

Street-Level Strategies of Child Welfare Social Workers in Flanders: The Use of Electronic Client Records in Practice

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Abstract

The use of information and communication technology (ICT) in child welfare services has increased significantly during the last decades, and so have the possibilities to process health data. Parton (2009) states that this evolution has led to a shift in the nature of social work itself: from ‘the social’ to ‘the informational’. It is claimed that social workers primarily are becoming information processors concerned with the gathering, sharing and monitoring of information, instead of being focused on the relational dimensions of their work. However, social workers have considerable discretion concerning the way they use ICT. In this paper, we investigate (i) the street-level strategies social workers develop regarding ICT and (ii) how these relate to a narrative social work approach. To illustrate this, an evaluation of Charlotte was conducted, a client registration system that is used by social workers in child welfare services in Flanders, Belgium. Based on fifteen interviews, we find that social workers develop various strategies regarding Charlotte to preserve a relational and narrative work approach. These strategies not only result in a gap between ICT policy and the execution of that policy in practice, but also decrease the extent to which accountability can be realised via registration data.

Keywords: Information technology, data recording, child welfare, street-level bureaucracy, social work discretion

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Background

Accountability and performance indicators in social work

Since the 1970s, a number of social, economic and political evolutions have led to a higher demand for accountability in social work. It is expected that professionals use more formal methods to demonstrate their effectiveness (Munro, 2004), which can be situated in the broader political shift towards new public management (NPM). The latter refers to a type of public service management that aims at making public services more efficient by bringing those services under tighter managerial control, via a cluster of practices derived from the private sector (Pollitt *et al.*, 2007). To remedy the inefficiency of public bureaucracies (Munro, 2004), practices such as the use of performance indicators were introduced as a means for accountability (Pollitt *et al.*, 2007). van Yperen (2013) defines a performance indicator as ‘a measuring rod for the extent in which a performance is delivered, a goal attained or a factor for success realized’ (p. 5). Through such indicators, it is believed that the results of social work interventions can be measured and made transparent at the micro, meso and macro levels (van Yperen, 2013).

Electronic client records as a source of performance indicators

The use of informatics has increased dramatically during the last decades, and so have the possibilities to gather and process (health) data (Callens and Peers, 2008):

The development of increasingly sophisticated information systems for implementation in human service organisations has been pursued with considerable enthusiasm by governments keen to invest in technology under the premise that technological developments bring significant efficiency gains that will lead to increased investment in front line services (Gillingham, 2013, p. 431).

It is believed that, through information and communication technology (ICT) accountability, efficiency gains and an evidence-based social work could be achieved (Munro, 2004). Electronic client records (ECR) specifically were seen as useful means to realise these goals because, through such records, relevant information concerning service users, their problems, the offered services and the effect of those services can be gathered, stored, processed and analysed (Steyaert, 1996). ECR can have multiple advantages. First, ECR can support social work practice. ICT supports the implementation, evaluation and evaluation of guidelines (Goud *et al.*, 2014). Second, relevant insights and knowledge about clients and the general social work practice could be received, through which the evidence base could amplify (van Yperen, 2013). Third, when clients are given access to their ECR, the doctor–patient communication, adherence, patient empowerment and patient education are modestly ameliorated (Ross and Lin, 2003). However, the promised goals and expectations

of ICT are often not realised. Indeed, there is a long history of 'failed' information systems in care (Avison and Young, 2007). Bal and de Bont (2005) state that around 75 per cent of the projects are unsuccessful. Moreover, research indicates that the implementation of certain information systems can even impede service delivery (Bal and de Bont, 2005; Gillingham, 2013).

There seems to be a lack of theoretical understanding concerning ICT in social work, which can be demonstrated by a couple of examples. Whereas the use of ICT can lead to more administrative tasks (Parton, 2008), ICT can nevertheless also reduce administrative work (Perron *et al.*, 2010). Furthermore, while the functionality for social policy of certain systems is rather low as a result of questionable data quality, other systems contain substantial added value for policy makers (Steyaert, 1996). Third, while ICT can lead to extra costs (Pollitt *et al.*, 2007), these systems can also result in efficiency gains (Steyaert, 1996). Finally, on the one hand, through the use of ECR, social workers and services may focus on achieving service outputs, while paying little attention to users and their preferences (Munro, 2004). On the other hand, user outcomes could be detected and consequently improved via the analysis of these databases (van Yperen, 2013). These examples illustrate the necessity for acquiring more knowledge about the use and the usefulness of ICT in social services.

Consequences of using information and communication technology in social services: from the narrative to the database?

Apart from providing services to clients, social workers are often expected to provide relevant information, preferable by means of pre-ordained forms that can be used by managers in order to measure performances. In this respect, Parton (2008) states that the form of knowledge and the nature of social work are changing: from a narrative to a database way of thinking.

First, the core of child welfare social work practice is traditionally formed by narratives (Wilks, 2005). A narrative is more than a simple enumeration of events (Riessman and Quinney, 2005). It rather is the telling of (often associated) events, complemented with a moral attitude towards these happenings (Linde, 2001). Furthermore, it often serves one or more purposes (Grossman, 1998): '... events are selected, organized, connected, and evaluated as meaningful for a particular audience' (Riessman and Quinney, 2005, p. 394). Although this attitude is not always explicitly formulated, frequently it is implicitly suggested during the course of the narrative (Linde, 2001). The personal experience of events is indispensable in the process of determining a suited approach (Nouwen, 2013), and therefore the relation between client and social worker is of great importance (Munro, 2004).

Parton states that, while the narrative presents a comprehensible picture of the subject and gives meaning to certain events, the database consists of an enumeration of (relatively) unrelated information items. Therefore, the

database stands in sharp contrast with the narrative (Parton, 2008). In line with this, Huuskonen and Vakkari (2015) pose that ‘structural information presentation in CIS [client information systems] omits chronological perspective, adequate expressions of the concerns and characterization of the child and parents’ (p. 3). Hence, Parton says that, through the database, the individual tends to disappear, because stories can only be told within the required parameters whereby the individual is abstracted from his or her context. Social workers can to a lesser degree determine what information is relevant, and information that does not fit the prescribed fields tends to get lost. Narratives are ‘disappearing’ and surface considerations replace in-depth explanations. Moreover, the use of databases is said to leave less time for critical thinking (Parton, 2008). Huuskonen and Vakkari (2015) state that ‘there seems to be an established rule of factual recording in social work, which excludes workers’ experience and tacit knowledge of cases’ (p. 15). According to Parton, gathering objectified and decontextualised information becomes the key focus of the job: social workers turn into information processors that are less concerned with the relational aspects of the job (Parton, 2008).

Resistance through discretion?

While Parton stresses a shift ‘from the social to the informational’, Gillingham (2013) states that, although ICT indeed are prescriptive rather than passive recorders of information, social workers try to resist the reductive structures of the investigated assessment instrument: ‘Some practitioners went to considerable lengths to provide narrative accounts of their contact with families and justify their decisions’ (p. 438). White *et al.* (2009) find that practitioners make strategic and moral decisions about whether, how and when to use an assessment tool. Huuskonen and Vakkari (2015) state that the role of the information system in reducing client information is minor compared to social workers’ role: ‘... social workers’ own actions to filter information out along a recording process play a much greater role in the construction of a holistic account of a client case than the characteristics of client information systems’ (p. 12). Discretion seems to be an essential characteristic of both social work practice and the use of ICT (Bradt *et al.*, 2011).

Evans and Harris (2004) state that discretion continues in social work, despite the use of NPM techniques. Discretion is necessary in social work practice because the vague and often conflicting goals and rules need to be interpreted by social workers. By means of their discretion, social workers adopt strategies in order to deal with dilemmas and so realise practical versions of policy that may well deviate from official pronouncements (Evans and Harris, 2004). Therefore, social workers fulfil an intermediary position between policy formulation and the execution of policy in practice (Nouwen, 2013).

The way discretion is employed by social workers is determined by their professional values (Webb, 2001). A long history of street-level research states that, on the one hand, self-interest guides the street-level choices: ‘... street-level workers use their discretion to make their work easier, safer, and more rewarding’ (Maynard-Moody, 2000, p. 329). On the other hand, professionals also respond to the characteristics of individuals and circumstances, and base their decisions on their judgement of the worth of the individual client (Maynard-Moody, 2000). Street-level workers are attracted to their work because they want to help others, and therefore prioritise the interests of their clients above other activities (Burton and van den Broek, 2009).

Social informatics complements the street-level perspective in studying the use and impact of ICT on social work practice. It refers to ‘the interdisciplinary study of the design, uses and consequences of information technologies that takes into account their interaction with institutional and cultural contexts’ (Kling, 2000, p. 218). Proponents of this scientific spectrum state that the effects of ICT depend upon the context in which those systems are designed, implemented and used, since an information system is not just a technical instrument, but rather a socio-technical network that ‘brings together equipment, equipment vendors, technical specialists, upper-level managers, ICT policies, internal funding, and external grant funding with the people who will use information systems in the course of other work’ (Kling, 2000, pp. 219–20). As a consequence, the implications of ICT cannot be taken into account without their social embedding. ECR perfectly fit this theoretical framework.

In child welfare social work, the increased demand for accountability is high as a consequence of a series of high-profile public inquiries into child abuse (Parton, 2008). We hypothesise that child welfare social workers develop street-level strategies regarding ICT in order to safeguard a narrative and relational social work approach, since they prioritise the interests of their clients ahead of other activities (Burton and van den Broek, 2009). Based on a social informatics approach, we further presume that these strategies are determined by the context in which ICT is designed, implemented and used. We want to understand (i) how social workers interpret ICT systems, (ii) which strategies they use to deal with ICT in their daily practice, (iii) how the social embedding of the ICT influences the use of these systems and (iv) to what extent these ICT systems enhance or hinder the realisation of accountability. In this respect, we focus on one specific form of ICT, namely ECR.

Methods

A case study approach was adopted, whereby we examined the use of the ECR ‘Charlotte’. Through the in-depth exploration of the registration

process in practice, underlying principles that determine this process can be detected.

Research setting

In Flanders, Belgium, the child welfare system is characterised by multiple non-profit welfare services providing targeted services for specific problems of children and families. Some of these services deliver care specifically to minors who live in ‘problematic situations for raising a child’, which are defined as ‘situations in which their physical integrity or opportunities for affective, moral, intellectual or social development suffer due to incidents, relational conflicts, or because of the special conditions in which they live’. Second, the non-profit welfare services offer care to minors who have committed ‘an action that is described as an offence’. While the latter situations are always dealt with by coercive measures, the situation of minors who live in ‘problematic situations for raising a child’ can be dealt with by either voluntary or coercive measures.

In order to receive voluntary or coercive care, minors must first be referred to the appropriate non-profit youth welfare service by an authorised body. Whereas ‘committees for special youth care’ are qualified to handle voluntary situations, judges deal with coercive situations. Both types of authorised bodies base their referral decisions on assessments of clients’ situations. These assessments are provided by social workers (i.e. government officials), who are associated either to social services of the court or to social services that support ‘committees for special youth care’. In essence, social workers of both types perform exactly the same task. Based on conversations with people involved (the minor, his/her parents, teachers, involved social workers, etc.), a leading social worker assesses the clients’ situation: he/she formulates a diagnosis and suggests an appropriate course of action. In doing so, the leading social worker builds a relationship with his or her clients who usually do not interact with other social workers within the agency. During this process, social workers have considerable discretion in making decisions because assessment guidelines are not compulsory and not always used (Nouwen *et al.*, 2012). Although the responsibility for the case remains with one leading social worker, assessments are made collaboratively, since team decision making is obligatory for new referrals. As a consequence, all assessments that are sent to the authorised bodies are discussed collectively and approved by a team of social workers. Afterwards, if a judge or committee decides that the minor should receive help from a specific youth assistance service, the leading social worker will carry out this decision and subsequently monitor the care trajectory of the client.

In order to capture all relevant data, we focus both on social workers who are associated with social services of the court and on those associated with social services that support ‘committees for special youth care’.

Electronic client records: Charlotte

Since 2006, the social workers are obliged by the Flemish public welfare department to use Charlotte for making an assessment of a client's situation and for monitoring care trajectories; we replaced the true name of the electronic client record into 'Charlotte', in order to guarantee anonymity. In this ECR, social workers can store relevant information. Charlotte is divided into different parts, each concerning a certain section: registration, administration, pedagogical section, case management, etc. Each of these sections consists of a number of variables of which some should be filled out obligatorily, while others are optional. In total, Charlotte contains over 200 variables of which more than eighty are obligatory. When an obligatory variable is left open, the access to the next section will be blocked. However, only when a social worker opens a certain section will the system verify whether the obligatory variables within that section are filled out. So, if the social worker decides not to fill out an entire section, Charlotte will not render an error notification. Furthermore, while some variables have standardised response options, others consist of an empty text field in which social workers can present information in their own wording. After filling out certain sections/variables in Charlotte, social workers can download various documents and reports that have a fixed layout and contain certain sets of variables from Charlotte. These documents and reports are used as official documentation.

The welfare department created Charlotte in a policy context that was characterised by a need for objective numbers concerning the needs and problems of children and their parents. Consequently, Charlotte was set up as a means to realise two goals. First, Charlotte is intended to support social workers in their daily practice by facilitating the gathering, storing and processing of information. Through Charlotte, social workers can for example request an overview of all their clients, in order to facilitate the process of prioritising one case over another. Charlotte's second official goal is to help policy makers by providing possibilities to monitor social workers' actions, to analyse relevant information concerning families and the kind of support they receive on an aggregated level, to evaluate current policies and to develop new policy measures. Through Charlotte, local supervisors can monitor the actions of the social workers by requesting an overview of their cases. Also, each year, a public servant working at the funding government analyses the recorded data and draws up a publicly available report.

Case selection, data collection and data analysis

This case study is part of a broader research project that is commissioned by the Flemish government. We want to gain a profound understanding of the way in which social workers use Charlotte and of how this relates to a narrative and relational social work approach. Semi-structured interviews with

social workers are conducted in order to understand the registration process in practice. In collaboration with the welfare department of the Flemish administration, we conducted fifteen interviews with social workers who use Charlotte. Regional directors who support the local supervisors within each Flemish province provided us with contact information of a selection of social workers, who had a minimum of two years of working experience. For each social worker, data were provided on age and gender, region and type of service in which he or she works (coercive or voluntary). The respondents were distributed evenly with reference to both the type of service and the region.

Social workers from fifteen different services in eleven different regions were interviewed. A possible limitation of the study is that only one social worker per service was interviewed. However, we carefully selected the respondents, who all hold the same staff position. Also, the selection of the regions was guided by the aim to reach sufficient diversity (rural and urban areas, differences in caseload, size of the service). Therefore, we believe that the possible bias is limited. In order to minimise time investment for the social workers, the interviews which lasted one hour to one hour and a half hours were organised at their workplace. The interviews were audiotaped with verbal consent of the respondent and transcribed verbatim. All data were thematically analysed using an 'open coding' method, whereby we inductively identified concepts representing different characteristics of the registration process. Subsequently, we used these sensitising concepts and the concepts from the literature concerning social informatics, street-level bureaucracy and the centrality of the narrative in social work to develop new theoretical insights. Data analysis was performed using NVivo 9.

All respondents received information about the research and approved the use of the data they provided. All interviews were anonymised, and no data regarding privacy-sensitive issues such as health or income were collected.

Results

Charlotte's (lack of) integration in practice

First, the time spent working with this ECR varies considerably between social workers: whereas some spend only half a day per week on Charlotte, others devote half their working time to this system. Second, the types of variables that are filled in differ between social workers. For example, while some respondents indicate that they mostly record the 'nationality' and 'ethnic origin' of their clients, others record that information only when they deem it relevant for the specific situation. Also, while some social workers record optional variables extensively, others only record these variables minimally. Third, the part in which social workers record certain information differs. For example, although most social workers do not fill out the section concerning

the school situation of their clients, they do report that information in open text fields in other sections, such as the ‘current living situation’ or ‘work situation’. Four, when the ECR is used also varies between social workers. While some try to fill out the information after each client contact, others record only after having spoken with all the relevant actors. Five, numerous variables are never filled out and some social workers at times fill out ‘x’ for obligatory variables. Finally, certain workers first make a report in Microsoft Word and only afterwards copy that information into the registration system.

The interplay of Charlotte and social work practice

The characteristics of Charlotte and of the social work practice influence the manner in which the ECR is used. Foremost, the respondents have limited time and thus perform under pressure. Furthermore, about all respondents consider Charlotte to be an elaborate system. They state that fully utilising Charlotte is much more time-intensive than simply communicating the relevant information. In line with earlier research (Burton and van den Broek, 2009), the respondents indicate that they prioritise their clients’ interests over administrative tasks such as Charlotte. In this respect, Nouwen states that certain branches find filling out Charlotte secondary to building a high-quality relationship with their clients (Nouwen *et al.*, 2012). As a result, social workers try to minimise the time spent on this ECR. In general, the filtering of information which is related to the ‘personal interpretation of what is essential information’ (Huuskonen and Vakkari, 2015, p. 9) occurs in each phase of the recording process. ‘Social workers make both intentional and unintentional selections of what to filter out or include in the records’ (Huuskonen and Vakkari, 2015, p. 2). This general practice affects numerous aspects of the registration process, which will be further illustrated later on.

Second, the added value for practice of some variables in Charlotte is deemed to be relatively small by some practitioners: ‘That may be relevant information for policy, but for us personally If they work as a cleaning lady and they feel well, or they are engineers: what difference does it make?’ In order to remedy this tension, optional variables should only be recorded when that information is relevant for practice. This guideline influences the reliability of optional variables in a negative way, and especially variables concerning the social context of the client, since these are frequently optional.

Third, the government’s guideline that social workers use Charlotte on a systematic basis—each time information is obtained, it should be recorded—conflicts with social work practice. If social workers use Charlotte systematically, each time they gather additional information, they have to rewrite certain parts. Indeed, in order to properly assess a client’s situation, social workers need to hear out all people involved, which can take several weeks or months. In line with this, problems arise when social workers are

obliged to systematically record a variable with standardised response categories when they have not obtained that information yet. This sporadically results in information loss and the recording of incorrect information.

Fourth, Charlotte is characterised by a number of technical and practical bottlenecks that affect both the manner in which this system is handled and social workers' motivation to use this system. In this respect, some respondents state for example that Charlotte is too slow to use during team meetings. Furthermore, since social workers do not have internet access when they are 'on the road', Charlotte is inaccessible during home visits. Also, it is not always deemed appropriate to use ICT while a client is speaking about personal problems. Moreover, since it is impossible to upload documents that social workers receive from other services, Charlotte is not a full and complete client record. Furthermore, due to technical problems, the ECR at times ceases working, which leads to frustration. Contrary to most software, Charlotte does not ask whether its users want to save the recorded information when they close the system. As a result, social workers lose information each time they have forgotten to save it: 'That is very frustrating. Every time you must remember this and have the reflex to save.' Finally, the respondents indicate that they have little knowledge about the way the government makes use of the Charlotte data: they seldom receive feedback, which does not increase their motivation to use this system.

The centrality of the narrative in social work

Certain characteristics of social work practice such as the centrality of the narrative determine the manner in which Charlotte is used. Social workers hold onto a narrative way of thinking and a relational approach:

You discuss it [the report] with your client but you are not going to discuss each point of the entire report and ask: what do you think of this, and what do you think of that? ... At the end I am not going to ask: yes mister, and where do you work? Because then I would look like one of those government officials.

First, most social workers investigate a client's situation—hear out all involved actors—and only secondarily use Charlotte. During these conversations, they do not run through the different phases in Charlotte. Thus, according to most respondents, Charlotte does not structure the conversations.

Second, based on the inserted information, Charlotte creates official reports in which an assessment of a client's situation is presented and which are used by the committees for special youth care or by the youth judge to make a final decision. However, in line with other research that states that CIS fragment holistic information into pieces (Huuskonen and Vakkari, 2015; White *et al.*, 2009), the respondents indicate that these reports do not describe a situation properly, since their assessment is presented in a fragmented way:

When people read that, they think that we were copy-pasting. . . . You do not have a story.

You used to have one big field where you could type all your information in a text, a beautiful meaningful text, where you yourself could add structure. Now, it is all cut up in different fields, and I do not think that is a positive evolution.

These statements support the view that social workers' narrative way of thinking conflicts with a database way of thinking, since the system obliges them to separate the story into various variables.

Third, social workers experience difficulties in fitting their assessment into separate variables. They need to interpret each assessment and have to decide in which part of Charlotte certain information has to be stored: 'You need to get used to it in the beginning because in those fields you need to record information in pieces and chunks.'

In doing so, social workers constantly verify whether the recorded information is subsequently incorporated in a report and, as such, weigh out the merits of filling out specific variables. Since there are different kinds of reports that each consist of a certain selection of variables, it is difficult to know by heart which variables are incorporated in a specific report. Therefore, social workers spend considerable time weighing out where to record information. Furthermore, whereas the government distinguishes certain phases within Charlotte, social workers consider some of these phases to be mixed in practice. For example, while in Charlotte, the assessment of the client's situation is divided into different subsections—screening, diagnosis, hypothesis, indication and help—in practice, social workers experience that phase to be one entity. Also, while—according to the respondents—clients do not have different views on the screening, diagnosis or indication, in Charlotte, these aspects are separated.

Electronic client records as a new source of discretion: street-level strategies to deal with the database

By making use of their discretion, child welfare social workers try to remedy the problems concerning the integration of ICT in practice and to preserve a narrative social work approach. Based on the data, several street-level strategies to deal with Charlotte and to preserve a narrative approach can be distinguished.

A general strategy that affects the other street-level strategies consists of minimising the time spent on Charlotte:

If you want to do it well, you should invest much more time in Charlotte. But that is a personal consideration you have to make. You remain a social worker and you must keep seeing your clients? . . . Registration is necessary in order to function well as a social worker at the court house. But, taking into account

our caseload, it is absurd that we have to work 60% in Charlotte At that moment, we prioritize home visits . . . and client contacts.

Second, due to a high workload, the respondents consider it to be impossible to complete all their cases within the given time and completely fill out Charlotte. Therefore, social workers sporadically write a report without recording the variables in Charlotte, and some simply fill out 'x' in obligatory fields. By doing so, they are able to continue working in the system and finalise a certain phase. Some team managers are aware of this strategy and explicitly allow it, which is contrary to the demands of the central welfare department. In line with this, numerous respondents refuse to record certain parts of Charlotte that are not directly relevant for practice, such as certain optional variables. For example, social workers have to notify in distinct variables whether their clients agree with their opinion on the screening, diagnosis and indication. Since social workers state that their clients do not have different views on those aspects, they feel they repeatedly have to fill out the same information in different variables. This results in social workers only recording one of those variables and simply writing 'client agrees' in the other variables or leaving them aside. Also, a few years back, social workers resisted the use of a certain section of Charlotte by setting up union actions, which resulted in the abolition of that specific part.

A third strategy is to use an own paper record system next to Charlotte. The social workers often consider their paper record their primary work tool. Contrary to Charlotte, a paper client record can be used during home visits and social workers can add documents they receive from other services.

Four, multiple social workers refuse the demand of the central administration to use Charlotte systematically and only record a certain section after having obtained all the necessary information. For example, social workers often execute the whole phase 'case research' in practice and only then fill out the different subsections of that phase in Charlotte. Usually, this happens when they have to hand in an official report, or when they have to discuss their client's situation during a team meeting.

A fifth strategy is to adjust the official reports developed by Charlotte to remedy the fragmented presentation of a client's situation. Social workers adjust these reports to ensure themselves that they present a comprehensible picture by making clear how the different information items are connected and why they are relevant. In doing so, they provide a narrative account of a client's situation and clearly transmit their assessment. Another strategy social workers use to provide a narrative account is typing extensively in the available open text fields. Using these fields, they can still provide in-depth explanations whereby the client system is not abstracted from its context. Furthermore, through those fields, social workers themselves can decide which information they deem relevant and subsequently announce. Hence, the ownership of the relationship and its interpretation remain with them. In line with this, [White et al. \(2009\)](#) observe that 'these [narratives]

were often forced into existing boxes, often only partly relevant to the topic, and sometimes repeated elsewhere on the form as if to emphasize the importance of the narrative' (p. 1206). Finally, in order to have a clear overview, some social workers first write their report in Microsoft Word and only subsequently fill out the variables in Charlotte.

Realisation of public accountability via client registration?

In line with earlier research, we find that the limited integration of Charlotte in practice and the street-level strategies social workers develop to remedy this result in a gap between ICT policy and the execution of that policy in practice. Accordingly, this affects the extent to which a premised objective of Charlotte is realised, namely supporting policy makers. Indeed, the realisation of this goal is determined by the dynamic interaction between Charlotte, the social context and the street-level strategies. The employed street-level strategies negatively influence the data quality and thus decrease the degree to which accountability can be realised, since data must be reliable and valid in order to draw meaningful conclusions. According to some respondents, the data quality is not sufficiently high to base a meaningful analysis upon:

I think that the government assumes that [the data] is reliable. That is why I think it is good that you have these interviews, in order to render some notions on how [Charlotte] is filled out. . . . Because the [data] are not completely correct. And I think it is important that the government realizes that.

The quality of the Charlotte data is determined by several factors. In this respect, we primarily focus on variables with standardised response categories, since those variables require the least time investment to analyse. First, numerous variables are not filled out although this is essential in order to be representative. Second, the differences between social workers concerning the extent in which variables are recorded can lead to distortion. Third, the obligation to record variables in combination with a lack of the correct response category leads to the registration of incorrect information or information loss. Fourth, the obligation to record certain variables can also lead to the registration of incorrect information when social workers have not been able to gather the necessary information. Fifth, memory effects can occur, since social workers often only record after they complete a certain phase in practice which can take many weeks or months. Sixth, the data quality is determined by the extent to which the registration instructions are fully understood. Those instructions are frequently only given after parts of the system are altered or an incipient social worker has started working. Seventh, certain variables in Charlotte are not up to date, since not all social workers use Charlotte systematically. Also, certain facts such as 'income situation' or 'school situation' change rapidly in practice, making it almost impossible to keep such

information up to date. Eight, when social workers are not sure that the answer they marked for a variable with standardised response categories is correct, they sometimes report those doubts in a related open text field. Although this method is useful for social work practice, it negatively influences the data quality. Indeed, when analysing variables with standardised response categories, the related open text fields are often left aside and thus the notes are ignored. Finally, the guideline that optional variables must only be recorded when that information is relevant for practice results in distortion of the data.

Discussion

Over recent decades, ICT is increasingly being introduced into social work practice under the premise that it brings significant efficiency gains (Gillingham, 2013). Although it is expected that ICT supports both social workers in their daily practice and policy makers, the objectives of those systems are often not realised (Avison and Young, 2007; Bal and de Bont, 2005). In line with earlier social informatics research, we find that the way Charlotte is used—and consequently also the extent to which the premised objectives are realised—not only depends on the characteristics of these ECR, but also on the social environment in which they implemented and the personal characteristics of their users. Indeed, the registration process is determined by both the interplay of Charlotte and social work practice and by the centrality of the narrative in social work.

Although Charlotte may be well designed theoretically, in practice, numerous bottlenecks occur that are related to technical, social and socio-technical characteristics of these ECR. These hindrances affect social workers' motivation in a negative way and imply that a first goal of this system, supporting social workers in their daily practice, is not realised. In order to remedy the bottlenecks, social workers use their discretion and develop various street-level strategies. In line with other research (Huuskonen and Vakkari, 2015; White *et al.*, 2009), we find that social workers constantly make strategic and moral decisions with regard to the way they use Charlotte. These street-level strategies are determined by the fact that social workers are attracted to their work because they want to help others, and consequently prioritise other activities over recording. Indeed, fully utilising Charlotte is not deemed essential for realising optimal care. In addition, we establish that a narrative and relational social work approach still is ubiquitous in social work practice and thus influences the registration process. The latter provides an explanation for the statements that social workers are less concerned with the social and relational dimensions of their work (Parton, 2009) and that they increasingly record facts and exclude their experience and tacit knowledge from client records (Huuskonen and Vakkari, 2015). In the literature, the augmented use of ECR in social work

practice is said to result in a change in the form of knowledge and the nature of social work itself: from a narrative to a database way of thinking. For instance, [Parton \(2009\)](#) states that gathering objectified and decontextualised information becomes the key focus of the job: social workers are becoming information processors that are less concerned with the relational aspects of their job. However, we find that social workers resist the structures of ECR and develop street-level strategies to guarantee a narrative and relational social work approach. Although the ECR have a lot of impact on their work, since social workers spend a lot of time filling out the variables, at the same time, they preserve their way of working with clients. In other words, there seem to be two different worlds in practice. On the one hand, there is the world of face-to-face interactions with clients based on a relational and narrative way of working. On the other hand, there is the world of the database, in which social workers are filling out variables.

The applied street-level strategies not only result in a gap between ICT policy and the execution of that policy in practice, but also decrease the extent to which accountability can be realised. Although performance indicators are often introduced to realise accountability ([Pollitt et al., 2007](#)), the street-level strategies negatively affect the data quality. Indeed, registration data are not simply a reflection of reality. They are the result of a process whereby social workers employ various street-level strategies in order to deal with the difficulties of social work practice. As a consequence, one should carefully handle such data in the context of policy making and scientific research. In this respect, the substantive connection between the street-level perspective and the use of ECR provides relevant insights concerning the possibilities and limitations of registration data. Second, when designing ECR for social work practice, one must take into account abundant factors related to the socio-technical context in which ECR are embedded. Although it is difficult to meet the numerous requirements, those latter may not be neglected, since they make or break such systems. In this respect, the conceptual framework of social informatics proves to be a useful tool for analysing ECR in practice, by taking into account the social context and the way social workers react upon the prescriptive nature of ECR.

Since this article is based on a limited number of interviews, more extensive research is needed concerning the way in which ECR are used, taking into account the socio-technical characteristics of the research setting. In doing so, the possibilities and limitations of registration data for policy and scientific purposes can be more realistically assessed.

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