.26	0.91	0.77	1.07
Depression (BPRS)	658	-0.18	0.08	**0.02**	**0.84**	**0.72**	**0.98**
Hostility (BPRS)	659	-0.10	0.08	0.26	0.91	0.77	1.07
Uncooperativeness (BPRS)	658	0.31	0.08	**< 0.01**	**1.36**	**1.17**	**1.58**
Grandiosity (BPRS)	660	0.05	0.06	0.40	1.05	0.94	1.17
Suspiciousness (BPRS)	660	0.21	0.09	**0.02**	**1.24**	**1.03**	**1.49**
Hallucinations (BPRS)	659	-0.04	0.07	0.56	0.96	0.85	1.09
Unusual thought (BPRS)	660	-0.06	0.09	0.47	0.94	0.79	1.12

Bizzare behavior (BPRS)	657	0.22	0.08	**< 0.01**	**1.25**	**1.07**	**1.46**
Poor impulse control (PANSS)	563	0.224	0.89	**0.01**	**1.25**	**1.05**	**1.49**
Judgement & insight (PANSS)	562	0.62	0.12	**< 0.01**	**1.86**	**1.46**	**2.37**

OR= odds ratio; p < 0.05; CI= confidence intervals

Table 3 Multivariate logistic regression analysis

Variable	*B*	Wald	*p*	OR	95% C.I.	
					Lower	Upper
Employment	-0.17	0.12	0.73	0.85	0.33	2.20
Completed high school	0.18	0.00	0.97	1.02	0.45	2.31
DUP (short vs. long)	0.76	3.09	0.08	2.37	0.92	5.02
Functioning (SOFAS)	-0.62	7.48	**< 0.01**	**0.94**	**0.90**	**0.98**
Anxiety (BPRS)	-0.29	3.77	**0.05**	**0.75**	**0.56**	**1.00**
Depression (BPRS)	-0.9	0.13	0.44	0.91	0.71	1.16
Suspiciousness (BPRS)	0.07	0.12	0.59	1.07	0.85	1.35
Bizarre Behavior (BPRS)	0.21	1.41	0.13	1.30	0.94	1.63
Uncooperativeness (BPRS)	0.30	4.99	**0.03**	**1.35**	**1.04**	**1.76**
Poor impulse control (PANSS)	-0.20	2.05	0.15	0.82	0.62	1.08
Judgement and insight (PANSS)	0.42	1.92	**0.03**	**1.53**	**1.05**	**2.23**

OR= odds ratio; p < 0.05; CI= confidence intervals

Table 4 Help-seeking and DUP post-hoc analysis

Variable	*B*	Wald	*p*	OR	95% C.I.	
					Lower	Upper
Referral DUP*	0.01	3.11	0.78	1.00	1.00	1.08
# of contacts btwn onset and PEPP	0.74	2.32	0.13	1.08	0.98	1.18
# of contacts btwn onset and DOE	0.42	0.34	0.56	1.04	0.91	1.20
# of contacts btwn episode and DOE	0.06	0.67	0.41	1.06	0.92	1.21
Help-seeking DUP**	-0.01	0.12	0.73	0.99	0.99	1.00

*from first help-seeking contact until referral **from onset of psychosis until the first help-seeking contact

Chapter 5 General Discussion and Conclusion

The aim of both the systematic review and the quantitative study was to explore the characteristics of patients with first-episode psychosis (FEP) who are more likely to be involuntarily hospitalized and treated. We began our project by undertaking a systematic review of the literature on involuntary hospitalization and treatment in FEP across treatment settings and jurisdictions. We found that, overall, this is an area of research largely overlooked. Of the mere 15 studies included in the review, very few were explicitly aimed at exploring the characteristics of FEP patients involuntarily hospitalized or treated. Even fewer studies explored involuntary treatment, and only one study explored involuntary treatment separately from involuntary hospitalization, in the form of community treatment orders (CTOs)—a relatively new legal regime that obliges unconsented treatment outside a hospital setting. The systematic review additionally documented that the characteristics of FEP patients more likely to be involuntarily hospitalized and treated differs greatly across treatment settings and between jurisdictions. Further, some studies in the systematic review found that sociodemographic characteristics, such as ethnicity, were predictive of patients being involuntarily hospitalized, independent of clinical factors. This finding further highlights the concern that involuntary hospitalization may be disproportionately applied based on sociodemographic factors rather than clinical factors. More importantly, these results substantiate the importance of systematically and routinely evaluating the characteristics associated with involuntary hospitalization and treatment, especially in young and treatment-naïve populations, such as those with FEP. Analyzing these characteristics allows us to address the important question of whether the use of involuntary hospitalization and treatment is justified by significant differences in pertinent patient clinical characteristics such as severity of symptoms, lack of insight, and low levels of functioning, rather than solely sociodemographic characteristics.

Results of the systematic review reported various sociodemographic, structural and clinical patient characteristics associated with an increased likelihood of receiving involuntary hospitalization or treatment. The results showed that certain sociodemographic characteristics were inconsistently associated with an increased likelihood involuntary hospitalization/treatment between studies. For example, sex was overall significantly predictive of involuntary hospitalization in two studies. But, in one study, women were significantly more likely to be involuntarily hospitalized and in another, men were significantly more likely to be involuntarily hospitalized. Discrepancies such as this are most likely explained by the patient population. Since we included studies from around the world and did not exclude based on treatment setting or patient population as long as they had FEP, the composition of each study sample differed greatly across studies. Another contribution to the inconsistent results might have depended on the differences in definition and use of involuntary hospitalization and treatment across settings. In other words, the characteristics that were predictive of FEP patients being more likely to be involuntarily hospitalized/treated may have more to do with the legal regimes and guidelines of each jurisdiction regarding such measures rather than the inherent characteristics themselves. As more studies come out measuring characteristics of FEP patients receiving involuntary hospitalization/treatment, future reviews should control for treatment/setting or legal regime to better understand how sociodemographic characteristics play a role in decision-making on who receives involuntary hospitalization or treatment. Future studies should additionally consider how healthcare provider characteristics play a role in determining who is involuntarily hospitalized or treated. Previous studies exploring how healthcare provider characteristics play a role in determining courses of treatment has been noted in illnesses such as stroke (Haeusler et. al., 2015), heart disease (Christian et. al., 2006), and cancer (Hodgson et. al., 2001), to name a few. These studies have shown that characteristics such as whether the provider is operating in

private practice versus a teaching hospital versus a walk-in clinic may independently predict the recommended course of treatment. Other provider characteristics such as sex, experience, and volume of cases may also determine the recommended course of treatment. This would be worth exploring in FEP, especially for involuntary hospitalization and treatment. Based on the fact that involuntary hospitalization and treatment are often tools of last resort, when patients will not agree voluntarily to recommended courses of treatment, it is entirely possible that psychiatrists with heavier caseloads will be more likely to resort to involuntary hospitalization or treatment when a patient is not compliant. Another possibility is that psychiatrists with more experience may be less quick to resort to involuntary hospitalization or treatment, because their experience working with the specific patient population may have garnished them with more tools for engagement without needing to involuntarily hospitalize or treat. Conversely, it may be the complete opposite where newer psychiatrists with less experience do not feel comfortable detecting which patients should be involuntarily hospitalized or treated, and therefore refrain from quickly taking those measures. More information is certainly needed on this and it is something future studies should consider exploring. Studies are also needed specifically exploring community treatment orders (CTOs) as they are being increasingly used as an "alternative" to inpatient involuntary treatment regimes. Because very little research has investigated the use of CTOs in FEP patients, more information on the frequency of use, effectiveness, and characteristics of patients placed on CTOs is undoubtedly needed. Ultimately, it is necessary to consider what the ideal models of involuntary hospitalization and treatment should look like for FEP. Should we increase the frequency of their use, but through less-restrictive means such as CTOs? Should we add more checks and balances to ensure their prescription is not abused? Should we make these measures more readily available and more easily implemented to safety and rapid access to treatment? Such policy questions, however, turn

us to factors that are still largely unknown. We do not yet know that treating patients involuntarily is effective. Further, even if these measures are "effective" in some regards (i.e., reducing symptom severity), are there other, less-restrictive means that would have the same effect? For example, is it simply that part of the reason these measures are "effective" is simply that it is the only way some patients are even accessing psychiatric services to begin with? If we were to make access to treatment on a voluntary basis more available, would we achieve the same results without restricting personal autonomy? Another question that needs answering is whether these tools are being inappropriately used by physicians. This requires looking at patient characteristics, as we have done in this thesis, in order to determine whether involuntary hospitalization and treatment measures are truly being given to patients presenting as significantly "worse" in symptoms, particularly in ability to consent to treatment, functionality, and risk of harm to themselves or others (i.e., suicidality, violence, hostility), or if they are instead being given based on sociodemographic factors. While not enough studies exist on this topic to make any meaningful conclusion about their use, results from a number of studies indicate a certain possibility of misuse that must be further explored.

For our second project, we undertook a quantitative exploratory analysis to examine the application of CTOs in treating patients with FEP. The aim of the research was to identify whether FEP patients who were placed on CTOs, present at baseline with significantly different clinical, structural, or sociodemographic profiles. The purpose of this study was to better understand to whom CTOs are being applied, and to deliberate on whether these measures are used as intended: as a prevention for harm to oneself or others, or as an intervention in cases where the patient displays severe functional impairment and refuses treatment. Findings from our study revealed that the characteristics of FEP patients which put them more at risk of being placed on a CTO included: lower levels of social functioning, lower levels of anxiety, higher

levels of uncooperativeness, and lower levels of judgement and insight. The lack of judgement and insight paired with higher uncooperativeness tends to indicate this population is less aware of their illness, and hence less likely to agree to treatment. The lower level of social functioning is a proxy indicator of a need for treatment, based on the understanding that those who display functional impairment are more in need of clinical intervention. Still, our limited sample size and lack of previous research on this area highlights the need for further analysis and exploration of this area.

5.1 Synthesis

Taken together, the systematic review sets a framework for understanding the results of the characteristics study. Through the systematic review, we saw that certain patient characteristics were consistently more predictive of being involuntarily hospitalized and treated. Some of these characteristics such as lack of insight into illness and lower levels of functioning remained predictive of patients receiving CTOs in the PEPP-Montreal sample. This tends to indicate that despite differences in treatment settings, definitions of coercive measures, and patient populations, there are certain characteristics that are more selected for in the application of measures such as involuntary hospitalization and treatment. At the same time, we also see major differences across studies in patients' characteristics associated with the application of coercive measures. Results from both the systematic review and characteristics study highlight the need for further research.

5.2 Implications

It is evident from the systematic review that the use of involuntary hospitalization and treatment for patients with FEP is an area that has been largely under-explored in the literature. The findings from the systematic review on the frequency of use, along with the rate of CTO use in Study 2 compared to rates from Australia, also suggest that the use of these measures varies

widely depending on the treatment setting and jurisdiction, from 9-61% of FEP cases. The wide variation in the frequency of use of involuntary treatment and hospitalization as tools for working with FEP patients also indicates a need for further exploration. Such information would help inform discussions on the extent of use of these measures in FEP patients and other treatment-naïve populations, who represent groups that are particularly important to engage in treatment early on, and how this use can be mindfully reduced.

Results from both the systematic review and the quantitative analysis suggest that, in some jurisdictions and treatment settings, certain characteristics may be disproportionately selected for in determining who should be involuntarily hospitalized and treated. Particular attention needs to be paid to situations where certain sociodemographic characteristics such as racial minority status represent a group more likely to be involuntarily hospitalized or treated, even after controlling for clinical characteristics. If these measures are being used as intended, patients who are involuntarily treated or hospitalized should arguably appear to be significantly different in clinical symptoms and functioning, lack capacity to consent, or clearly display that they are at eminent risk of harm to themselves or to others. Our quantitative analysis indeed supports this notion, given that the population in this EI service was more likely to be placed on a CTO if they had lower levels of functioning and insight into illness, and more uncooperativeness. Such characteristics would indicate the presence of different clinical profiles between those placed on CTO versus those not placed on CTO. In contrast, sociodemographic differences were not significant between groups after controlling for confounding factors, indicating that marginalized groups may not be disproportionately targeted in this treatment setting. Still, given the limitations discussed above, these results need to be replicated within the same jurisdiction and in similar clinical settings before drawing any recommendations.

Nevertheless, these studies provide evidence on the importance of accountability and suggest that, at least in some contexts, these coercive measures are being used for their intended purpose and not being disproportionately applied to certain populations, particularly marginalized groups such as ethnic and racial minorities, those with lower socioeconomic status, etc.

5.3 Future Directions

Future studies should continue to analyze FEP patient characteristics receiving involuntary hospitalization and treatment, across jurisdictions. Especially under-studied are the characteristics of FEP patients with a higher likelihood of receiving community treatment orders (CTOs). Further investigations should also systematically measure constructs like "consent" (e.g., MacArthur Competence Assessment Tools; Grisso & Appelbaum, 1998). Studies exploring the effects of these coercive measures on clinical and functional outcomes should additionally consider how patient characteristics may mediate or moderate these effects. Future studies should also consider characteristics of psychiatrists and treatment settings as potential factors influencing decisions of whether or not to seek treatment orders or involuntarily hospitalize patients. Studies on provider characteristics in other fields have revealed significant results indicating that certain provider characteristics such as less experience or higher intolerance for uncertainty may predispose providers to utilize more coercive measures (Franz et al., 2012; Bowers et al., 2007).

5.4 References

Bowers L., Douzenis A., Galeazzi G., Forghieri M., Tsopelas C., Simpson A., Allan T. (2005). Disruptive and dangerous behaviour by patients on acute psychiatric wards in three European centres. *Soc. Psychiatry Psychiatr. Epidemiol.* 40:822–828.

Christian, A. H., Mills, T., Simpson, S. L., & Mosca, L. (2006). Quality of cardiovascular disease preventive care and physician/practice characteristics. *Journal of general internal medicine*, *21*(3), 231–237. https://doi.org/10.1111/j.1525-1497.2006.00331.x

Franz, M., Ranger, J., Hanewald, B., Gallhofer, B., & Lay, B. (2012). Influences on Therapist's Decisions for Neuroleptic Treatment in Schizophrenia: The Role of Characteristics of the Patient and the Physician. *Pharmacopsychiatry,45*(07), 261-268. doi:10.1055/s-0032-1312609

Gowda, G. S., Lepping, P., Ray, S., Noorthoorn, E., Nanjegowda, R. B., Kumar, C. N., & Math, S. B. (2019). Clinician attitude and perspective on the use of coercive measures in clinical practice from tertiary care mental health establishment - A cross-sectional study. *Indian journal of psychiatry*, *61*(2), 151–155. doi:10.4103/psychiatry.IndianJPsychiatry_336_18

Grisso, T., & Appelbaum, P. S. (1998). MacArthur Competence Assessment Tool for Treatment (MacCAT-T). Professional Resource Press/Professional Resource Exchange.

Haeusler, K.G., Gerth, A., Limbourg, T. *et al*. Use of vitamin K antagonists for secondary stroke prevention depends on the treating healthcare provider in Germany – results from the

German AFNET registry. *BMC Neurol* **15,** 129 (2015). https://doi.org/10.1186/s12883-015-0371-8

Hodgson, C., Fuchs, C., Ayanian, J. Impact of Patient and Provider Characteristics on the Treatment and Outcomes of Colorectal Cancer, *JNCI: Journal of the National Cancer Institute*, **93**, 501–515, (2001). https://doi.org/10.1093/jnci/93.7.501

Appendix A: Review of the literature, search term strategy: query terms

Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily 1946 to Present

1 Mental disorders/ 145844

2 exp schizophrenia/ 94487

3 (schizophrenia or schizophrenic).ti,ab,kf. 106338

4 (psychotic or psychosis).ti,ab,kf. or Psychotic Disorders/ 71646

5 1 or 2 or 3 or 4 296642

6 "Commitment of Mentally Ill"/ or Institutionalization/ 11231

7 Mandatory Programs/ 2460

8 hospitalization/ 85810

9 Hospitals, Psychiatric/ 24083

10 community mental health services/ 17578

11 Patient Admission/ 20805

12 ((obligatory or forced or mandated or mandatory or involuntary or coercive* or coerced or Compulsory) adj3 (readmission* or readmitted or admitted or treatment* or detain* or detention* or admission* or care or measures or measure or assessment*)).ti,ab,kf. 6406

13 mental health act.ti,ab,kf. 958

14 treatment order*.ti,ab,kf. 631

15 civil detention*.ti,ab,kf. 9

16 Court order*.ti,ab,kf. 843

17 or/6-16 157010

18 ((early or first or initial or primary) adj3 (intervention* or treatment* or recognition or detection or admission* or hospitalization* or episode* or breakdown*)).ti,ab,kf. 295827

19 Early Medical Intervention/ 1832

20 18 or 19 296839

21 5 and 17 and 20 1669

22 ((early or initial or first) adj3 (psychosis or schizophrenia)).ti,ab,kf. 7433

23 (prevention adj2 early psychosis).ti,ab,kf. 59

24 22 or 23 7433

25 17 and 24 603

26 21 or 25 1770

Scopus

(TITLE-ABS-KEY (schizophrenia OR schizophrenic OR psychotic OR psychosis)) AND (TITLE-ABS-KEY ((early OR first OR initial OR primary) W/3 (intervention* OR treatment* OR recognition OR detection OR admission* OR hospitalization* OR episode* OR breakdown*))) AND ((TITLE-ABS-KEY ((obligatory OR forced OR mandated OR mandatory OR involuntary OR coercive* OR coerced OR compulsory) W/3 (readmission* OR readmitted OR admitted OR treatment* OR detain* OR detention* OR admission* OR care OR measures OR measure OR assessment*))) OR (TITLE-ABS-KEY (("mental health act" OR "treatment order*" OR "civil detention*" OR "Court order*" OR hospitalization OR institutionalization OR "psychiatric hospital*" OR "mental hospital*" OR "mental institution*"))))

ProQuest

all((schizophrenia or schizophrenic or psychotic or psychosis))

AND

all((early OR first OR initial OR primary) near/3 (intervention* OR treatment* OR recognition OR detection OR admission* OR hospitalization* OR episode* OR breakdown*))

AND

all((“mental health act” or “treatment order*” or “civil detention*” or “Court order*” or hospitalization or institutionalization or “psychiatric hospital*” or “mental hospital*” or “mental institution*”)) OR all((obligatory or forced or mandated or mandatory or involuntary or coercive* or coerced or Compulsory) near/3 (readmission* or readmitted or admitted or treatment* or detain* or detention* or admission* or care or measures or measure or assessment*))

Cochrane Library

("mental health act" or "treatment order*" or "civil detention*" or "Court order*" or hospitalization or institutionalization or "psychiatric hospital*" or "mental hospital*" or "mental institution*") or ((obligatory or forced or mandated or mandatory or involuntary or coercive* or coerced or Compulsory) NEAR/3 (readmission* or readmitted or admitted or treatment* or detain* or detention* or admission* or care or measures or measure or assessment*)):ti,ab,kw

AND

((early or first or initial or primary) NEAR/3 (intervention* or treatment* or recognition or detection or admission* or hospitalization* or episode* or breakdown*)):ti,ab,kw

AND

(schizophrenia or schizophrenic or psychotic or psychosis):ti,ab,kw

#1 AND #2 AND #3

HeinOnline: Law Journal Library

((obligatory or forced or mandated or mandatory or involuntary or coercive* or coerced or Compulsory) AND (psychotic or psychosis))) [this one brings back the most results—a search with schizophrenia or schizophrenic Ord with psychosis brings back fewer…

Search update used this:

("mental health act" or (treatment NEXT order*) or (civil NEXT detention*) or (Court NEXT order*) or hospitalization or institutionalization or (psychiatric NEXT hospital*) or (mental NEXT hospital*) or (mental NEXT institution*)) or ((obligatory or forced or mandated or mandatory or involuntary or coercive* or coerced or Compulsory) NEAR/3 (readmission* or readmitted or admitted or treatment* or detain* or detention* or admission* or care or measures or measure or assessment*)):ti,ab,kw