Argus: assessment and use of data in evaluating coercive measures in Dutch psychiatry

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Chapter 1.

General introduction.

Introduction

Patients admitted to psychiatric hospitals are still frequently confronted with coercive measures that restrict their freedom of movement and personal choices. Violence and aggression have been identified as the most frequent reason for the use of coercive measures (Gutheil, 1980, Mason, 1994, Morrison & Lehane, 1996, Currier, 2003). When de-escalation is ineffective, staff makes use of more intrusive techniques to coerce and control the patient (Whittington, et al. 2006). The use of these measures is widely discussed in the context of ethics, law and human rights. Effects as well as side effects have been under debate for several years (Olofsson & Norberg, 2001, Whittington, et al. 2006, Kallert, 2008, Legemaate, et al. 2007, Newton-Homes & Mullen, 2011).

Older literature claims that coercive measures are therapeutic approaches, contributing to the patient regaining rationality (Hodgkinson, 1985) and control over his/her psychiatric symptoms (Schwab & Lahmeyer, 1979, Farrell & Dares, 1996, Kaltiala-Heino, et al. 2000). However, randomized controlled trials of the therapeutic effects of seclusion are rare (Sailas & Fenton, 2000). Many authors report coercive measures are used primarily for controlling and subjugating patients (Fisher, 1994, Kaltiala-Heino, et al. 2000, Olofsson & Norberg, 2001, Mohr, et al. 2003, Sailas & Wahlbeck, 2005, Steinert & Lepping, 2009). In the case of dangerous patient behaviour coercion is aimed at providing security (Olofsson, & Norberg, 2001, Bowers, et al. 2004, Whittington, et al. 2009, Bowers, et al. 2010) and preventing injuries (Palazzolo, et al. 2001, Bowers, et al. 2006). In line with this, Steinert (2011) argued that coercive measures are not therapeutic. Moreover, coercive measures are increasingly viewed as poor care (Olofsson, & Norberg, 2001) and treatment failures rather than healthcare interventions. Thus, their potential to reduce violence is extremely limited (Whittington, et al. 2006).

Recently published studies reported on patients' negative feelings and experiences related to coercion; these include being scared, angry, confused, injured, helpless, powerless, punished, out of control, controlled by others, inhumanely treated or frightened. These feelings may linger for many weeks afterwards (Hoekstra, et al. 2004, Stolker, et al. 2004, Abma, 2005, Whittington, et al. 2006, Happell & Koehn, 2011). Coercive measures damage the therapeutic relationship (Fisher, 1994, Hoekstra, et al. 2003, Whittington, et al. 2006, Kontio, 2011). Use of coercive measures is physically dangerous and psychologically disturbing for the patient and for staff (Fisher, 1994, Hoekstra, et al. 2003, Whittington, et al. 2006, VanderNagel, et al. 2009). Some coercive measures represent intrinsically unsafe procedures, especially when used incorrectly. Both mechanical and physical restraints have been reported to be associated with serious injuries and deaths of patients (Mohr, et al. 2003, Paterson, et al. 2003).

The issue of coercive measures is specifically poignant in the Netherlands. Several authors claim that coercive measures occur more frequently in the Netherlands than elsewhere (Vrijlandt, 1998, van de Werf, 2003, Bowers, et al. 2006, Whittington, et al. 2006). Yet, the actual prevalence of coercive measures in Dutch psychiatry is unknown. It is not clear how frequent coercive measures are used, for how long and how many patients are involved. The lack of valid and reliable data on the use of coercive measures undermines discussions on their use. Governmental or otherwise published data on the use of coercive measures in the Netherlands showed incomplete findings and findings not recognizable for professionals involved (Janssen, et al. 2009). The data in general showed a rising trend of het use of coercive measures in the Netherlands. Dutch Health Care Inspectorate (IGZ) data on involuntary used coercive measures have several shortcomings rendering them unusable for evaluating coercive measures (Janssen, et al. 2005). Hospitals as well as policy makers and Dutch politicians have a need for clear and valid figures on trends in the use of coercive measures.

Aim and research questions

This thesis focuses on criteria for clear, valid and reliable data on the use of coercive measures; it also presents results. The main question of this thesis is:

How can coercive measures in Dutch psychiatric hospitals be measured and explained?

Clear, valid and reliable figures are an important tool to evaluate the use of coercive measures and to visualize trends in their use. Analysis of data in their context can clarify trends in coercive measures. The main research question is further specified in three subsidiary research questions.

1. What are the criteria for a valid registration method on coercive measures allowing comparisons on ward, hospital, national and international level?
2. What are the data on the use of coercive measures in the Netherlands?
3. How can these data and possible trends arising thereof be explained?

In the first section, we will elaborate on underlying concepts and describe which interventions are involved. Furthermore, we will describe activities aimed at the reduction of seclusion in the Netherlands. The second section deals with the first research question. It discusses the criteria for proper registration of coercive measures which can be found in the literature. It also goes into the history of registration of coercive measures in the Netherlands and the legal framework which regulates reporting coercive measures. The last part of this section provides an overview of the

registration method which is the object of the thesis, named Argus. The third section deals with the second research question and focuses on the data on coercive measures in the Netherlands and internationally. The fourth section deals with the third research question and summarizes literature on determinants influencing the use of coercive measures. The introduction chapter ends with an outline of the chapters in this thesis.

1. Coercive measures and policies towards reducing coercion in Dutch health care.

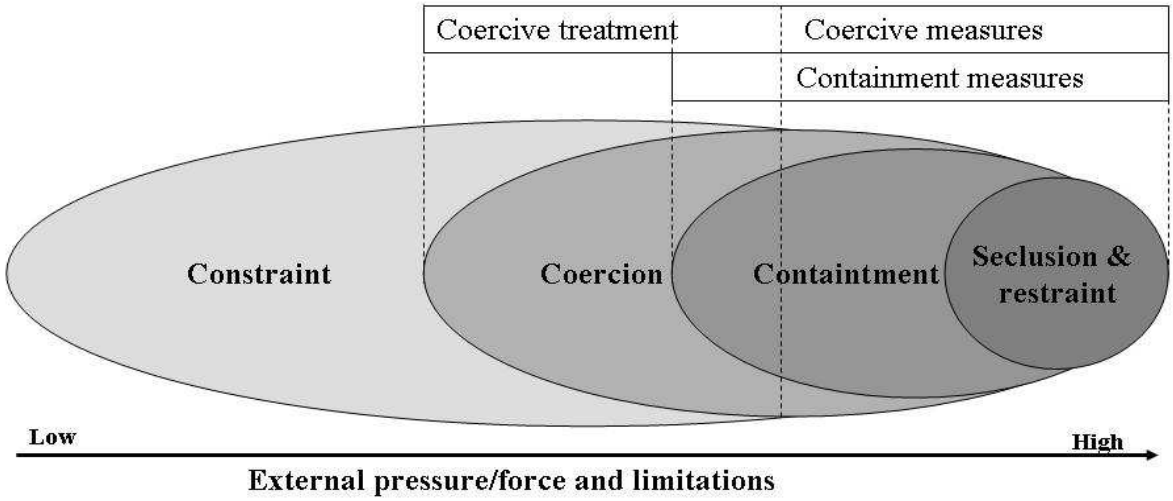
Conceptual issues

Health care professionals may use a wide range of strategies to influence patients' behaviour which vary in degree of containment and reduction of patients' freedom to act. These can be represented in a scale, from constraint to coercion. Coercion involves containment, seclusion or restraint (see figure 1). Berghmans distinguishes constraint from coercion: the first implies "getting" a person to act in certain ways, the second means "forcing" him/her (Berghmans, 1998). Constraint implies advising, convincing or manipulating the patient. Coercion entails imposing boundaries leaving the patient no room for choice. One part of coercion is containment measures, which limit the operational choice of patients. Seclusion or restraint further restricts the patient's space and movements.

Constraint refers to the verb constrain which implies compelling or forcing someone to follow a particular course of action. Advising and convincing is being employed if a person tries to influence the behaviour of another by causing him to openly consider and re-evaluate his intentions toward a certain act (Berghmans, 1998). Manipulation follows to produce or engineer the needed assent when the communicative approach undertaken loses a straightforward and open quality (Berghmans, 1998). Coercion refers to the verb 'to coerce', providing strong incentives to act in such a way that it would be unreasonable to expect any person not to so act that way (Berghmans, 1998). This concept covers also the lack of a person's consent (Kaltiala-Heino, et al. 2000). Coercion intends to treat, help, prevent, cure the patient and provide security regardless of her/his resistance or lack of consent (Olofsson & Norberg, 2001). In the most extreme sense the patient is confronted with overpowering force and left neither opportunity to choose nor any other option than to accept the decision (Hoekstra, et al. 2004). Kaltiala-Heino, et al. (2000) distinguishes coercive measures and coercive treatments. Coercive measures like seclusion and restraint are primarily applied to prevent or control patient's behaviour and to provide security for the patient and others (Kaltiala-Heino, et al. 2000, Olofsson & Norberg, 2001) using an element of force. Subjected to these coercive measures, the patient is left with no option than to accept the measure because of overpowering force.

Another concept in the literature is containment. This concept refers to the verb 'to contain' which is to provide boundaries and limitations. In psychiatric settings, underlying characteristics of this concept are: management, protection and safety. Management is aimed at preventing patients hurting or injuring themselves or others as well as keeping patients safe (Bowers, et al. 2006). A range of containment methods, including medication, seclusion, or restraint can be used to limit patients' movements and liberty (Bowers, et al. 2004, Bowers, et al. 2006).
Seclusion and restraint are concepts which are frequently used in the literature. These terms refer to interventions with the highest level of force and limitations in which the patient no longer has a choice. Secluding and restraining a patient is directed at managing and controlling a potentially dangerous situation (Mattson & Sacks, 1978, Gutheil, 1978, Gutheil, 1980, Mason & Alty, 1994). These interventions are mostly short-term emergency measures (Mason & Alty, 1994).

Figure 1. Taxonomy of constraining methods



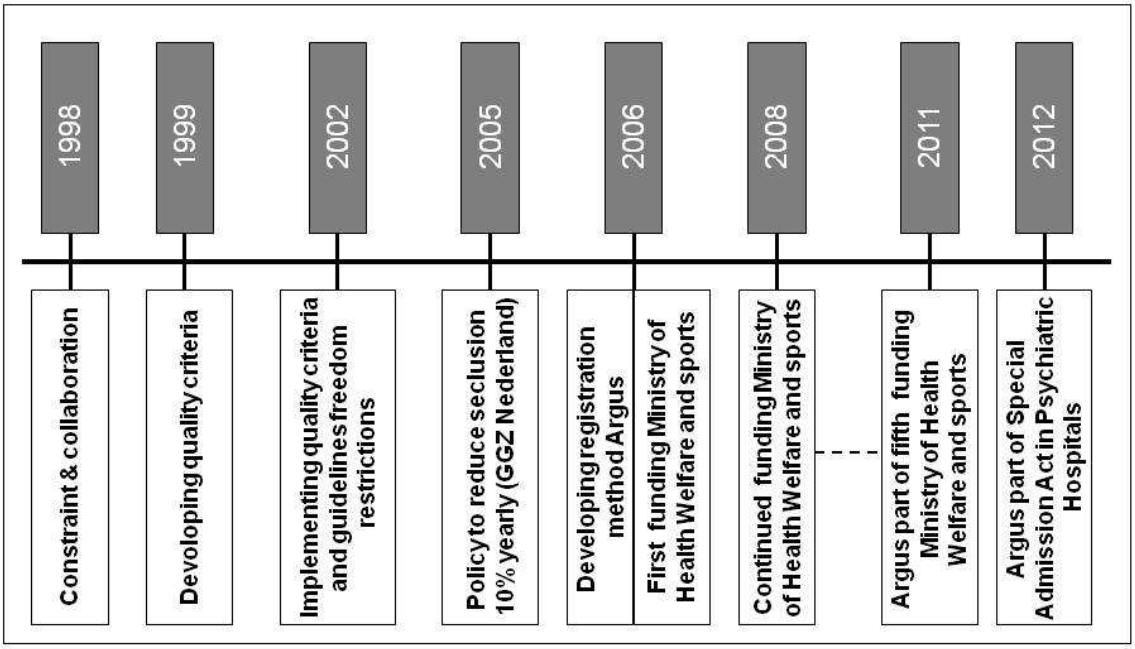
For this introductory chapter we chose to use the term coercive measures, following Kaltiala-Heino et al (2000). This concept highlights that using such measures is accompanied with force, resulting in the absence of choice for patients.

Activities aimed at reduction of the use of coercive measures in the Netherlands

At the end of 20th century, psychiatrists, nurses and other professionals in Dutch hospitals increasingly called attention to the disproportionate way in which coercive measures were used. Coercive measures were increasingly seen as shortcomings in patient care. Removing contact and leaving the patient alone with all his/her emotions in an unpleasant area were regarded as poor quality of care. From 1998 onwards, several initiatives arose aimed at the reduction and improvement of the quality of care in the application of coercive measures. Patients and family members increasingly participated

in the discussions about hospital and ward policy. They became increasingly involved in quality improvement projects aimed at the reduction of the use of coercive measures. Figure 2 provides an overview of developments over the last 15 years.

Figure 2. Overview of activities aimed at reducing coercive measures.



Constraint and Collaboration

In 1998 the European Union funded a program called 'Constraint & Collaboration'. In this program a European network of patients and professionals discussed alternatives to the use of force and restraint and its effects on social exclusion within exchange programmes, working seminars, publications and through a website. The network provided a tool to improve professional skills, alter attitudes in society and institutions and enhance client self-empowerment. This program created awareness of the problems and impact of coercive measures.

Development of quality criteria

In 1998, Maastricht University started a project to develop quality criteria in cooperation with six Dutch Hospitals with respect to the use of coercive measures. In this qualitative approach, patients, family, nurses and staff participated. Eight criteria were developed on the basis of information from individual interviews and heterogeneous focus group meetings (Berghmans, et al. 2001).

In summary the criteria were:

1. Be aware that coercion is a part of psychiatric health care with conflicting obligations.
2. Be aware that conflicting obligations lead to ambivalence by colleagues, patients and family.
3. Acknowledge that coercion is a part of care process and only justified in a context of engagement, attention, responsibility, knowledge and alignment between staff, patient and family.
4. Use of coercion requires communication, openness and connecting.
5. Use of coercion requires reflection on objectives of the intervention, not only on the dangerousness but also on how interventions contribute to the ability of the patient's control of his own life.
6. Repeatedly evaluate applied coercive measures, do not use more restrictive measures than is necessary.
7. See coercion in a time perspective, anticipate its use, make appointments with patient and family and evaluate it use.
8. Strive for adequate physical and environmental preconditions.

At the same time guidelines for restrictive measures were developed, in coproduction of the Centraal Begeleidings Orgaan (CBO) and University of Utrecht (CBO, 2001).

Implementing quality criteria and guidelines for use of freedom restrictions

After publication of the quality criteria and the guidelines for use of restrictive measures, in 2002 twelve hospitals started implementation. The hospitals set up projects to critically review their own practices and translate the criteria into daily practice on the wards in cooperation with all involved, supported by scientific research. The main goals of these activities were:
Ensuring provision of care and enhancement of livability for patients, staff and others in using coercion, development of alternative interventions, and reducing seclusion. All experiences on the implementation of the quality criteria were described in an overview of good practices (Abma, et al. 2005). As part of this collaboration quantitative research was undertaken to measure the (changes in) seclusion figures of all the participating hospitals (Janssen, et al. 2005). The outcomes fed the nationwide public and political debate.

Policy to reduce the use of seclusion

In 2004, GGZ Nederland formulated a policy statement, entailing that psychiatric hospitals should reduce seclusion at the rate of 10 percent per year (GGZ Nederland, 2004). The underlying philosophy of this policy was that alternative interventions were available or could be developed to reduce seclusion.

Nationwide funding of Ministry of Health, Welfare and Sports

In 2006, a nationwide program aimed at the reduction of seclusion was funded. The Dutch Government funded 10 million Euro's for two years. Funding provided by the Dutch Ministry of Health, Welfare and Sports (Ministry of VWS) was distributed by GGZ Nederland. The money was spent on several initiatives aimed at the reduction of seclusion. It urged Dutch psychiatric hospitals to reduce coercive measures. In 2007, 34 hospitals started with projects aimed at the reduction of seclusion.

Developing of a new registration method (Argus)

Within the nationwide program, an increasing need for more reliable and valid figures on coercive measures arose. The hospitals and the government (more specifically the parliament as well as the Ministry of VWS) stressed the need for more adequate data in the evaluation of the figures on coercive measures. Six Dutch psychiatric hospitals took the initiative to develop a new registration method, firstly for their own purposes, later on more and more hospitals connected to this initiative.

Continued funding of Ministry of Health

From 2008 to 2012 a funding of 5 million Euros per year was available to establish further reduction. Thereafter a growing number of hospitals requested grants for their projects. While the projects were started, no clear standardized data accompanied the measurement of the effects of the funding. In 2011, the hospitals who received funding for their reduction programs were obliged to use the new registration method Argus. These hospitals can participate on a voluntary basis in a nationwide benchmark study capturing data on the use of coercive measures.

Argus as part of the special admission act on psychiatric hospitals

In 2012, the hospitals who received funding for their reduction programs were obliged to participate in the nationwide benchmark study. Moreover, the Ministry of VWS changed the Special Admission in Psychiatric Hospitals Act (Wet Bijzondere Opnemingen in Psychiatrische Ziekenhuizen (Wet Bopz)), from which point it required all hospitals to document all coercive measures used with the Argus registration method.

2. Criteria for registration

Over the past 15 years, the Dutch government and the GGZ Nederland expressed a need for a more precise way to register coercive measures. For this, a valid and practical instrument is required. Before

developing this instrument, further requirements are required: clear goals of registration and clear descriptions of what has to be registered.

Goals of registration

The main goal for measuring coercive measures is to get insight into the number of coercive measures. This was the case in the 19th century, when the Dutch government obliged asylums to record coercive measures. With this register, the Minister of the Interior wanted to get insight into unnecessary physical restraints in daily practice (van de Klippe, 1986). Another goal was supervising the use of coercive measures. In Dutch practice, the second "Law on Insanity" from 1884 which was replaced in 1994 by the Special Admission in Psychiatric Hospital Act (Wet Bopz) obliged all hospitals to register coercive measures. These reports are designed for supervision purposes, to control in retrospect the hospitals to produce correct application of coercive measures within the legal framework. In the past fifteen years, the goals of measuring coercive interventions were broadened, and now include evaluation and research (Janssen, et al. 2005, Smith, et al. 2005), monitoring and analyzing (outlier) data (Gaskin, et al. 2007), and evaluation of episodes of seclusion and restraint (Fisher, 2003, Schreiner, et al. 2004). Registering coercive measures facilitates institutional reviews on their use (Donat, 2003, D'Orio, et al. 2004). Therefore, it has a function in internal quality assurance (quantitative: Number; quality: Indications), in line with Fisher, (2003), Donat,(2003), Schreiner, et al (2004), D'Orio, et al. (2004), Smith, et al. (2005), Gaskin, et al. (2007). Data on coercive measures are seen as an important tool in reducing their use (Huckshorn, 2004). Registration of coercive measures provides the opportunity for external comparisons and research on the use of coercive measures (Bowers, 2000).

Some definitions

In the literature, several definitions are proposed. Seclusion is commonly defined as bringing a patient into a specially designed locked room (Steinert & Lepping, 2009). It is a enforced isolation of a patient from the ward to a bare, unstimulating room (Whittington, et al. 2006), 'behind a locked door', without means of egress at any time of day of night (Mason, 1994) because of the locked door or by stationing staff at the door to ensure the patient remains inside (Sailas & Wahlbeck, 2005). Most of the authors did not make explicit the term seclusion suggesting that workers in the field of mental health have a common understanding of the term (Mason & Alty, 1994). Mason & Alty (1994) described seven fundamental components of seclusion:

1. Place: is a specially designated area, minimally furnished, bare in such a way that the patient is unable to, either accidentally or consciously, damage or hurt him/herself or others (Mason & Alty, 1994, Sailas & Wahlbeck, 2005, Steinert & Lepping, 2009).

2. Social isolation: refers to locking the patient alone in a room (Mason & Alty, 1994) and excluding him/her from the social environment (Morrison & Lehane, 1995, Whittington, et al. 2006)
3. Egress: the exit door of the room is locked on the outside (Leopold, 1985, Hopton, 1995, McBridge, 1996, Sailas & Wahlbeck, 2005).
4. Compulsion: the patient is restricted against his/her and will be removed from the ward, if necessary under force by nurses to a seclusion room (GIGV, 1990, Mason & Alty, 1994). Subsequently the patient is forced to remain inside and is more or less compelled to accept the support provided by the nurse (Lendemeijer, 1997).
5. Time: the patient is in the room for a certain time (Gutheil, 1978), indicating a temporary stay.
6. Rationale: control patient's behaviour (Alty, 1997) and outwards observation (Kirkpatrick, 1989).
7. Establishment in which it takes place: Seclusion takes place in the context of a psychiatric hospital or ward (Mason & Alty, 1994).

In the context of Dutch psychiatric hospitals seclusion refers to various rooms such as seclusion rooms, isolation rooms, (stripped) bedrooms or otherwise designated areas. These all have the intention of confining the patient imposing the isolation of the patient in rooms under conditions of safety (Janssen, et al. 2009).

Restraint refers to the restriction of a patient's freedom of movement and possibility to act aimed at controlling the patient's behaviour. Mostly, the term restraint refers to the use of mechanical restraint, manual restraint or chemical restraint. Others interpret restraint as using external mechanical devices to limit and control patient's movements (Mohr, et al. 2003, Sailas & Wahlbeck, 2005, Hamers & Huizing, 2005, Steinert & Lepping, 2009). Mechanical restraint involves the use of belts, straps, leathers, handcuffs, bed rails or any other equipment which restricts the patient's movements or totally prevents them from moving in bed or chair for some time, which cannot be easily be removed by the patient (Sailas & Wahlbeck, 2005, Hamers & Huizing, 2005, Engberg, et al. 2008, Steinert & Lepping, 2009). Manual restraint refers to immobilizing the patient on the floor or upright by (several) staff members, to calm them down through specific holding techniques (Steinert & Lepping, 2009). Chemical restraint may be used as a synonym for involuntary or forced medication (Kaltiala-Heino, et al. 2003). Forced medication may be defined as the administration of intramuscular medication by force or by definite psychological pressure, i.e. announcing intramuscular medication if medication is not taken orally at once (Steinert & Lepping 2009, Bowers, 2004). Others described chemical restraint as forcing an unwilling inpatient to receive medication (Greenberg, et al. 1996). It hinges on whether the medication is prescribed as a reaction to the patient's behaviour or to control the patient's behaviour (Currier & Allen, 2000).

Timeframes

In the literature several terms are used to denominate the timeframe of a coercive measure. Often, the term 'episode' is used (Way & Banks, 1990, Chandler, et al. 1998, Cannon, et al. 2001, Schreiner, et al. 2004, Betemps, et al. 1992). Another term is 'event' (Smith, et al. 2005). Both terms refer to a part of a sequence or a part of a series of time periods in seclusion. On the basis of this terminology, more than one seclusion episode or event can take place within one day. Other studies done in the USA used the term discrete seclusions or discrete incidents (Crenshaw & Francis, 1995, Crenshaw, et al. 1997). The term discrete refers to discontinuous or more precisely episodes with a start and an end point. Other authors used terms such as crisis event (Heilbrun, et al. 1995, Schreiner, et al. 2004), seclusion or restraint incident (Betemps, et al. 1992, Brooks, et al. 1994, Bowers, 2000) or reportable incident (Janssen, et al. 2005). This refers to the decision making moment or the act of placing a patient in seclusion and/or restraint in response to aggressive behavior. The terms crisis event or incident are synonymous with the epidemiological term incidence which refers to how often new cases of disorders are identified in populations in which everyone involved is at risk (Bouter & van Dongen, 2000). In the Netherlands the term reportable incident (Melding) is derived from the wet Bopz and refers to the legal obligation to inform the IGZ of coercive measures.

Another element to be measured is the duration of seclusion or restraint (Betemps, et al. 1992, Crenshaw & Francis, 1995, Schreiner, et al. 2004, Smith, et al. 2005, Gaskin, et al 2007). Duration is defined as hours per event (Smith, et al. 2005) or hours spent in placement (Crenshaw, et al. 1997) or number of days (Janssen, et al. 2005). Counting the number of days may result in an overestimation of the actual number of hours that patients were secluded or restrained, as the patient may have been secluded or restrained for a part of the day, i.e. for the nighttime or for a few hours during the day. Comparing figures expressed in number of hours together with days is less problematic, because these are internationally recognized quantities. Some authors paid attention only to the number of patients (Ray & Rappaport, 1995) involved.

In the literature the terms episode, incidence and duration in hours are important. These terms are not always clarified. Therefore the outcomes are often not comparable.

Which coercive measures should be registered?

An important issue in measuring coercion is what kinds of coercive measures should be registered. Bowers et al (2010) proposed a range of containment measures, others discussed less restrictive interventions to decrease the use of seclusion and restraint (Donat, 2005, Downey, et al. 2007, Sullivan, et al. 2011, Georgieva, et al. 2010). Most articles focus on one coercive measure, some on more than one depending on the interests of the researchers. Which coercive measures have to be registered is closely

linked to national legislation. Table 1 provides a historical overview of requirements for recording coercive measures in the Netherlands. This overview illustrates the changes in the requirements regarding the coercive measures which have to be registered for legal reasons.

Table 1. Historical overview of registration requirements of coercive measures in the Netherlands.

	Seclusion	Physical restraint	Medication	Level of registration
1884	Included: - seclusion room - padded cell - closed bedstead	Included: - fixation hands - loose coercion gloves - coercion gloves with belts - fixation feeds - foot straps - fixation on a chair - restraint chair	Not included	Daily reports and monthly counts of the used seclusion and physical restraints by males and females, divided once, seldom and frequent.
1930	Included: Enclosing in for that purpose designed rooms.	Included: Use of all types of measures that hinder patient's movements.	Not included	For each used coercive measure: - date of start - date of end - reason of applying - opinion of the medical director
1936	Included: Enclosing in for that purpose designed rooms for more than 2 hours.	Included: Use of all types of measures that hinder patient's movements.	Not included	For each used coercive measure: - date of start - date of end - reason of applying - opinion of the medical director
1979	Included: Enclosing in for that purpose designed rooms	Included: Use of: - belts - straitjackets - restrictions to move or stay in - and outside the hospital for longer than one week., in receiving mail, use of telephone and visitors	Not included	Must be kept for voluntary as well as for involuntary admitted patients and unless the patient agrees with it of resists against it. For each used coercive measure: - description of the measure. - duration - reason of applying - name of the person who decides the measure. - name of the manager of the ward - opinion of the medical director
1985	Included: Enclosing in for that purpose designed rooms: i.e. - seclusion room - isolation room	Included: Fixation with: - belts in chairs and beds - bed rails	Included for the condition when it is used in combination with seclusion or physical restraint	Only: - as a part of emergency - as a part of forced treatment For each used coercive measure: - duration for each measure
1994	Included: Enclosing in for that purpose designed rooms: i.e. - seclusion room - isolation room	Included: All mechanical devices that hinder patients' movements.	Included	Only for involuntary admitted patient: - as a part of emergency - as a part of forced treatment For each used coercive measure: - duration for each measure Excluded: patient who asks for or "agrees with" used coercive measures

Changes in the legal requirements regarding which coercive measures should be registered can be attributed to:

1. Ideas about the therapeutic value of coercive measures. In the latter part of the 19th century, therapeutic interventions were not subject to statutory registration (Koetser, 1983, van de Klippe, 1986).
2. Introduction of new measures. In the latter part of the 19th century, new interventions such as hydrotherapy, wrapping and chemical restraint were introduced (van de Klippe, 1986, Kerkhoven, 1996). The existing definitions of coercive measures and the existing register did not cover these interventions (Koetser, 1983, van de Klippe, 1986, 1997). Therefore, these interventions could not be reported. This was corrected after the implementation of a new register in 1930. The most important changes were made with respect to the physical restraints. The register included all types of physical restraints hindering a patient's movements, such as wrapping (Koetser, 1983). From the beginning of the 20th century discussions took place about forced medication (Koetser, 1983). However, forced medication was only included in the requirements for registration in 1988, when the patient received forced medication during his/her seclusion.
3. Existing visions on disruptive behavior of patients. An exception is the 1936 version of the register, the most important change of which was the reporting of seclusions. In this version only seclusions with a duration more than 2 hours needed to be reported (van de Klippe, 1997). Van de Klippe (1997) suggested that the use of short seclusions of less than 2 hours, were related to the prevailing view on disruptive behavior of patients. The use of short term seclusion was recommended as a consistent and immediate disciplinary sanction to the patient's disturbing behavior to unlearn that behavior following the principle of classical conditioning (Pavlov).
4. Legal status of patients. The "Law on Insanity" did not discriminate forced admission and forced treatment. Once admitted patients could be treated without their consent and be subjected to coercive measures (van de Klippe, 1997). The "Law on Insanity" was in 1994 replaced by the Bopz. An important feature of the Bopz is the distinction between involuntary admission and involuntary treatment. A patient may be admitted involuntarily for being a danger to self or others, while in the hospital danger resides. Once admitted, when the patient refuses to comply with treatment, this may only be imposed in case of danger. According to the Bopz, in situations, when there is an acute imminent risk for the patient, staff or others, only involuntary seclusion, isolation, restraining, forced medication, forced fluids and forced feeding may be used to bridge the serious dangerousness for a period of seven days. After this period these coercive measures are only permissible when a patient's dangerous behavior cannot be controlled otherwise and he/she disagrees with the treatment and resists against a prepared (and signed) treatment plan. The Bopz

articles 38d, and 39a obliged all hospitals to register as well as immediately report all involuntary coercive measures to the IGZ (GIGV, 1994). In the notes of explanation to this law, it is emphasized that voluntary applied coercive measures should not be reported to the IGZ (GIGV, 1994).

5. Attending hospitals on the obligation to report coercive measures. Hospitals attached little value to the registration and not all complied with the request to report coercive measures (aan de Stegge, 2012, van der Klippe, 1986). The IGZ saw useful benefits in that changes in the rules for registration of coercive measures alerted hospitals when coercive measures were considered (van der Klippe, 1986).

The Argus data set

In 2002, twelve hospitals started implementing quality criteria (Berghmans, et al. 2001) and guidelines on the use of restrictive measures (CBO, 2001). The activities were supported by quantitative research on seclusion data of these hospitals (Janssen, et al. 2005). The IGZ data proved to be unusable for evaluation, research and policy making on a hospital and ward level (Janssen, et al. 2005). For this reason, five hospitals in 2005 took the initiative for developing a new registration method, named Argus. The participants collaborating in the initiative formulated several preconditions in developing the registration method:

1. Contains uniform definitions on coercive measures, a reporting manual and calculation methods.
2. Is easy to fill out.
3. Reports all coercive measures, with and without patients' consent.
4. Portrays the daily practice of the use of coercive measures in an accurate way and allowing a clear view on its use.
5. Is sensitive to changes through time.
6. Can be used for feedback purposes in teams and management.

Shortly thereafter the IGZ and GGZ Nederland participated in this initiative. The promoters formed a national working group Argus and developed the Argus set (see box 1, containing the Dutch names and requirements for reporting). During the period 2005 to 2010 the national working group Argus defined the items in Argus as well as provided information on implementation. In 2007 the – yet to be finished – Argus items were used to evaluate the projects aimed at reduction of seclusion. From 2008 onwards Argus became a funding precondition. Later on, some Argus as well as supplemental items changed in detail. In November 2010 the national working group published the definitive Argus set (GGZ Nederland, 2010).

Box 1. Argus items (GGZ Nederland, 2010)

1. 'Separatie' [Seclusion under the highest degree of safety] : Locking a patient in an unfurnished room especially designed for this purpose, with approval of the Ministry of VWS The daily care and the use of sanitation in the seclusion area are seen as a part of the seclusion. In the Netherlands, seclusion rooms are the area with the highest level of security.

2. 'Afzondering' [Seclusion under a lesser degree of safety]: Locking an individual patient in a stimulus free single room which is minimally furnished and in some cases has a radio or television. It should be noted that 'afzondering' cannot take place in the patient's own room, but takes place on room that is specifically designed for this purpose. These rooms have a lower level of security than seclusion rooms and are, in general, used for a shorter period of time.

3. 'Insluiting op eigen kamer of in andere ruimte'[Seclusion under the lowest degree of safety]: Patients have to stay in their own (bed)room or other rooms other than described above because of the outside locked door. Patients' freedom is restricted to the own (bed)room or other type of room such as intensive care rooms.

4. 'Fixatie' [Mechanical or Physical restraint]: Restraining patients physically with mechanical devices with the intention to immobilize patients or make it impossible to move their arms or legs. Physically restraining patients before seclusion or locking a patient in another room is seen as part of the process in applying such a coercive measure and is not registered separately.

5. 'Dwangmedicatie' [Chemical restraint]: medication administrated intramuscularly under verbal or physical resistance.

6. Gedwongen vocht- en voedingtoediening [Enforced feeding]: all fluids administrated other than by mouth under the condition that the patient resists verbally and or physically against administration.

7. Andere dwangbehandelingen [Miscellaneous measures]: all other therapeutic interventions, such as electro-convulsive therapy or other measures applied under the condition that the patient resists verbally and or physically against it.

8. Requirements of reporting: Of each discrete seclusion, fixation, medication, fluids and feeding administration or other measure the date, the start time and the end time should be noted. Each episode of coercive measure have to be fulfilled with supplemental information such the degree of resistance against the measure.

In 2006 two hospitals piloted the Argus registration set. From 2007 a growing number of hospitals have implemented the Argus registration set. In 2007, researchers from GGNet developed a case register containing Argus reports on coercive measures of any hospital using the Argus set; this was for feedback, benchmarking and research purposes. In subsequent years a growing number of hospitals cooperated on a voluntary basis in the Argus case register. From 2011 onwards, participation on a voluntary basis in the case register was part of the second nationwide funding of Ministry of VWS, aimed a reduction of coercive measures (see also figure 2). In 2011, 30 middle or big sized mental health trusts covering above 50 hospitals as well as 8 psychiatric wards in general hospitals in the Netherlands participated in the case register, covering 95% of the Netherlands with respect to the care of adult inpatients. At an organizational level, the register covers 70% of the organizations applying for funding.

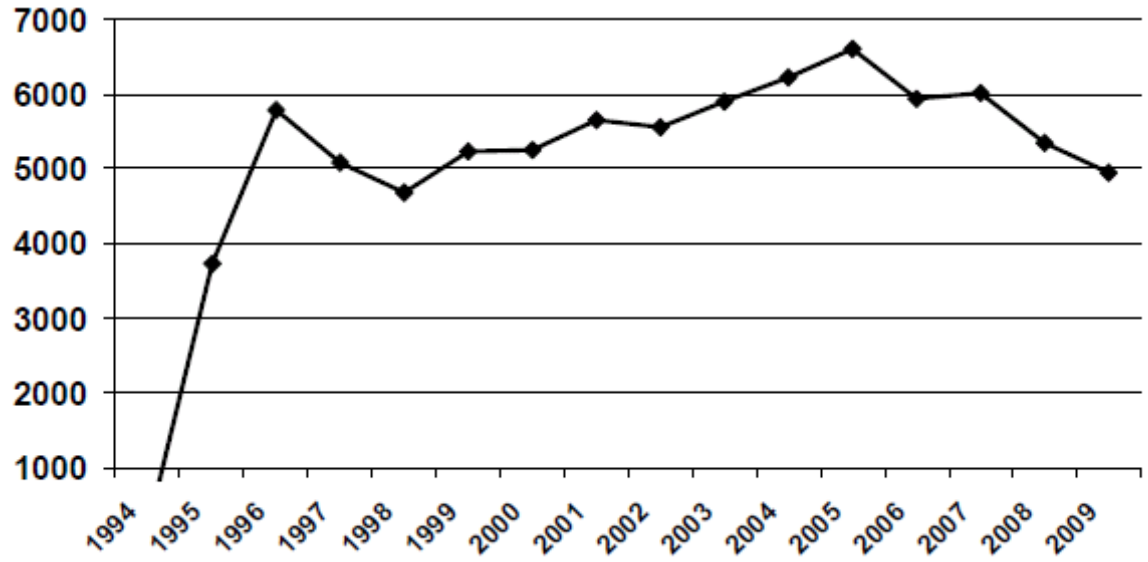
3. Dutch data

As described in the previous paragraph, registration of coercive measures has a short history in the Netherlands. No clear epidemiological figures over the period 1884 – 1994 are available. Between 1884 and 1913, reports of the Health authorities compared per asylum the reported coercive measures with their own historical data. In 1913 the Health authorities concluded that the monitoring agencies failed (Koetser, 1983 supplement page 11). Sometimes data were made public by health care institutions. An example is a presentation of Van Deventer, medical director of Meerenberg in Santpoort, on an international congress in 1907. In his hospital, during a period of ten years, the number of seclusions decreased by 400. Van Deventer stated that the decrease in seclusion use is related to increased knowledge of the nurses (Aan de Stegge, 2007). It is unknown how Van Deventer derived the figure of 400 fewer seclusions.

In 1930 a new register was implemented, yet, data on coercive measures from 1930 onwards were not readily available (van de Klippe, 1986). In 1984 the Health authorities published figures on coercive measures for the first time. However these reports did not reflect the use of coercive measures nationwide. After adjustments in 1988, nationwide data on coercive measures were collected by the Health authorities. In 1992, data over the year 1989 were presented. In that year the Health authorities received 1078 seclusion reports on 859 patients and 481 seclusion reports in combination with mechanical restraint. A salient feature of these data is that more than half of these patients were voluntary admitted (GIGV, 1992). After implementation of the Wet Bopz in 1994, hospitals were required to report to regional offices of the IGZ. These regional offices forwarded the reports to the nationwide database (Bopzis). This database contains the reported involuntary used coercive

measures to the IGZ from 1994. Figure 3 shows a slight increase from 1996 to 2004 and after 2005 a decrease in reported seclusions.

Figure 3. Numbers of reported seclusions to the IGZ per year based on yearly reports of the IGZ (Janssen, et al. 2005, Vruwink, et al. 2011).



The historic data on coercive measures are incomparable because of the different regulations and underreporting (GIGV, 1994). In the 1980s, voluntary and involuntary seclusion and restraint with a duration of more than 7 days had to be reported. Later, within the Bopz regulation, voluntary used coercive measures were not reported.

From the beginning of the 21st century several articles were published in the Netherlands. Titles were provocative: The Netherlands champion in use of seclusion: old news and now? (Koekkoek, 2008). Van der Werf & Lantink, (2009) noted significant differences in seclusion use between wards and hospitals. These differ between wards from 1% to more than 90% of the involuntary admitted patients experienced seclusion (van der Werf & Lantink, 2009). Nijman, et al. (2005) noted in a Dutch study that up to 50% of aggressive episodes were followed by seclusion. In European context there are large differences between in the use of coercive measures (Vrijlandt, 1998, van der Werf, 2003, Whittington, et al. 2006, Janssen, et al. 2009, Steinert, et al. 2010). Vrijlandt, (1998) and van der Werf, (2003) stated that seclusion is a widely accepted and frequently used intervention in the Netherlands, more often than in many European countries. Moreover, in the opinion of Dutch nurses, seclusion as a containment measure is preferred over forced medication (Bowers, et al. 2006, van der Werf & Lantink, 2009). Van der Werf & Lantink, (2009) refer to practices in Norway, Sweden, Denmark, and the UK. In these countries seclusion is less used, used under special conditions or even forbidden, as

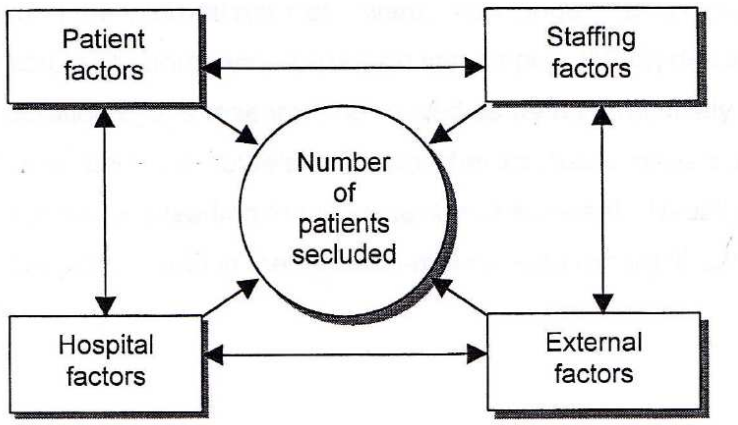
in Denmark (Bak & Aggeræs, 2011). However, in these countries physical restraint may be used under special conditions, while much more involuntary medication is administered (van der Werf, 2003). None of these authors supported their conclusions with any underlying quantitative data on coercive measures. The reasons for this were that valid and reliable data on coercive measures in the Netherlands were not available.

In the last 15 years several small studies were published containing figures on seclusion (Nijman, et al. 1992, Nijman, et al. 1994, Stolker, et al. 2003, Janssen, et al. 2005). These studies were not intended for international comparisons, but for evaluation purposes.

4. Determinants

In the literature four main factors are described with regard to a potential influence on the use of coercive measures (Figure 4). The majority of studies from 1990 onwards discuss the influence of patient related factors such as diagnosis, behavioural characteristics and legal status on the number of patients being secluded. A limited number of studies address the influence of staffing factors such as the complement and composition of the nursing team. Regarding hospital factors, some authors pay attention to architectural factors, space for the patients, others pay attention to ward and hospital culture. There are no known studies directed at external factors such as legislation, labour conditions or media interest. Studies looking into factors influencing the application of seclusion are primarily observational, descriptive quantitative studies, in which the data were collected retrospectively by analysing dossiers and incidents.

Figure 4. Determinants in relation to the use of coercive measures



Patient characteristics

Diagnosis had a significant effect on whether a patient was secluded. The main diagnoses appear to be psychotic disorders, schizophrenia, bipolar affective disorders, substance abuse and psycho-organic disorder (Way & Banks, 1990, James, et al. 1990, Korkeila, et al. 2002, El-Bradri & Mellsop, 2002, Martin, et al. 2005, Stolker, et al. 2005, Steinert & Bergk, 2008). Lower Global Assessment of Functioning (GAF) (Stolker, et al. 2005) or higher overall scores of the HoNOS (Happell & Koehn, 2010) were associated with higher seclusion use. Gender was found to be a predictive characteristic with male consumers more frequently secluded (Morrisson & Lehane, 1996, El-Bradri & Mellsop, 2002, Kaltiala-Heino, et al. 2003). Younger mental health consumers are more likely to be secluded than their older counterparts (Morrisson & Lehane, 1996, El-Bradri & Mellsop, 2002, Tunde-Ayinmode & Little, 2004, Stolker, et al. 2005). Other studies focussed on behavioural characteristics heightening the risk of aggressive behaviour and therefore seclusion. The most important behavioural characteristics being: confusion, agitation, disturbed perceptions and delusions, inclination to 'acting out' behaviour and impulsiveness (Broers & de Lange, 1996, Keski-Valkama, et al. 2009). Threats of violence to self such as self-harm or suicidal behaviour, staff or other and property and actual violence were the most cited reasons for seclusion (El-Badri & Mellsop, 2002). Some studies maintained that patients admitted involuntarily are more often involved in aggressive incidents (James, et al. 1990) and influenced the length of stay in seclusion (Morrison, 1990). The patient's history with aggression is an important predictor of aggression and therefore seclusion (Broers & de Lange, 1996, Raboch, et al. 2010). This may imply that a patient who has previously been secluded is more likely to be secluded than patients who have no history of seclusion (Lendemeijer, 1997).

Staffing characteristics

Many researchers have concluded that the reasons for seclusion are often more related to staff and unit factors than to agitated or violent patient behaviour (Kirkpatrick, 1989, Morrison, 1990, Morrison & Lehane, 1995). The number of staff on the ward, in terms of understaffing or overstaffing is regularly subject to discussion. Most of the studies attribute the decrease in the number of nurses on duty to an increase in seclusion (Morrison & Lehane, 1995). Lower staff - patient ratios were associated with higher workload or overcrowding (Baker, et al. 2005, Brooks, et al. 1994, Lendemeijer & Shortridge-Baggett, 1997, Nijman & Rector, 1999, Ng, et al. 2001, Smith, et al. 2005), increasing stress levels (Gerlock & Solomons, 1983) and regaining controlling behaviour of nurses (Steele, 1993, Lendemeijer & Shortridge-Baggett, 1997). Some studies discussed the male/female ratios in the nursing teams in relation to seclusion use. In a predominantly female team patients were secluded more often than in a team with a majority of male members (Mason, 1997). In contrast, Morrison &

Lehane (1995) reported that an increase in the number of males within a nursing team may result in an increase in the number of patients secluded. Also, seclusion use is associated with low levels of education, training, experiences and repertoire of skills (Nijman, et al. 1994, Mason & Alty, 1994, Fisher, 1994, Morrison & Lehane, 1995, Klinge, 1994, Owen, et al. 1998, Lendemeijer & Shortridge-Baggett, 1997, Smith, et al. 2005). James et al. (1990) established that the number of permanent nursing staff members in relation to the number of bank nurses within a team play a role in preventing patient aggression in psychiatric hospitals. Reducing seclusion takes leadership on wards and hospitals (Huckshorn, 2004, Pollard, et al. 2007, Lebel, 2008). What does imply that a lack of leadership, a lack of perceived trust in colleagues, an unstable team and the use of temporary nurses is associated with frequent seclusion use (Baker, et al. 2005, Mann-Poll, et al. 2011).

Hospital and ward characteristics

Seclusion use is also associated with the number of patients on the ward, and the fact that patients have to live side by side (James, et al. 1990, Nijman, et al. 1997, Abma, 2005). Smaller wards, possibly in combination with adequate staff were seen as protective in preventing aggression (Palmstierna & Wistedt, 1995). Others focus on the case mix of patients on the wards. They stated that an overrepresentation of some groups of patients such as patients with schizophrenia, military veterans provoke aggression and therefore seclusion (Palmstierna, et al. 1991, Betemps, et al. 1992). Architectural factors resulting in a lack of privacy when residing in multiple-bed rooms (Morrison, et al. 1997, Stolker, et al. 2006) and limited space (Palmstierna, et al. 1991, Lanza, 1994, Broers & de Lange, 1996, Ng, et al. 2001) compel patients to enter one another's territory and may be expected to be associated with seclusion use.

Hospital's or workplace culture and attitude (GHIGV, 1986) have been identified in the literature as major determinants of the continued use of seclusion (Happell & Harrow, 2010). Accepting coercive measures, related beliefs, rules, need for control, supervision and desire of certainty are underlying values (Steele, 1993, Mason & Alty, 1994, Whittington, et al. 2009). Van Doeselaar, et al. (2007) distinguished three types of professionals: transformers, maintainers and doubters. The last two groups valued seclusion as an effective intervention and are less willing to consider alternatives. Use of coercive measures can also be part of socialization or habituation process and blinds people to its negative effects (GHIGV, 1986, Bowers, et al. 2004, van Doeselaar, et al. 2007, Whittington, et al. 2009). In such a closed, inaccessible, authoritative and inflexible culture a crisis situation can escalate more easily (Nijman, 1999). Especially when nurses stay for a large part of their time in the nursing office and avoid contact with patients, unsafe feelings of patients may arise (Happell & Koehn, 2011). This culture may be so strong that nurses are reluctant to speak out when their views about the use of

seclusion differ from the commonly held views in a team (Happell & Harrow, 2010). Such an attitude protects the team members from external criticism, influence and sanctions (Morrison, E. 1990). Giving the patient rest was believed to be positive for recovery and safety, as it limits the risks posed to patients and staff. Such a tranquil ward atmosphere was realized by offering structure to the patient in terms of security, order, clarity and boundaries (Lendemeijer, 1997, Steele, 1993). A further assumption was the "right to inspection", allowing staff members patients room could enter at any time, if they believed such actions were in the best interest of the patient and the ward community. This also could be seen as an infringement of the patients' privacy (Morrison, et al. 1997).
Lack of meaningful activities for the patients were also described as factors promoting the use of coercive measures (Morrison & Lehane, 1996, Nijman, et al. 1992, van Wijngaarden, et al. 2001). Television programs covering large events such as the world cup football or Olympic Games were associated with a decrease in the number of seclusions. The findings of Nijman, et al. (1992) show that during the period of the world cup football matches, the distribution of secluded patients with respect to gender differs significantly compared to similar periods. Fewer male patients were secluded (Nijman, et al. 1992). An investigative culture and transparency in which data were used in feedback can support reduction policy and activities (Huckshorn, 2004). Institutional reviews (Donat, 2003, D'Orio, 2004) and comparisons between hospitals on the use of seclusion (Smith, et al. 2005) enable performance checks of unit and hospital goals (Donovan, et al. 2003).

External factors

The use of coercive measures is regulated by the convention of human rights and national legislation. The Dutch legislation, as well as other European countries is in accordance with the guidelines of the United Nations Principles for the protection of persons with Mental Illness and the improvement of Mental Health Care (1991: UN-Principles) and the European Convention on Human Rights (The convention of Rome, November 4th 1950, http://www.echr.coe.int (Legemaate, et al. 2007). Legislation on mental health has to deal with conflicting interests of the patient as a legal subject as opposed to the patients' interests as an ill person. The law also has to deal with interests of others and society as a whole. The way these interests are elaborated leads to specific features in the legislation over different countries (Legemaate, et al. 2007). Therefore, legislation on mental health differs between countries with respect to how individual freedom may be restricted. This means that in the Dutch context the Bopz is a fixed factor. From a European perspective differences in the legislation have their effect on the use of seclusion and restraint. In some countries seclusion is used regularly, in other countries it is used less or maybe used under special conditions or even forbidden, as in Denmark (Witthington, et al. 2006, Bak & Aggernaes, 2011).

From the start of the 21st century increased media attention has seen to the use of coercive measures. Dutch media paid attention to a number of extremely distressing cases in psychiatric hospitals as well as in institutions for mentally disabled patients. Examples were a patient who was restrained and undressed for a long time (1988), the case of a mentally handicapped patient who was tied to the wall for a very long time (2011) or the death of a psychiatric patient in a seclusion room in 2008 and more recently in 2011. The public indignation was large and Dutch politicians asked questions to the responsible minister and had several debates on this issue in Dutch parliament (Handelingen 2e kamer, 1 October 2008 and 15 December 2011).

In the literature, much attention is paid to determinants that may have a relationship to the use of seclusion. The majority of the studies observed single or few characteristics, mostly in retrospective designs. While many characteristics of patients, professionals and facilities are relevant to seclusion rates, it remains unclear what their relative importance is, how they are interrelated and what their combined effects are on the use of coercive measures.

5. Outline of the chapters

This thesis contains nine chapters. Chapter two examines governmental data of The Dutch Mental Health Care Inspectorate (IGZ). The results have been reported before as a part of the third evaluation of the Dutch Special Admissions in Psychiatric Hospitals act in 2007. This study shows that available governmental data of the IGZ are poor and not useful for comparison or feedback purposes.

Chapter three examines whether seclusion occurs more often in the Netherlands than in other countries. The study shows that this question cannot be answered, because of the differences in definitions, inconsistent methods of registration, different methods of data collection and inconsistent expression of seclusion rates. The findings of this study indicate the need for an instrument with comparable indicators.

Chapter four aims to identify quantitative data on seclusion and restraint and on initiatives to reduce these interventions in various countries. In line with chapter three, this chapter concludes that databases on the use of seclusion and restraint should be established using comparable key indicators.

Chapter five is based on the results of the preceding chapters. The aim of this chapter is to identify problems in defining and recording coercive measures and to provide recommendations for consistent measurement and meaningful data-analysis. This chapter contains the definitions of the measures. It provides recommendations for researchers concerning methods and presentations when dealing with outcomes regarding coercive measures.

Chapter six presents seclusion data of admission wards in several hospitals. This chapter examines the relationship between differences in patient characteristics admitted on different wards and seclusion data. The chapter focuses on variations in seclusion rates that can be explained by patient and or ward characteristics.

Chapter seven provides a comparison of two admission wards with similar non-selective admission criteria. On one of the wards several interventions were developed and implemented to reduce the use of seclusion. The other ward provided care as usual. Outcomes of both wards were controlled for patient variables.

Chapter eight focuses on the relation between seclusion use and staff characteristics. In the decision making process to seclude patients, nurses play a key role. To explore the effect of staffing levels on seclusion use, days on which nurses decided to seclude patients were compared to days nurses did not decide to seclude patients.

In the final chapter, the major findings of the studies are summarized and discussed. The scientific and public health relevance of the study is discussed, followed by recommendations for practice and future research.

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