

# Working with different logics: A case study on the use of the Addiction Severity Index in addiction treatment practice

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## ABSTRACT

**AIM** – This article explores the implementation and use of the Addiction Severity Index in addiction treatment practice, both as a clinical instrument and as a way of facilitating outcome measurement. This is regarded as incorporating “laboratory logic” into clinical practice characterised by “the logic of care”. **DATA** – The data is based on ethnographic fieldwork in a Swedish metropolitan social service agency known for its systematic ASI work. **RESULTS** – The findings suggest that much effort must be dedicated to co-ordinate activities in the agency in line with the laboratory logic, making sure that the interviews are administered systematically. In use, the ASI and the variables in clinical practice are adjusted to each other, making it possible to follow both logics at the same time. In some cases, however, there is a conflict: the ASI becomes an extra task that does not further the clinical work. Once collected, the ASI data must be co-ordinated in line with other information. This has not yet been realised in the agency, which makes the value of the ASI data unknown. **CONCLUSIONS** – It requires hard work to handle the two logics simultaneously in addiction treatment practice: activities must be co-ordinated, and instruments and variables in clinical practice must be continuously “tinkered” with. Further, outcome measurement is not only about systematic use of standardised instruments, but much work must be done after the ASI data has been collected.

**KEY WORDS** – Addiction severity index (ASI), standardised assessment instruments, outcome measurement, clinical practice, ethnography, Sweden

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## Introduction

In public use, quantitative reasoning is associated with rigour and universality, as a way to ruling out subjectivity and human judgement. More and more public decisions are made with reference to quantitative knowledge,<sup>1</sup> and various quantitative techniques have been made available not only to statisticians and mathematicians, but to a wide range of actors (Porter, 1995).

Standardised assessment instruments, such as the Addiction Severity Index (ASI),

can be seen as an exponent of this development. It enables addiction treatment agencies to create and manipulate quantitative data on their clients. Standardised instruments and their predefined questions at intake and discharge allow different types of comparabilities (Struhkamp, Mol, & Swierstra, 2009): between persons, between different moments in a person's treatment trajectory, and comparability between interventions. These comparabili-

ties can be juxtaposed in different ways, perhaps most importantly to measure outcome and make comparisons between interventions.

This has become a popular idea in various parts of the Swedish addiction treatment sector: The National Board of Health and Welfare (NBHW) has translated the ASI into Swedish and worked for the dissemination and implementation of standardised instruments in general (Andréasson et al., 2003; Socialstyrelsen, 2004; Nyström, Sallmén, & Öberg, 2005; Nyström, Zingmark, & Jäderland, 2009); the National Board of Institutional Care (NBIC) has translated one standardised instrument and also developed a new instrument (Söderholm, Carpelan, & Hermodsson, 2004; Jenner & Segraeus, 2005); and a Swedish dissertation has examined how standardised instruments can be used to provide local follow-up statistics (Anderberg & Dahlberg, 2009).

Standardised instruments are in several ways implicated in Evidence-Based Practice (EBP) that has influenced both addiction treatment and social work practices (Bergmark, 2007; Bergmark, Bergmark, & Lundström, 2011). First, standardised instruments fill the need in EBP for a thorough and transparent assessment of clients, providing a solid foundation for evidence-based decision making. Second, both EBP and standardised instruments place a strong emphasis on quantitative knowledge of client outcomes. A recent Swedish Government Official Report arguing for the implementation of EBP in social work (SOU 2008:18) also argues for standardised assessment instruments as facilitating local follow-up. The clinical practice guidelines for the Swedish ad-

diction treatment sector (Socialstyrelsen, 2007) similarly recommend standardised assessment instruments as a way of measuring outcome. However, their use entails a different type of quantitative knowledge than normally discussed within the EBP framework (cf. Bohlin, 2011). Evidence-Based Practice emphasises evidence produced in controlled trials (preferably randomised controlled trials, RCTs), whereas standardised instruments provide less controlled quantitative knowledge that is collected continually in day-to-day clinical practice.

While earlier studies have examined psychometric properties, attitudes towards standardised instruments and how to use them in outcome measurement, this article seeks to go into the actual practices of working with standardised instruments in an addiction treatment agency. I will explore this by drawing on ethnographic fieldwork in an agency in which the ASI is used routinely to assess clients and to measure outcome quantitatively. It is suggested that the ASI introduces “laboratory logic” into clinical practice which is characterised by “the logic of care”. The two logics pose different and sometimes opposing demands on the practices within the agency. This article explores how the ASI has been implemented in the agency as well as how professionals and managers in their day-to-day practices handle the demands of the different logics.

### **The ASI and the different uses of standardised assessment instruments**

As the above description may indicate, standardised assessment instruments focus not only on facilitating outcome meas-

urement in clinical practice. Rather, they are a multipurpose tool that can be used in different ways and in different situations<sup>2</sup>. Standardised instruments can be described as a set of inquiry forms that are carefully tried out by experts so as to meet scientific standards, often discussed in terms of validity and reliability. A large number of studies have studied the psychometric properties of the ASI (e.g. Mäkelä, 2004; Nyström, Andrén, Zingmark, & Bergman, 2010). It is possible to use standardised instruments as scientifically approved forms in several ways: to facilitate outcome measurement in both clinical trials and clinical practice, and to facilitate complete record keeping and enhance transparency. In Sweden and the US, the ASI has also been used to create norm data for general and clinical populations to further the clinical usefulness of the instrument (Weisner, McLellan, & Hunkeler, 2000; Armelius, Nyström, Engström, & Brännström, 2009).

In Sweden as well as internationally, the ASI is one of the most widely used standardised instruments in the addiction field (McLellan, Cacciola, Alterman, Rikoon, & Carise, 2006; Sundell, Brännström, Larsson, & Marklund, 2008). It was developed some 30 years ago by Thomas McLellan and colleagues as a research instrument to evaluate treatment programmes. The first official edition of the ASI was published in 1980 (McLellan, Luborsky, Woody, & O'Brien, 1980), and several revisions of the instrument have since been made in order to improve validity and reliability, making it more useful in clinical practice (McLellan et al., 1992; 2006).

The first official Swedish edition of the ASI was translated in 1998 by a research

group at the Centre for Evaluation of Social Services (CUS) at the NBHW (Andréasson et al., 2003). The translation was based on McLellan and colleagues' fifth edition of the ASI and was adapted to the European standard version EuropASI. Later, the Swedish ASI has undergone some changes; the current edition was published in 2007.

Following the Swedish translation, the NBHW has written reports describing the purposes of the ASI and how to use it clinically as well as how use it to measure outcome (Socialstyrelsen, 2004; Nyström et al., 2005; Nyström et al., 2009). Also, a web-based computer aid for the ASI, a so-called ASI net, has been developed in co-operation with the NBHW in order to support both clinical and research uses. This software makes it possible to store the interviews digitally, to quantify them and perform basic statistical analyses.

The Swedish edition of ASI consists of two main interviews: the intake interview to be administered at intake and the follow-up interview after or in relation to discharge, or at different intervals. It covers seven functional domains: alcohol and drug use, medical and psychiatric health, employment/self support, family relations, and illegal activity. The intake interview contains 180 questions and takes 45–60 minutes to complete, whereas the follow-up interview is shorter, taking about 30 minutes. The interview focuses on the two time frames of lifetime information and past 30 days. Each domain has four different measures:

- Clients' own rating of symptom distress on a 5-point scale, so-called client severity ratings (CSR).
- Clients' own rating of the number of

- days with problems during the past 30 days.
- Interviewer severity ratings (ISR) of the client's problem on a 10-point scale.
- Composite score (CS), a summary score of a certain set of objective and subjective items.

The Swedish version of the ASI also contains a feedback form which summarises interview information and where the ISRs in each domain can be presented for the client.

### **ASI in professional practices**

The ASI has been used as a research tool in a wide range of clinical trials, and its psychometric properties have been examined in many studies. However, few studies have investigated its performance or different uses in day-to-day clinical practice. Concrete data on the actual administration of the ASI in clinical settings shows that the administration rate is often low. In the Netherlands, where the ASI has been used since the beginning of the 1990s, reports indicate that the usage is low and that it is not used for managerial or scientific purposes as was intended (Broekman, Schippers, Koeter, & van den Brink, 2004). Similar results are showed in a Swedish national survey, where 50 percent of the municipalities report using the ASI (Abrahamson & Tryggvesson, 2007). However, the more concrete questions in the survey reveal that the actual usage is not that extensive; it is administered with far from all clients, the follow-up form is rarely used, and the information is hardly ever used to produce quantitative data. A Swedish study examining the adoption of ASI in four municipal addiction treatment

agencies found that it was conducted with only 19 percent of the clients at intake and with 6 percent at discharge (Alexander-son, 2006).

Qualitative studies on the practical use of the ASI show that professionals generally describe ASI in a positive manner and find it helpful in their everyday work (Spear, Hamilton Brown, & Rawson, 2005; Abrahamson & Tryggvesson, 2009). Grisom & Bragg (1991) interviewed 25 ASI users in various addiction treatment settings in the US and found that the comprehensiveness of the ASI form is one of the most appreciated features. The potential of measuring outcomes was also a common positive aspect. Some studies find that it may be difficult to use the ASI in clinical practice. For example, in Abrahamson & Tryggvesson (2009), managers and professionals report time pressure and lack of “suitable” clients as reasons for not conducting an ASI interview.

No study seems to have analysed outcome measurement with the ASI in clinical practice, but a Swedish study (Anderberg & Dahlberg, 2010) has examined how the newly developed standardised assessment instrument Documentation of Clients (DOK, see Jenner & Segraeus, 2005) can be used to measure outcome in clinical settings. Anderberg & Dahlberg use an empirical case, an institutional care agency, to discuss a proposed statistical analysis model suitable for outcome measurement in clinical practice. They find the analysis model useful and suggest it may be used with other standardised instruments such as the ASI and the Adolescent Drug Abuse Diagnosis (ADAD).

## Two logics in the ASI and clinical practice

This article seeks to go into the practical details of working with the ASI in clinical practice. When used systematically in assessment of clients and to provide quantitative outcome measurement, the ASI places certain demands on the professionals and the managers who use it in their day-to-day work. These demands are quite different from those in “traditional” clinical practice. In order to highlight these different demands, the ASI and clinical practice are regarded in this article as representatives of two different logics<sup>3</sup>. On the basis of various works in science and technology studies (e.g. Mol & Law, 1994; Struhkamp et al., 2009; Law & Mol, 2011), the ASI is seen as a representative of *laboratory logic*, whereas clinical practice is regarded as a representative of the *logic of care* (Mol, 2008).

In outlining the laboratory logic, this article draws on earlier studies that have examined scientific practices in different settings, e.g. the laboratory (Latour & Woolgar, 1986) and the clinical trial (Helgesson, 2010). These studies show that a great many activities in these settings are dedicated to creating order<sup>4</sup>. Literary inscriptions, documenting the activities in the laboratory is one way to create order (Latour & Woolgar, 1986), making it easier to keep track of the activities and the data, and its relation to reality. Latour (1999) calls this circulating reference. Scientific order can also be created by co-ordination of both activities and data. Helgesson (2010), for example, shows how data in a clinical trial is being “cleaned” by comparing and aligning different data sources. This kind of ordering, co-ordination and

systematising are at the heart of the laboratory logic. The ASI is in itself a way of creating order in the assessment of clients, but to be able to create outcome measurement, the administration of the interviews and the data management must be ordered as well.

Thus, when the ASI is used routinely in clinical practice, the laboratory logic meets the logic of care<sup>5</sup>. This is a concept developed by Annemarie Mol (2008), who uses it normatively to describe a desirable logic in health care practices. In this article, however, the concept merely denotes the rationale underlying clinical practice. Whereas the laboratory logic is about ordering activities to achieve outcome measurement, the activities in the logic of care are aimed to help clients. In this work, things are not as ordered as in scientific practices and there are two main differences between the two logics. The first has to do with linearity, as in the laboratory logic, time is sequenced in a linear fashion. ASI interviews are administered at two points (or more), before and after an intervention. In the logic of care, however, time is not linear (Struhkamp, 2004). In the context of addiction treatment practice, it is not always easy to distinguish clear-cut linear movements in the concrete work with clients. Many clients interrupt their interventions and want to try a new one, they are suspended from treatment and housing; or they relapse and return after a while. The second main difference between the logics relates to their emphasis on rules and adaptation. The laboratory logic wants the professionals to follow pre-established courses of action, while the logic of care emphasises the need of adjustment or “tinkering” in clinical prac-

tice (Timmermans & Berg, 2003; Mol, Moser, & Pols, 2010).

By distinguishing these two logics, I do not wish to oppose the ASI and clinical practice (cf. Mol et al., 2010). The point is rather to illustrate that the ASI, especially when used in outcome measurement, requires a different way of acting in addiction treatment practice. In line with other studies (Timmermans & Berg, 2003; Greenhalgh, Flynn, Long, & Tyson, 2008), I will explore how the laboratory logic is incorporated into clinical practice and how these logics are handled in actual addiction treatment practice.

## Methods

The empirical data is based on ethnographic fieldwork in a Swedish metropolitan social service agency working with substance abusers. This agency was selected primarily because they have been working systematically for several years to implement the ASI. Compared to many other social service agencies in Sweden (see Abrahamson & Tryggvesson, 2007), they have a relatively extensive experience of using the ASI in day-to-day practice, both in assessment and quantitative outcome measurement.

In Sweden, a majority of the addiction treatment sector is handled by the social services, who, according to the Social Services Act (SFS 2001:453), have the legal responsibility for dealing with substance abuse problems. Their task is to investigate whether a person is legally eligible for social services and to assess the clients' functioning to provide appropriate treatments or interventions. They also have a comparably wide selection of internal (open) treatment programmes, which many clients are provided.

The fieldwork was conducted between March and December 2011, and this article draws on four different materials: participant observations, interviews, internal documents, and quantitative data produced in the agency. Participant observation was used to study the day-to-day work in the agency. I attended client conferences where the professionals and managers discuss and make decisions in ongoing cases. I also "shadowed" individual professionals during their ordinary work days (Czarniawska, 2007). During these observations I took notes, which were later developed into comprehensive field notes. Staff in different functions were interviewed on their work with the ASI. In all, three group interviews were conducted, two with the professionals and one with the manager and the so-called intervention consultant. These interviews aimed to fill in historical events in the agency that could not be observed, and to complement or triangulate this with the observations (Goffman, 1989). The interviews were recorded and transcribed, and were further analysed together with the field notes using NVivo. Documents regarding the agency's work and more specifically their work with the ASI have been used as a data source in this study. I have also used quantitative data – both ASI and other data – produced in the agency. In these cases I have asked permission to use the material and get access to the raw data.

## Creating and co-ordinating ASI routines

The ASI has been applied in Sweden close to 15 years, and the sub-municipal area that I have examined has sought to use it almost from the beginning.<sup>6</sup> Profession-

als and managers tell of various ventures and trainings that did not result in any systematic usage of the ASI in practice. It was not until ten years later, in 2007, when two sub-municipal areas were merged that the use of the ASI rocketed. The manager of the new addiction treatment agency had then decided to implement the ASI, which was one of the many elements in the general ambition to develop EBP in the agency. In this ambitious project, help was received from the NBHW; a full-time post of an “intervention consultant” was created (co-financed by the NBHW); and an action plan was set up:

During 2008, an intake ASI should be administered in all new social service investigations, and follow-up interviews should be administered after 6 months, in order to:

- Use in research and evaluation
- Report what we are doing
- Make fair assessments of clients’ needs

(Excerpt from internal document on the implementation of the ASI)

The manager was determined; this time the ASI should be used systematically. This document, which is still in effect, has been given continuous support since the initial decision was made in 2007.

A central task in the development of ASI routines is co-ordination of activities. The ASI is in itself a co-ordinating device (Timmermans & Berg, 2003), determining what the professionals should do and ask, etc. But the ASI requires co-ordination in order to co-ordinate. To produce orderly results, the interviews must be used systematically: the intake and follow-up in-

terviews must be administered at the right moments in the clients’ treatment trajectory to be able tell something about the clients’ outcome.

In working with the ASI, the agency is enrolled in a larger network (the ASI network) that co-ordinates its work practices (cf. Timmermans & Berg, 2003, pp. 67-68). National and international researchers have been involved in the development of the ASI, selecting the questions, constructing the measures, and the NBHW have developed various kinds of support to agencies who wish to implement the ASI. The ASI manual (Nyström et al., 2009), a text written by the NBHW detailing the specific activities that pertain to the ASI, is a particularly important element in this network. “It is our Bible”, one of the professionals told me during a methods meeting where the interviewer severity ratings were discussed. Many of the ASI routines in the agency are derived from this document: how to fill out the forms, how to make ratings, when to administer the interviews, etc. The ASI manual does not give exact recommendations when the follow-up interview should be administered, but every sixth month and after discharge is a suggestion in the manual that the agency decided on.

Although the ASI manual states what should be done and when, this is not enough to make it happen in the agency. It has to be enforced somehow. In hierarchical organisations such as the social services it is often the manager who is responsible for this task. Many professionals also stress the manager’s role in encouraging and enforcing the ASI routines:

Sarah: Joanne [the manager] decided. It was very clear directives that were

communicated to the group. Now it's the ASI we should go for; it will be done and we'll monitor it.

...

Karen: And many times, as I've understood it, the manager decides, but it doesn't turn out that way anyway. But Joanne, she's really good at pushing through what she wants, and that's the way it has to be, I think.

The manager's determination and enthusiasm seems to be a key in making the professionals use the ASI. This enthusiasm, still evident today, has been followed by continuous support and encouragement. Weekly methods meetings are held to discuss the ASI, experts from the NBHW have been invited to talk about the ASI and positive numbers are presented on the ASI administration in the agency to encourage the professionals to use the ASI in their daily work. This way, the ASI work has been kept active in the entire agency ever since it was launched anew in 2007. However, the manager's work to make the professionals use the ASI cannot be understood without taking into account the assemblage of expertise and resources mobilised in the ASI network. Without this network, it would have been difficult to implement the ASI with the same force.

The "intervention consultant" is an important actor in the co-ordination of the professionals' activities, but also in the co-ordination of data. Her work in creating order in activities and data can be seen as representing laboratory logic. Some of her tasks involve making and collecting literary inscriptions (Latour & Woolgar, 1986; Latour, 1999) on the professionals' administration of the ASI. She uses an ex-

cel file where she types in the administration date for every intake interview in the agency. This is a system developed to keep track of the administration of the intake and follow-up interviews and to remind the professionals when six months have passed and it is time to do a follow-up. The inscriptions are thus used to facilitate the temporal co-ordination of the professionals' work. This seems to be appreciated, especially in relation to the follow-up interview to be conducted after discharge:

Margaret: What strikes me now...Sarah [intervention consultant] lost her file in her computer. And I think, I don't keep record of those who have been discharged, if you're supposed to keep record...So, it will fail there, because I don't keep record of it, at all. I can only check those who are under investigation right now.

When clients are discharged, they are removed from the electronic client report, which causes problems to remember when to do a follow-up. Although this seems to have been a relatively successful co-ordination system, it is uncertain whether this activity should continue after the old file was lost.

The intervention consultant is also responsible for the collection of the "deviation form" that should be filled out when an ASI is not administered. The form contains questions about why the ASI was not administered as well as some questions about the client. This can be regarded as a type of inscription used to keep track of departures from the stated course of action: why was the ASI not done and which clients are not interviewed with the ASI?



Another task for the intervention consultant is to monitor the administration rate of the ASI by comparing it with the number of ongoing cases in the agency. This serves both a managerial function in that the manager acquires a decision basis and a scientific function in that the “response rate” is checked.

### **Mutual adjustments: the ASI and clinical practice**

In the previous section, we saw some examples of how ASI routines were developed and how they are enforced and encouraged in the agency. Now we turn the focus to the concrete clinical practice and the efforts to make the ASI fit into the professionals’ daily work. It is argued that the ASI and the clinical practice are in several ways adjusted to each other in order to make the ASI function in practice.

One very concrete and comprehensive adjustment of the clinical work was the reorganisation of work into two sections. The first group, the pre-investigators, was responsible for investigating eligibility for social services and making initial assessments. The second group, the main investigators, was responsible for the remaining investigation and making decisions regarding the clients’ interventions. The main investigators also have a long-term responsibility for the clients as long as they want help from the social services, which involves being a contact person for the clients and their relatives, and checking up on the clients on a regular basis. In this division of work, the pre-investigators were assigned to do the intake interview whereas the main investigators were assigned the follow-up interviews. Asked what she had done to facilitate the imple-

mentation, the manager had this to say (among other things):

Joanne: You know, it was the entire reorganisation, creating a pre-investigator group. Because, when we started, we were 16 professionals, I think – 16 or 17 – who were all doing the same thing. And then, every one of the 16–17 professionals should do ASI interviews. It didn’t work to make the professionals use intake ASI in every new investigation. That’s when the pre-investigators’ group was created.

This division of work made it easier for the professionals in that they only had to focus on administering one of the two ASI interviews. It also meant that the organisation of the clinical work was adjusted to the linear logic of the ASI. Further, many documents used in daily client work (e.g. intake form and treatment plans) were also adapted to the functional areas in the ASI.

The professionals themselves and their skills have also been “adjusted” during work with the ASI. By 2008, every professional in the agency had earlier experience of the ASI and was more or less positive towards it. Some professionals nevertheless describe initial work with the ASI as a tough period. One of them describes working with the ASI as a gradual incorporation into a new world:

Karen: For me it’s like...the ASI is a world of its own. So, I imagine it’s like playing – like opening a door to another world, a fictional world, although it’s about real things. Inside it there is a certain language, and over time, with experience, these words get spe-

cific contents, perhaps other contents than people would normally fill them with. The expression “considerable problem”, for example, means certain things for those in the ASI world. It is sort of coupled, this together with that – and you know that.

Working with the ASI over a long period of time, the professionals are gradually adjusted to this new world, and the ASI expressions and measures acquire certain import, making it easier to use it in practice. As earlier studies have noted, it is only through continuous use that professionals can gain familiarity with standardised instruments (Greenhalgh et al., 2008). This familiarity is also a prerequisite for using it effortlessly in practice; the professionals must create a “common lifeworld” with the instruments (Timmermans & Berg, 2003).

Once the professionals are familiar with the ASI and have learned to handle it properly in their day-to-day work, the ASI seems to fill an important need in their work, especially for the pre-investigators. They describe it as the most central element in their task to make initial assessment of clients.

Marie: It helps us to structure our work, I'd say. Actually, this...It's easy to lose focus with the client, when you sit there. And that you cover, especially that you cover much information...  
...

Janet: If someone is sick for some reason, and he or she has initiated an ASI, it is really easy for a colleague to jump in and continue. In that case, the person who seeks help wouldn't have to

lose time and wait for a new appointment. You can even do the entire ASI yourself and let someone else do the feedback, because it's the same quality and content.

The ASI is described as a practical tool: it is argued to make the pre-investigators' work more effective, it covers much information, and the preset format of the interview reduces variations, which facilitates co-operation and communication between professionals. The main investigators and their clients also find the ASI useful, especially as a means of following the clients' progress:

Christine: [...] you get great follow-up data too, and the clients like it when you do follow-ups, and bring the last [interview] and the one before that. You look at what you did then, what you said. 'Oh, was it like *that* then!' I had a client recently. He could not remember how ill he'd been and how bad he'd felt six months before. 'Yeah, that's right!' he responded. He was actually quite pleased that his health had improved.

It is easy to lift out positive attitudes toward the ASI *in general*, which is displayed in many other studies (Grissom & Bragg, 1991; Spear et al., 2005; Alexander-son, 2006; Abrahamsson & Tryggvesson, 2009), but these excerpts illustrate some examples of the usefulness of the instrument in a specific, local practice.

Even if you are familiar with the ASI and have learned to handle it properly, many clinical situations require flexibility or “tinkering” (Timmermans & Berg, 2003;

Mol et al., 2010). To make the ASI function in practice, the professionals have developed different strategies to incorporate it in different situations:

Joanne [the manager] enters a couple of minutes before 10am, and the client conference begins. Karen tells about Grace whom she has managed to 'establish contact with'. Grace wants help for her alcohol problems, but how should it be done? 'Open care is just to forget,' Karen says. [...] 'Do we have an ASI?' Joanne wonders. There is none, and Karen doubts that it is possible to do one because of Grace's severe psychiatric problems. 'Could you please meet her and do "the last month?"' Joanne asks Karen. The client will be discussed further after the weekend. (Excerpt from fieldnotes)

...

Margaret: With these clients who don't cope with the entire [follow-up] ASI at once...In those cases, I usually take up what's most important for the client at that time. And then I ask if it's OK to take the rest over the telephone. It works well most of the time.

Not every client manages to go through an entire interview at once. Many clients in the agency have different psychiatric problems, which makes it difficult to answer 180 or so detailed questions. It is not without effort that you remember every little detail during the last month, or six months for that matter. In these instances, the professionals have to work around the problems, and this requires tinkering (Timmermans & Berg, 2003; Mol et al., 2010). This includes breaking the ASI into smaller

pieces, doing parts of the interview over the telephone, making the interview more comfortable for the client, skipping (for the client or the investigation) unnecessary parts. "Doing the last month", as the manager calls it in the first excerpt, means that the professional can do those parts of the interview that focus on the last month, e.g. the different measures used in their outcome measurement. In other words, the professionals are not passively being governed by the instrument, which some fear in the discussions about manuals and technology in clinical practice, but are actively involved in making it fit into clinical practice. It is what Timmermans & Berg (2003) call a "dynamic transformation" of both the clinical practice and the ASI.

This mutual adjustment makes it possible for the professionals to follow both the logic of care and the laboratory logic at the same time. Sometimes it is the variables in clinical practice that must be adjusted (e.g. the work organisation or the professionals themselves), and sometimes the ASI must be adjusted to the professionals or the clients. When this is done successfully, clinical practice is enhanced and structured at the same time as information about the clients can be collected and quantified in line with the laboratory logic.

## The limits of adjustment

Although generally positive to the instrument, the main investigators do not always seem to regard the ASI as helpful their clinical work. In interviews, they cite "difficult" and reluctant clients as reasons for not performing a follow-up interview, which has also been recognised in other studies (Spear et al., 2005; Abrahamsson & Tryggvesson, 2009). But since the pre-

investigators and the main investigators deal with the same clients, can this really be the only reason why the follow-up ASI is not administered?

One important explanation may be found in the pre- and main investigators' different work tasks. The pre-investigators' work is organised around collecting information and making decisions based on that information – further investigation or not. In this work, the ASI comes in handy as a tool to “cover much information”. For the main investigators, however, collecting information is merely one of many tasks. Much of their work time is committed to talking with worried clients or relatives, managing relapsing clients, making house calls, talking with other professionals, etc. These tend to be acute errands that require swift action. In this work, the follow-up ASI, if thought of at all, can be perceived as an extra work task that steals time from primary work:

Suzanne: I feel that it is a follow-up just for the sake of it. Not for the client. And I have a problem with that.

Margaret: It's because we're bound to do this, but then you try to help the client anyway.

There are two components of this problem. First, in the often acute handling of clients here and now it is difficult to take the time to follow up on clients whose condition does not require immediate attention. This applies to the ability to make systematic follow-ups in general. Second, in an economically restrained enterprise, such as social work, different ways of gathering information are connected with certain costs (Garfinkel, 1967). When the ASI is

perceived as an extra task, it is natural for the professionals, according to the logic of care, to prioritise those activities that seem most helpful or efficient at the time. This is an apparent clash with the laboratory logic, which emphasises systematic collection of information regardless of the clinical situation.

To follow up on the clients' progress on a regular basis is, however, an important part of their casework. But the main investigators' work situation makes it difficult to document the clients' progress systematically. And when they do follow up, it may sometimes be more appropriate to ask simplified questions:

Suzanne: [...] we have these treatment or change plans. There are the functional domains [of the ASI]. Then it's possible to pose a general question: ‘previously you've said that you've had this much trouble with your psychiatric health. How are you today?’ It becomes a simplified version of the ASI.

Important information about the clients' progress is gathered anyway. But the difference is that this information cannot be quantified and presented as numbers. The adjustment has been pushed too far, and the activities no longer serve the laboratory logic. Interestingly, though, the ASI is to some extent followed as a matter of course in that the change plans are organised around the seven functional domains of the ASI.

## The outcome measurement

One of the main reasons for using the ASI systematically in the agency was to be able to measure outcome. By now, a large number of outcome measurements have been

performed: general outcome; outcomes in different age groups: outcome for men and women; different client groups, etc., mostly based on interviewer severity ratings (ISRs). In order to compare different interventions, the agency has developed a list of codes in three categories – internal interventions, external interventions, and housing/care – that should be filled out in the follow-up form (“optional codes”).

All professionals in the agency are responsible for feeding their interviews into the local ASI net database, which is linked to their electronic client report. One professional, who has taken a course in statistical analysis of ASI material (held by two of the experts involved in the development of the Swedish ASI and the ASI net), is responsible for the data analysis. Normally, the manager asks the responsible professional to look at certain aspects. The professional retrieves data from the ASI net, which is further transported to a statistical programme, SPSS, where statistical analyses are performed.

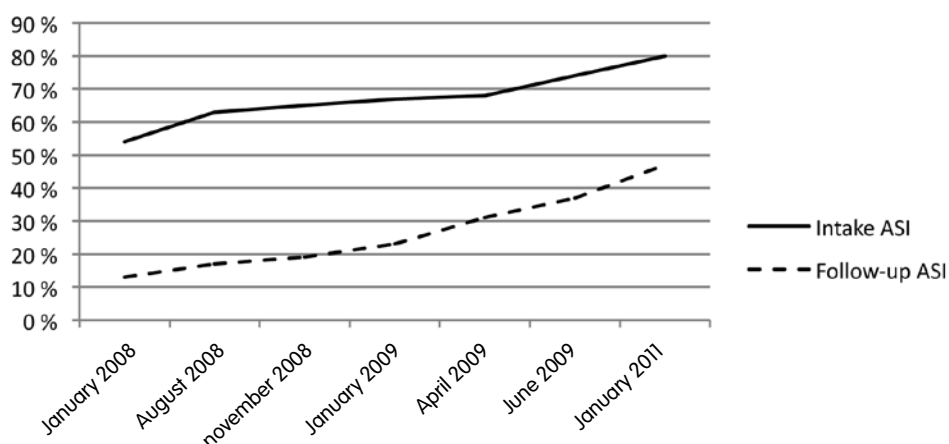
One finding, enabled by the coding of interventions in the ASI, that the manager has stressed on several occasions is that that their internal interventions are at least as good as external interventions. This conclusion is based on comparisons of ISRs in seven functional domains between clients who have received internal treatment and clients who have received external interventions and/or housing/care. The analyses have not showed any significant differences between the two groups. Since internal interventions are less expensive, such findings are useful for the manager, whose main function is to produce good quality care within the tight economic restraints of the social services.

If she can produce numbers which show that a cheaper alternative is as effective as a more expensive one, she has gained a great deal of credibility in her efforts to push for greater use of internal interventions – both against professionals and politicians in the city council. Still, against the earlier descriptions that showed that the ASI was not always used in practice, how trustworthy are these measurements?

#### *Some numbers on the administration of the ASI*

Figure 1 (see next page) shows that the administration of the ASI interviews has steadily increased between January 2008, which marked the start of the new venture, and January 2011 four years later. The administration of the intake ASI has increased from 54% to 80%, and the administration of the follow-up interview from 13% to 47%.

The great efforts to implement the ASI as described above have certainly had an impact. Compared with other agencies and earlier studies, the administration rate is exceptional. A recent ASI net analysis<sup>7</sup> performed in the agency showed, for example, that 18% of the intake interviews had a follow-up interview in the national database, compared with 41% in this agency. Even though they are *comparably* successful in administrating the ASI, there still remains much to be done in the administration of the follow-up interview. These results are in line with earlier studies showing that standardised instruments, and especially the follow-up interview, appear to be difficult to use systematically in clinical settings (Broekman et al., 2004; Alexanderson, 2006; Abrahamson & Tryggvesson, 2007; 2009).



**Figure 1.** This diagram describes the percentages of intake interviews and follow-up interviews from seven cross-sectional measurements done in the agency. The numbers are based on comparisons between the number of interviews and the number of ongoing investigations in the agency.

Earlier sections have described the work with the temporal co-ordination of the professionals' activities and the difficulties that may arise in the administration of the follow-up interview. What can the ASI data tell about what happens between the intake and the follow-up interview? To know when the follow-up interviews are administered and what happens with the clients during this period is crucially important for the quality of the outcome measurement.

According to the action plan, the follow-up interview should be administered after 6 months, but the ASI data shows that it is conducted on average 371 days or slightly more than a year after discharge. During that period, according to the professionals' reports, 69% received some kind of intervention, 30% received more than one intervention, and 31% did not receive any intervention. Thus, during a year on average, six months more than stated in

the action plan, 31% of the clients did not receive any treatment. Why is that? One explanation is that the professionals sometimes forget to fill out the treatment code. Another reason is that the clients return to the agency after relapse, where they are assessed anew with the follow-up form. According to the routines in the agency, a new intake interview should only be administered when a client returns after several years. In any other case the follow-up interview should be administered to make a new assessment. These circumstances cannot be controlled in the client report as clients cannot be identified in the ASI net for legal protection of personal integrity (regulated in Personal Data Act, SFS 1998:204). The clients' social security numbers are removed from the ASI database, which makes it virtually impossible to compare the information in the database with the client report.

*The database and the clinical reality: two problems of reference*

In statistical measurement, it is important that the statistics corresponds or refers accurately to the reality it seeks to describe. A lot of information has been gathered about the clients at intake and, on average, a year later. But what does this information mean, how can we know its relationship with the clinical reality? In the outcome measurement in this agency, there are two obvious problems of reference.

The first problem regards whether the population in the ASI database actually represents the client population in the agency. As illustrated in Figure 1, only between 13 and 47 percent of the agency's clients have had both an intake interview and a follow-up interview, which can be understood against the descriptions above. But what is the relationship between the database population and the entire client population?

The "deviation forms" that the professionals should fill out when they are not administering the ASI can be regarded as a *statistical* inscription used to keep track of the professionals' activities and the ASI data. This form provides information about the client as well as why the ASI was not administered. As complementary to the ASI data, this information can be used to track down the relationship between the database and the clinical reality. Why was the ASI not done, are there any differences between the clients in the database and in the deviation form, if so, how can the outcome be interpreted? Although the methods consultant has collected the deviation forms, no serious efforts have been made to analyse the representativity of the ASI database. The agency recognises this:

Sarah: If there's anything that needs to be improved, it's the *analysis* [of the ASI data]. 'Cause when you collect data it's easy to jump to conclusions, and not to take into consideration things such as sampling, sample size and the way professionals feed in data. That knowledge has been non-existent in the agency.

To clarify the relationship between the populations requires further skills in the agency, but it also requires further co-ordination of the inscriptions that have been collected.

The second problem of reference has to do with the ability to control the information in the database against the clinical reality, that is, what actually happens in the clients' treatment trajectory. For example, a follow-up interview does not always refer to the circumstance that clients have received an intervention; it may also mean that they are having a new assessment after relapse. As reportedly 31% of the clients in the follow-up sample have not received an intervention, it would be helpful to control these circumstances with the client report. The client report can be regarded as a representation of the clinical reality on information about the clients' location in the treatment trajectory and what kinds of intervention they have received. As noted above, the clients' social security numbers are removed from the ASI database, which makes it impossible to control the information in the database against the client report. This removal therefore means that the circulating reference that moves between the database and the clinical reality, as represented in the clinical report, is interrupted (Latour, 1999). It is conse-

quently not possible to trace or prove that those who have had a follow-up interview have actually received an intervention, which undermines the credibility of the outcome measurement. It is thus not sufficient merely to collect data. The data must also be compared and controlled against other information sources in order for us to be able to remove inaccuracies.

Such difficulties arise from an uncritical application of the laboratory logic in clinical practice. Whereas the laboratory logic treats time in a linear fashion and wants the ASI to be administered at certain intervals, the cases in clinical practice do not always follow this logic. This results in methodological problems in the outcome measurement. A more suitable application of the laboratory logic, at least in order to make valid comparisons of interventions, is to administer the follow-up interviews after an intervention has been finished. But this has its own practical problems and routines: what if there are parallel interventions and only one is finished, what if the client interrupts or switches intervention, etc.?

## Discussion

This article has presented an empirical example of a Swedish addiction treatment agency that has worked hard for several years to implement the ASI, both as a clinical instrument and as an instrument to facilitate statistical outcome measurement. It is suggested that this work can be regarded as an incorporation of laboratory logic into clinical practice. This article has explored the agency's various ways to handle this incorporation.

In order to incorporate the ASI into clinical practice, the professionals' activi-

ties must be co-ordinated in line with the laboratory logic. The ASI can co-ordinate the professionals' activities, but it requires external co-ordination to be able to co-ordinate. This can be done in several ways. First, it is shown how the agency is enrolled in the ASI network, where expertise and resources are mobilised. Together with the agency manager's determination and enthusiasm, this network provides a forceful co-ordination of the activities in the agency. Second, an "intervention consultant", who is not engaged in the clinical work, has developed an internal co-ordination system that helps the professionals to remember to do the follow-up interview at the right moment.

In terms of the professionals' efforts to incorporate the ASI into their day-to-day work, the ASI and the variables in clinical practice are adjusted to each other. The professionals and their skills have been adjusted through the continued use of the ASI. Through hard work, the professionals have gained familiarity with the instrument and have been able to use it fluently in practice. Assessment interviews and similar manuals are relatively new elements that seem to have been difficult to implement in addiction treatment and social work practices (Broekman et al., 2004; Alexanderson, 2006; Abrahamson & Tryggvesson, 2009). In line with other studies (Timmermans & Berg, 2003; Greenhalgh et al., 2008), these findings suggest that it is possible to incorporate similar instruments through continuous practical use.

The ASI is also adjusted in clinical practice. The professionals adjust to the ASI, if it furthers their clinical work, but they also adjust it in order to fit it into specific clinical situations. This kind of "tinker-



ing” with instruments and technology in professional practices has been described in other studies (Timmermans & Berg, 2003; Mol et al., 2010), illustrating the logic of care. Rather than using the ASI as a fixed instrument as intended by its designers, it is adjusted to fit the goals of the logic of care. When this is done successfully, the clinical practice can be strengthened at the same time as follow-up data can be produced. As to the common criticism that Evidence-Based Practice turns professionals into mindless cooks, these findings suggest that the professionals are not passively governed by the ASI, but are rather actively involved in a “dynamic transformation” (Timmermans & Berg, 2003).

But there seem to be limits to the adjustments. Ultimately, the professionals use the ASI, or parts of it, when it furthers or at least does not clash with their clinical work. In some situations, the professionals – pressed for time – are forced to prioritise how they gather information. This is most apparent in the administration of the follow-up interview. In such cases, the ASI is perceived as extra work because its preset questions may not always be relevant in the clinical work. According to the logic of care, it might be more relevant to ask simplified questions that do not allow quantification. These activities, although perfectly natural in the logic of care, depart from the laboratory logic and create idiosyncrasies in the data.

As for the outcome measurement, these findings show that it is not enough merely to administer the ASI systematically. Once the data has been collected, a considerable amount of sheer laboratory work must be performed in order to know what the follow-up data actually means or represents.

The agency has been comparably successful in administrating the ASI, but departures from the laboratory logic happen all the time. Systems to keep track of the ASI data and activities have been developed; inscriptions regarding the administration and the clients who are not interviewed are collected; and the administration rate is monitored. But without further co-ordination of this information, the ASI data is in danger of becoming a collection of information whose value and meaning is unknown. Sufficient co-ordination of data in line with the laboratory logic has not yet been achieved.

As an ethnographic study of a Swedish addiction treatment agency, this study has obvious limitations as regards the generalisation of the results. However, although the context and practices described here are local, the different logics are not. Demands to make professional practices more systematic and scientific exist in many other countries and professional fields (e.g. Porter, 1995; Timmermans & Berg, 2003). This article has looked at one version of these demands (the ASI) and how it is handled within one specific site. As such, these results may have relevance well beyond the local context.

These findings have a number of implications for the implementation and the use of standardised instruments in clinical practice. When used systematically in clinical work and outcome measurement, the two logics seem to be in partial opposition. Consequently, compromises must be made: is it the logic of care or the laboratory logic that should be favoured? If the use of the ASI is to be helpful in outcome measurement, the follow-up interviews must be administered systematically with-

out too much deviation. This seems to be a difficult task to manage within the professionals' day-to-day work. One major obstacle is that the follow-up form is too extensive for the professionals' needs, which often results in that the interview is not administered. One middle way might be to reduce the influence of the laboratory logic by making the follow-up form in particular less extensive. With fewer questions it may be easier to incorporate both logics at the same time. These findings show that this is already done in the professionals' "tinkering" with the instrument.

The findings also highlight the importance of sheer laboratory work in creating valid outcome measurement. If addiction treatment or social work agencies are serious in their attempts to develop outcome measurement, this laboratory work must be recognised and prioritised. Otherwise, data from standardised instruments risks becoming a mere collection of information of uncertain value. This is a question of both organisation and resources. Who should do this work, and what competencies should this person have? Is it possible to finance such work within the often

restrained budgets of addiction treatment and social work agencies?

In summary, by closely studying a case that has worked systematically with the ASI for several years, these findings problematize some aspects of the idea of systematical outcome measurement in addiction treatment practice. While methodological rules and guidelines (e.g. Socialstyrelsen, 2004; Nyström et al., 2005; Anderberg & Dahlberg, 2010) are useful in these attempts, this article has pointed to the co-ordination of day-to-day activities in the clinical agency as pivotal in the development of local outcome measurement. The findings suggest that it might be more difficult than previously thought to measure outcome systematically in clinical practice, and that it requires continuous efforts to manage and reconcile different logics in a desirable manner.

**Declaration of Interest** None.

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## NOTES

- 1 Quantitative knowledge refers broadly to any type of knowledge where quantifiable measures are used (see Porter, 1995).
- 2 For a critical discussion of the different potential uses of the ASI, see Stenius and Room (2004).
- 3 It may be hazardous to use the concept of logics, as it may lead people to believe that the practices within them are stable and coherent (see Mol, 2008). I use the concept to point out what kinds of activities are appropriate or logical at a specific time and in a specific place. Further, I will use the logic of care and the laboratory logic to highlight that it is possible in some situations to act in different ways with reference to these logics. John Law (1994) has used the concept “modes of ordering” to describe similar multiple and simultaneous principles of organisation.
- 4 While these studies demonstrate how order is created in scientific practices, they also make visible the often contingent conditions in which science is created.
- 5 Although addiction treatment and social work practice have both *curing* and *caring* purposes and involve notions of *control* (Bergmark & Oscarsson, 1988), I choose to keep the notion of care in Mol’s concept logic of care.
- 6 In Sweden, the social services are managed by the municipalities, and the largest municipalities in Sweden are subdivided into smaller, partly independent areas.
- 7 This is an application created by Kerstin and Bengt-Åke Armelius to facilitate local analysis of ASI data as well as to make comparisons with the national ASI database (see Armelius et al., 2009).

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