Numbers, Governance, Health: A Norwegian Case of Statistics and Documentation Production

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Abstract

This paper follows the documents (texts, numbers) of a statistics system called IPLOS. IPLOS is intended to coordinate, control, standardize and stabilize municipal care services in Norway and generate statistical knowledge about the clients. We follow the production of IPLOS numbers, their movements through the interlocking organizations, and how IPLOS is understood, used, and interacts with service delivery. We find that rather than IPLOS numbers stabilizing the organization, the organization de-stabilizes the numbers.

1. Statistics, Economics and the State – the Case of IPLOS

Evidence-based steering technologies are prominent in the "toolbox" of governance techniques known as New Public Management (NPM) [8]. The expansion of NPM has raised the currency of representation strategies such as measurement and quantification [21]. These strategies involve translating details of local activities into standardized, calculable units. The translation enables comparisons of the measured details across geography, time, and activity types [20], and builds formal bridges between institutions involved in governance of what's measured. In this paper we examine one such Norwegian statistical documentation system – National statistics linked to individual needs for care, or IPLOS.

IPLOS is arguably an instantiation of the State's interest in improving horizontal and vertical coordination of the services [7], together with a dash of New Public Management (NPM). The system's history tells two tales – one of the construction of statistics for national governance and one of data to be used for rationalization of municipal services. The first story reflects a state interest in governance data that predates NPM by centuries. The second story illustrates a demand for measurements as tools for leadership, where technologies such as quasi-market structures and goal steering need numbers in order to function [27]. Other demands for numbers, e.g. to legitimate health professionals' resource demands, exist but are not prominent in IPLOS's design history. In other words, IPLOS was created to achieve coordination, control, comparison, transparency, standardization, and stabilization vertically and horizontally in the interlocking organizations that make up municipal care services in Norway. IPLOS was designed to accomplish this by bridging the span from health professionals' daily care work, via municipal coordination among units, all the way to national planning and research - the idea being that numbers documented "at below" and reported upwards and inwards would remain stable and recognizable throughout their various aggregations, thus providing a means of communication within and across the many levels of services and between the services and their public.

Both economics and statistics are integral elements in the larger framework of "State science" [11]. Weber [28] meant it was important to differentiate between the two, as the two practices were based on what he considered fundamentally different motives and functions, just as "the bureaucrat differs from the entrepreneur". IPLOS, however, offers statistics and business accounting all in one. Municipalities that use IPLOS this way report the same data to the national nursing and care statistics register as they use for local budgeting and case planning. When the statistics and management's apparatus are combined in one investment [24], one enumeration system, it becomes reasonable to ask whether the fusion of motives and functions is expressed in the relationships between data reporting and the organization. We know that formal reporting systems can alter the phenomena reported, even when that was no party's intention [4, 26. 25]. Reporting can change professionals' perceptions and categorizations of the clients they report on [5]. Measurement can also render some activities more important than others, and measurement goals can drift from steering to image building [18]. It is therefore important to empirically study

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ethnostatistical [12] and enumerological [4] aspects of such statistics systems.

"Ethnostatistical" studies address interpretative practices (meanings and actions) integrated into the production and use of statistics [12, 2]. "Enumerology" points to the social processes undergirding the production of "objective" numerical representations [4]. In other words, it behooves us to ask how IPLOS reporting interacts with central care service work tasks such as determining services offered and coordinating their delivery.

2. Statistics as an Empirical Phenomenon – Theoretical and Methodological Approach

It has been repeatedly shown that technologies meant to order or assist organizations do not have the capacity to represent those organizations fully [15, 5]. Nevertheless, discussions on measurement systems often focus on precision. Inevitably, implementation of measurement technologies reveals the contrast between activities' "messy" practices and the systems' technical order [19]. This will always be a challenge, making accuracy and honesty readily available straw men in debates. But the problem may be no greater than that of comparing across levels as if they were equivalent. An organizational map is obviously a simplification and under-theorized relative to the organization's ecology. Similarly for statistics-based steering models, the need for precise "maps" can be less important than managerial and political needs for numbers. The work of naming and operationalizing the service aspects that those demanding and designing the statistics wish or think it appropriate to measure, is in other words a creative task that need not match with the perceptions of actors in the measured field. Nevertheless, the named phenomena will be dealt with as if they existed within that field prior to the advent of the statistical system. The indicators will then serve as a basis for mapping and evaluating activities in the field, even though behind those numerical "facts", there may in principle be … nothing [16]. And yet, the numbers can be perfectly serviceable for the goals set for them [17].

To contextualize the relationship of steering statistics to activities in the field, it is thus important to examine how the organizations' members inscribe the numbers with organizational relevance. This requires a close-up study of the use of numbers in organizational context, and a "sensitive" rather than "definitive" approach [3] to the concept of statistics. At the grassroots level, namely, the concept "statistics" is refracted into a fragmented and shifting mass of concepts, practices and techniques [13]. In order to include all the ways care service staff refer to statistics as meaningful in their work, we include not only the raw data reported and the aggregated tables based on these, but a whole nexus of documents - report forms, code lists, instructional materials – along with electronic infrastructure, actors' uses of document contents (esp. the numbers) in work tasks, and the meanings they attribute to the collection and uses of numbers as well as to the numbers themselves. This approach is inspired by Smith [23] who advises following documents (texts) – their production, contents, movements, interactions, uses, and interpretations – as a method of organizational ethnography.

Field work was conducted in several periods from 2007 through Fall 2011. Data used in this paper were gathered through participant observation of IPLOS data collection, reporting, and usage in care service delivery units, case management, and municipal administration. Observations were supplemented by qualitative interviews with health personnel and service administrators (N = 17). Observations and interviews were conducted in two municipalities – one small rural community and one large (by Norwegian standards) city. In the rural community, administrative functions were housed in the same building as the nursing home and home nursing offices and within walking distance from the assisted living apartments. In the city, administration functions were distributed over several zones, each with an administrative centre responsible for a number of service delivery units. One of the intentions underlying the city's service structure was to professionalize case administration within a quasi-market model. I.e. case workers conducted individual needs assessments of clients, on the basis of which they "ordered" services from the provider units [14]. Nurses also conduct (re-)assessments of service needs during their performance of service provision.

Field work in the rural community was concentrated to one week in 2008 and consisted of participant observations and qualitative interviews amongst nurses at the nursing home and in home services, unit managers, and case managers. Field work in the city was conducted over a longer period. Here I (first author) observed case managers out on evaluation work and interviewed case managers and service providers in home nursing services. I was given observation access over several periods from Spring 2010 through Fall 2011. Field work at the administrative office was conducted over two months in 2010. Interviews with home nursing staff were conducted Fall 2011. In addition I had qualitative interviews with nurses in the same positions in other municipalities.

Sociologists are well aware that they can have an effect on the fields they observe and the actors they interview [10]. The visible and explained presence of a researcher modifies the context for actors' actions and statements. Whether this has a

significant effect on what the researcher sees and hears, cannot be known by the researcher, perhaps not even by the actors themselves. I was collecting data on other actors' data collection work. Not only may my presence have affected my data; it may also have affected the production of IPLOS-data. I assume, however, that any such effects have not had serious consequences for the clients, the services, or the IPLOS register. Most probably, such effects consisted primarily in data recorders making an effort to follow formal registration rules more stringently than usual, rather than the opposite. Thus what rules flexibility I observed is likely to have been a minimum.

3. Statistics, Organisation, and Everyday Life

The municipal health and social services are, in a sense, the antechamber for the national health and social policy steering statistics. Here numbers await their turn to report on grassroots activities to the administrators who order and refine them. At the same time, municipal services are the laboratory or factory where the statistical raw materials are produced – a story that broadly speaking unfolds prior to the registration of the numbers, but here we focus mainly on how the numbers enter into the coordination of people and processes after registration. Because the practices of data registration and usage are interdependent, we will not maintain a clear distinction between them, especially in the final steps of the analysis when we discuss relationships between the numbers, actors' awareness of budgeting processes, and the organization.

3.1. Connections

Imagine you are seated at an observation point somewhere within the care services' institutional framework. You are attempting to chart the activities unfolding before you. Some of them are readily visible: regular routines, nurses working at computer consoles, client conferences, staff meetings, a unit leader's visit to the point of service delivery, client's physical movements, cleaners' equipment. In contrast, this thing called IPLOS seems practically invisible for the new observer, in spite of it being mandatory in the service's regular activities. Some numbers seem to get tossed about, but without any obvious connections to the national bureaucracy, the city manager, the budget, the clients, or nursing tasks. And yet, the various elements of the service's routines do seem somehow connected, if only because they occur within a delimited space.

How visible the nurses permit the numbers to be depends in part on what roles IPLOS takes in their work. Is it a background context, a relevant resource, a hindrance? For the client, the nurse, colleagues, management, the municipality, the State? Whether nurses handle the numbers as (ir)relevant or (un)useful, meaningful or meaningless, seems closely related to what information-bearing capacity the nurses ascribe to the numbers. Some link stories to the numbers. By turning the numbers into organizationally relevant sites for action and direction, they create contextualizations that escape the control of the IPLOS system's formal rules and controllers. In one example, a nurse with casework responsibilities describes how she uses the numbers to form an initial impression of the client:

"For those of us who have worked a lot as case-workers, the ADL-registrations say a lot. So yes, here's a string of cryptic numbers ... but when you're experienced with them – when you get a new client referral, or say we're adjusting a client's care plan maybe for a period in a nursing facility – then I take a look at the ADL. And then you have to have the right type of ADL. So I take a peek: 'Aha, mobility 4. OK, difficulty walking.' And then I look at cognitive functions, i.e. memory. 'Aha, so that's how it is.' So that gives me a first feel for what sort of ward this person needs. Some wards are more suited for dealing with dementia, and others are totally unsuited. So if you see a person with mobility 1, i.e. highly mobile, and then you have memory 4, then you start to look closer at the documentation. This may be a client who runs off, who goes out and gets lost. Just by looking at those two numbers, you can get an inkling of that."

The case-worker is here reasoning based on connections she has made between specific numbers, events, and clients. She describes visualizations of "1" and "4" as indicators of assistance needs. The visualizations are quite concrete images of personal life situations. Wheeler [29] claims that patient records, registers and archives are formalized, "faceless" forms of communication. "Facelessness" does not fit well with the nurse's description. The images she describes are more specific than that. Rather, she reads the register numbers more as "face-evocative", or at least evocative of client attributes, sufficiently specific for her to reach a tentative conclusion.

The connections she draws do not follow automatically from the numbers. Initially, she calls them "cryptic". But at some point she has managed to make them intelligible, the mysterious has become manageable. For her, the numbers have begun to evoke stable, repetitive associations to specific client categories, procedures, and institutional capacities. How has she performed this transition? The term "cryptic" refers often to species or codes that are difficult to differentiate from one another or decifer. They are not necessarily

unfamiliar, but their source or what they mean is not immediately obvious. When a string of numbers is called "cryptic" we can therefore assume that the numbers are experienced as somehow strange, alike and different from one another at the same time. A 4 is obviously different from a 1, and yet they are similar in that they belong to the same category of phenomena. A 4 is obviously similar to another 4, and yet they may differ significantly, for instance if reported by different evaluators, or because they refer to different ADL fields, or because each 4 is somewhere within a range covering roughly one fifth of an infinite variety of (in)dependence levels. Furthermore, a number can be correct or false, and the nurse cannot be certain which of these categories a given number falls into, not without further investigation:

First author: *"So you get a direct indication just from a couple of numbers?"*

Nurse: *"Yes. 'Now we have a couple of spots to give families a break; does this client fit in here?' So then I sort of begin researching a bit in the documentation […] And I can go in and search, can I confirm this here … or check it out. It's not certain that a person goes out wandering just because they have that combination of numbers, but quite a few of them do in fact. The numbers can also be helpful when some neighbor or stranger contacts me and I want to phone the client and discuss things, then I go into IPLOS and check how things stand with memory and hearing, for instance. Can I expect to get a reasonable phone conversation with this client? And then I see that 'here we have memory at 4-5'. Then I might look further. Is there a relative listed as someone the client has accepted that we speak to? Then maybe it makes sense to go that route. And when the hospital phones about a client we need to make arrangements for, yes, then we ask for an assessment and we look at the list of numbers and get an impression of who this person is … One can look a little at balance issues then, between a person who scores as very help-dependent on ADL and maybe has very few services. Either the family are doing a lot, or this is someone getting too little assistance, or who has maybe declined assistance, or maybe is living in unworthy conditions."*

An assistance request commands the nurse to form a prompt impression of the client's situation and formulate an organizational response. The numbers help her to plan a course of action, including a set of questions to pursue further. On the basis of the IPLOS numbers and other patient documentation, she forms some assumptions as to where this client belongs in the overall client topography. Note that she does not perceive her reading of the numbers as something specific to herself. She generalizes her own practices as habitual, something "one" does or "you" do. Yet it cannot be taken for granted that her reading of the numbers is correct, as she herself points out. Rather it's a matter of the nurse's assessment of the information quality and the likelihood that one interpretation or another is adequate. This will only become clear when she experiences how the constructed image of the client and the plans based on that image function. If the plan emerges as practicable and helpful for the client and the organization, then the image was precise enough.

3.2. Ahistorical Numbers, Numbers as History

The supplementary information the nurse uses to interpret the IPLOS numbers does not cling to the numbers as they circulate through the services and management apparatus. Nor is it a given that the same numbers will be linked to the same supplementary information or client images by others who process them. One municipality has a collaborative agreement with the local hospital that IPLOS-registrations follow clients on remission from or (re)admission to hospital, the idea being that the hospital can observe any changes in the patients' functional levels and requisition appropriate services in and out of hospital. As one ergonomic therapist involved in casework there said: *"A nurse at the hospital said that the [IPLOS] registrations were meaningless. I said, test me! Then I told her what I read out of the ADL-scores. She was speechless!"*

The same numbers can be read as polar opposites – as a bridge to meaning or as nonsense. This is easy to accept. A greater challenge is understanding *how* nurses read meaning out of the numbers. Numbers can be said to be tentatively closed [9] products of extensive simplification processes. When nurses read client images out of these numbers, they must reopen and de-simplify them. The same number can be reopened in different ways, even by the same person. Below, a nurse illustrates this when she describes how IPLOS numbers appear as an average in an electronic patient record. After multiple registrations of the same client, the averages are shown in the form of a curve:

Nurse: "Here we see how the patient's health has changed. Here you see that he had a bad spell [points to a dip in the curve]."

First author: "What does this tell you, these numbers?"

Nurse: "I see the decline. But then, I know the patient. I know that here he needed an IV infusion."

Where I see a curve and some numbers, the nurse sees a client's health situation. The curve evokes her prior experiences with the client, serving as a memory trigger or memory storage unit. Preda [22] claims that memorization is not so much a mental process as interactionally generated. Even though memorization (with or without mnemonic

triggers) can be useful, the nurses cannot test a given memory's validity on the basis of the numbers themselves. While the numbers represent a stable documentation in form, they also produce uncertainty because the knowledge they represent is not so much a basis for the nurses' analysis as a product of it [6]. The nurse indicates that the curve can be read in at least two ways: That the client has been in decline, or that something extraordinary occurred that set the client temporarily off kilter. The first reading indicates a decline that may continue or be stabilized, the latter that the client can regain former function levels once the crisis is over.

Which of reading one lands on, depends on the position from which one reads the curve. The nurse offers the first as an illustration of a formal reading of the numbers, without personal knowledge of the client. She offers the second reading as arising from an experience-based, local position. Both readings are equally legitimate. IPLOS has no mandate to control what knowledge nurses have of a client when they process the numbers. At the same time, instructions for using the numbers make it clear that they are to be used as something more than mere formal, ritualized registrations. One nurse, employed in management to follow up on IPLOS in the municipality, said the following:

"We've been out to some units [where] if we go over the ADL, we can print out a client on paper whom we have no knowledge of and one of us can tell about this client, on the basis of the ADL scores, that here we have a client who is totally dependent on the staff for mobility, can't walk or steer his own wheelchair, has to be lifted with a sling in and out of bed. This is what we would think, if there are a lot of 5's. This is what we read out of the numbers. 'No,' they begin to say. 'No, he walks on his own.' 'Well that may be, but that's not what you've coded for here!' We've done this many times, just to show that this actually says something about the client, and you're the ones [here at the unit] who have said it."

From the IPLOS-manager's standpoint, the numbers are not random markings; they should constitute linguistic signs. Nurses at the grassroots have various understandings of this issue. Some don't use the numbers as client descriptions and therefore register wrong numbers, according to the manager. But what the manager experiences as wrong registrations, aren't necessarily meant as such. They can also represent local interpretations of the indicators and numbers, interpretations that prior to the controllers' visit were experienced as legitimate and correct by the local actors. According to the manager, however, such local interpretations represent a dissonance relative to IPLOS's formal coding rules. This dissonance must be corrected – both for the sake of the statistics reported and for the potential effects of the numbers on service practices. She illustrates this latter point with a catastrophe scenario:

"Suppose I were to come here to fill in as a temp one day. Suppose there's a client registered with a 1 for eating functions, and who can't speak for himself. But say he is fed through a tube. Not knowing that, I might ask him 'Would you like some m&m's? And maybe the client himself doesn't know, or thinks it's logical that he could have a little treat since he isn't diabetic ... and it ends in catastrophe, you know, because he has a feeding tube. But I wouldn't have known that from the numbers."

Her point is clear, even if her example is extreme: She takes it for granted that the numbers have such authority in local work processes that erroneous numbers can mislead nurses' attention and actions in encounters with IPLOS-registered clients. In the worst case, clients can be harmed. From this point of view, the necessity to control registration top-down appears imperative. The nurses, however, do not all share her view. Some nurses use the numbers as a (tentative) basis for case management decisions, but some say the numbers are not important to them at all:

"It's a very handy overview for those who make decisions at assistance evaluation meetings, but for us it feels like just something we register for the higher echelons. We don't use the scores. We use service- and nursing plans, check examination and test results, and so on."

One can sense from the above excerpt how important local organization structures are for how and by whom IPLOS data are used. This nurse works in a community where IPLOS data are not used in the budgeting process. Furthermore, the community has appointed a handful of caseworkers responsible for initial client assessment and IPLOS registration. The remaining nurses have other tasks and prioritize other documentation forms.

3.3. Numbers as economic data

From the time a nurse evaluates a new client and registers the client's assistance needs until management has its steering data, the numbers have undergone a lengthy processing. The numbers are still the same, but how they are experienced and handled by the actors changes. This is typical for numeration processes in bureaucracies [9, 21]. Different settings and social positions implicate different representational networks, making different readings available and relevant. The nurses' and caseworkers' task is to describe the client according to the measurement instrument and report the numbers upward. Actors whose task is to control the numbers or to use the numbers to organize care provision, for instance unit managers, have a different mandate and read the numbers differently:

"In as much as I'm responsible for the economy, I'm completely dependent on IPLOS-registrations to see that we're working in the right way […] I don't think I'm as good at reading the individual client [as the nurses and caseworkers]. I'm more at the macro level. That's what I can read out of it. I use it as a budget tool more than they do. When a nurse setting up watch lists says to me, 'you know, there are two off work tomorrow, but we don't need to hire replacements because it's fairly slow just now,' I should be able to read that out of the numbers. And for the most part I can."

Where the nurses and caseworkers see health professional images of individual clients, the manager sees a unit's work situation. She translates numbers into organizational and logistical factors such as workload, resource needs, and staffing levels. The nurses don't need data in IPLOS form to do their work, but the manager does. She uses IPLOS to check whether workloads and staffing are distributed "the right way". She presents IPLOS as an answer key, imperative for coordinating the unit. At first glance it might appear that she authorizes IPLOS to override her professional judgment, but the authority delegated to IPLOS is not complete. It is the manager who reads the numbers, and this reading is not simply a mandatory technique:

"We have to have a means of budgeting. What is right and wrong isn't easy to say. I can understand that for an outsider this looks technical, not much ethics in it perhaps. When you hear about the model that we weight … and then arrive at a number = kroner [NOK, Norway's currency] = how much help Klara gets, it can sound brutal. But then I get the money and it's my responsibility to manage it the best way possible […] and that's where professional judgment comes in … if a client comes out unreasonably in our model … then we provide the help that client needs regardless. Isn't that what matters, that the client gets the help he needs? […] It's important to differentiate between the technical and the professional."

She doesn't experience IPLOS as a decision-making authority. Managing the budget is her responsibility. She describes the intercept between the budget model and the client as a matter of scaling up and down between the aggregated numbers on her computer screen and individual's needs. The numbers show how much money each client pulls in to the unit's budget. In spite of this, she says she sets clients' needs at the forefront, as best as can be achieved within the total budget.

Her description is an organizational story of how IPLOS is meant to function financially, where IPLOS should not affect care practices. Her story also tells that since "correct management" and "correct way of working" depend on "correct registration and use of IPLOS" amongst nurses and caseworkers, initiatives must be taken at the grassroots level to *calibrate* (another informant's term for IPLOS training courses) registration practice. As an IPLOS course instructor and budget officer put it:

"We have very strict standards for those who register IPLOS data and Gerica [electronic patient records]. There are two who are ADL-authorized at each unit. But everyone needs to have an understanding of it and know how to use it. […] That has to do with the economic aspect. But that's just because of the 'sluicing' aspect, since that's how the money gets counted in. That's why we have two at each unit who are top competent and can take a critical look at what the others log in."

Calibration and the extra round of controlling registrations made by front line service providers are primarily set in place because the budget has been linked to the statistics, not for the sake of national statistiscs. At the service units, this is hierarchically organized. Responsibility for registration is assigned to specific, ADL-authorized nurses who are responsible for streamlining the linkages from production to budgeting, and for taking a critical stance towards colleagues' reports and coding suggestions. They are not to assume that colleagues' codes are correct, but view them as potentially wrong. According to the instructor/budget officer, this makes the economic aspect of the statistics production more stringent. The term "sluicing" hints at effectiveness, at packets of numbers being pulsed through narrow tracks to selected recipients. The numbers must not meander; they must follow the quality assurance channel.

In addition to this social network of control, the numbers' economic functions can be seen in the materialities of service providers' daily work. In a community where IPLOS is used for budgeting, the numbers' economic face overlooks casework tasks:

"We sat there with a page in front of us where this was calculated out … if you're in a category with ADL thus and so, then that entails so and so many hours of services. Of course, that's not right, because you can never say that … assistance needs can be different even if we have scores that are the same. […] I don't think we use it all that actively any longer, but some of it has become ingrained at a reflex level." (caseworker)

Caseworkers were given a standardized table showing how ADL scores translated into nursing hours in a "time bank". It isn't given that this materialized connection between casework and economy affects casework decisions at the individual client level, but the table does make the resource aspect of ADL scoring transparent. Defining one client's service needs becomes a matter of amassing and distributing available hours in a time bank that serves many.

Caseworkers familiar with the table need not have it in front of them to feel its impact on their

work. As the informant says, they may not use it any longer, but it has become an embodied part of their intuition, enabling them to do their work. This may not be due solely to their having been shown the budget calculation table. It may also be due to their handling IPLOS numbers so frequently. As one caseworker put it, "*registration has become pretty routine for us*." This familiarity also means that registration has become doable, even though some informants emphasized its difficulty. They have learned to make compromises to get the resource and budget elements to compute:

"Say you have a client and you score a memory deficit. If the client doesn't see it that way, that can be quite insulting. […] But for the service it doesn't matter if there are some minor errors on such things. […] It should be natural that ADL scores are followed up with services … when you're in hospital or in rehabilitation, when you get home and services are gradually rolled back. The curve should match the services, but it doesn't. Nevertheless, it tells a lot. And it is used in budgeting and there it is very important … results in kroner and øre [NOK]. Then it's not super-important that every client is registered 100 % correct, but at least so close that the average is correct." (caseworker).

Paradoxically, IPLOS numbers don't have to be 100% correct at the client level in communities dependent on precise data for budgeting purposes. One of the compromises the informant describes allows some slack in professional precision for the sake of the ideal of client involvement – that clients should participate in their evaluation and recognize themselves in the resulting codes. This is closely linked to another compromise – that each code need not be precise as long as the average is correct – whatever "correct" means. A third compromise is accepting that the numbers don't provide all the information they might. The work of compromising undercommunicates the gap between codes and client, between map and terrain, rendering the numerization work "quick, but not too dirty". That the average is attractive steering information in a field legally regulated by individual rights can seem paradoxical, but is at the same time predictable. As documentation becomes increasingly detailed, the level of abstraction required for effective communication over organizational distance also increases – making the average a compromise between the standard and the individual.

3.4. Different Approaches to the Transaction

The numbers' conceptual role [3] is a function of the technological framework within which they are anchored, but that framework does not control the actors' translations. When the ADL registrations, i.e. the IPLOS scores, are linked directly to budgeting models, it is natural to ask whether this has twisting effects on registration practices. Twisting effects are not necessarily a result of cheating. Twists, distortions, or (more simply and less judgmentally) changes in the ways the organization perceives itself, its work and its clients, may be at least as significant for the organization's operation.

Some informants did claim that the budget models had triggered occasional attempts to manipulate towards higher than average monetary transfers to units, in spite of efforts at calibration:

"When this was new […] you sort of had to watch out for cheating. And the budget officers had ways they used to drill staff and gave very clear responses and cracked down on obvious cheating. They could see that these clients, that the codes were wrong, because the numbers didn't fit with information in the patient records. They confronted the service units and said this would not be tolerated." (caseworker).

The caseworker describes the budget officers as a militant, pro-active police force. They went from unit to unit to prevent cheating and sanction against what they deemed as cheating. People were drilled. Fists were pounded on tables. "This will not be tolerated." Spokespersons for control demanded system loyalty, a shared performance culture. According to this caseworker, what the budget officers demanded was a measure of solidarity towards the collective "we", implying both that some are defined as outside that "we" and that front line service employees perceived that "we" in the same way as management – neither of which conditions necessarily hold up**.**

One unit leader expressed the opinion that those who record the numbers do not, as a rule, attempt to cheat:

"People are super-honest, attempting to do a correct and thorough job. I find that fascinating [that they] take it very seriously, because everybody knows that the registrations release our funding […] the ADL registrations we do, they're supposed to be in the clients' home patient records. That wouldn't do either … if that [cheating] were the practice. The scores are supposed to be recognizable for the clients and their families, so that … yes, Klara has a 3 on that because she actually needs some help."

The informant describes the nurses' performance of IPLOS work as surprisingly disciplined, in spite of an obvious potential to improve ones budget. The clients' interests in accurate codes outweigh that temptation. Balancing different interests is supported by the registration's moral dimension. Since the registrations are available to clients and their families, nurses and caseworkers face the possibility that clients will react negatively to their scores. Control of registration work is, in other words, not conducted solely by budget officers, course instructors, managers, written instructions, and the ADL-authorized staff, but also by the social

relationships that arise between spokespersons for the economy, grassroots staff, and other actors enrolled [28] into the process, such as clients and their families. Through this network of relations and interests, the ”right” interpretation of coding instructions is regulated in terms of which interests take moral priority within the registration work. For instance, this nurse from a municipal psychiatry team described her assessment of why *not* to follow instructions:

“When I got the order that ‘You have to score higher in IPLOS’ then I said that I can’t be bothered to do that. Then your team [speaking to a colleague] would appear to have a lighter load, because as of now we score mostly 1’s, and you’ve maybe got mostly 3’s and 4’s. So your average, I said, would appear relatively higher in functional levels. But no, I had to do it, they said, because there was economy in the picture. So I did it, then, but – obviously, the scores we give, it’s on a whole different basis than for those who deal with somatic problems.”

The nurse wants to give moral priority to her relationships to colleagues. As she sees it, the registrations must portray clients’ assistance needs “correctly” across different service units. But she sees herself as forced by management to change her priorities towards her own unit’s economy (and perhaps also her own clients’ right to services – scores below a 3 do not bestow a right to services). The formal system thereby distorts her professional judgment. The IPLOS registration becomes a transaction, where the nurse transfers information from the service front line to the budget office, where the information undergoes a translation into budget data. That this translation is possible is not in itself sufficient to give authority to the budget function. Initially she refuses to follow the order to change her scoring practices, because the order comes from a sector she has pre-defined as holding less moral authority than relationships to clients and colleagues. But when the order is repeated by a stronger authority, she accedes. The discussion thereby appears not to be about how “the nurse is to set a reasonable (or ‘correct’) number”, but about relationships between nursing activities on the one hand and economic-administrative activities on the other. Justification for the transaction rules lie in their economic rationale. If she accedes to these rules without visible resistance, she lends them legitimacy. Enumeration is not just a matter of measurement, but also of (personal and professional) dignity for the nurse, colleagues, and clients [26].

It may be that the orders given to the nurse were not based in budgetary concerns, although she perceived them as such. The command may have been a demand for standardization, which is a system goal also independent of monetary activities. The statistics system presumes standardization as a matter of data quality assurance. This standardized and standardizing aspect of IPLOS implies, in the nurse’s view, a friction-filled categorization and comparison of clients. She perceives the standardization of scores for psychiatric services, set as equivalent to the scores for somatic services, as odd. The client groups themselves are not standardized or equivalent. She perceives them as two distinct groups that differ significantly in terms of their health traits and service needs. This is why they receive different services, delivered within different walls. When she perceives this differential categorization as a matter of fact, it is difficult for her to accept a registration system that sets the same criteria for both groups as a basis for establishing statistical “facts”. For this nurse, the score averages in the two respective groups are not averages of the same phenomena. IPLOS, however, masks their differences as likenesses, with the budget as a standardizing director of the play.

3.5. Local Data, National Governance Statistics

Since IPLOS data feature both as national statistics and in municipal accounts and budgets, it is reasonable to ask whether these contexts influence the data. One accountancy officer thought that the surveillance of these numbers due to their use in budgeting in her community made for better data precision:

“[Because] we are totally dependent on Gerica in order to budget home-based services – that is on the IPLOS data in Gerica – therefore so … it has to be up to date at all times. Even though there can be units that forget or don’t do their job 100%, but then that’s worst for them. […] So precisely therefore, we think we’re one of the best [municipalities] when it comes to being able to trust the data in the system.”

The municipality follows up on data production in its extraordinary way, adapted to its demands. At the same time, data production must follow demands from the Health Directorate. The informant knows that not all units register data according to the formal rules, but in her opinion the consequences are worse for the units than for the statistics. The numbers’ linkage to economics interacts, however, with nurses’ and caseworkers’ perceptions of IPLOS and what within IPLOS it is important to follow up on, in contrast to the Health Directorate’s policy that the ADL registrations and other points in the IPLOS forms – such as clients’ living conditions and when the client was last evaluated by health personnel, just to mention two points – are equally important. The budget connection divides the form into budget data and other data:

“We mostly talk about ADL, but IPLOS is more than that. IPLOS is things like do you live alone, or do you need help to get to appointments and that sort of thing, of course. So it’s a bigger picture. But

we mostly focus on ADL. And that has a natural explanation. That's because the budget is based on ADL, or the IPLOS-registrations." (unit leader)

The leader singles out ADL as a separate matter. Monetary value is not linked to the system as a whole, but to one element: the ADL numbers. That IPLOS registrations have more than one audience, more than one purpose, leads to a different valuation and prioritization of the various parts of IPLOS. One ADL-authorized nurse explains,

"I deal with ADL, not IPLOS. IPLOS is in some ways the same, but it's the ADL I actually work with. (…) We can't manage to follow up on IPLOS all the time, not all of it at any rate. Some of it we manage fine, but what we use actively is what has bearing on our budget, and that's ADL."

The elements with budget impact get more attention than those without. The budget functions as a hectic teacher who, a bit too fast, focuses on one subject ahead of others. In consequence, data not needed for budgeting fall outside priorities – even data that may explain the background for ADL scores or serve as a check-list for delivery of services based on those scores. That the ADL numbers also get reported to a national register where they are compiled and compared together with numbers from other municipalities is a nearly invisible, automated and forgotten aspect of IPLOS. Compared with the local budget process, the national reports are allowed to sail their own seas – at least as far as attention from service providers and case workers goes. The numbers' role(s) at the macro level is a non-topic. This stands in sharp contrast to other interpretations of IPLOS, for where IPLOS for this informant is all about local management, IPLOS for others is all about central coordination and policy formation.

One might assume that such contrasts surrounding IPLOS must be resolved in order to standardize IPLOS registrations. But it's equally plausible that IPLOS is itself an agent in creating these contrasts. However standardized the initial registration is, the contrasts emerge once the data are put to use – for while the "production line" creates and processes the numbers, the numbers also create and process the production line.

4. Conclusion

Being numbers, IPLOS statistics seem at first glance to be robust, even precise, snapshots of service clients' conditions and needs. After all, a 3 remains a 3, a 4 a 4, throughout a document's trajectory from the grassroots to the distributive bureaucratic center, via NPM tools and back. However, looking deeper into how service providers and managers read and use the numbers and the feedback on those numbers, the IPLOS system appears far more dynamic and relationally complex.

At the grassroots level, we see that the transformation of client-provider encounter into documents (including numbers) and in turn from numbers to statistics and budgets rests on practitioners' acquired ability to read numbers and number combinations as client images and thus relevant to practice. These readings have, at most, a tentativeness to them, taking the number-image linkages as hypotheses to be confirmed or disproved through actual encounters with clients and their families. Furthermore, not all practitioners see the numbers as legible in this way.

As the documents travel upward and inward in the bureaucracy, readings change. At the bureaucratic peak/center, the numbers are read as distanced from clients, reflecting provider organization rather than client needs and provider documentation practices rather than client snapshots. Inaccuracies are not seen as a flaw in the documentation system, but in the documentation work. However, inaccuracies are of little concern. If they don't average out during aggregation, then any problems devolve to the practitioners responsible for the inaccuracies in the first place. Thus, it is presumed that documentation practices will, over time, come to be disciplined. Controllers attempt to close the gap faster by insisting to documenting practitioners that the numbers can and should have consequences for the services delivered to clients, and thus for the clients' comfort and safety. Instead, what closes the gap is the acquired knowledge that the aggregated numbers have consequences for budget distributions and thereby for resource availability. But this may not result in greater "accuracy" in the snapshot sense. Rather, it seems to result in modified reporting patterns - (re-) interpretations of the coding system so as to better reflect perceived resource needs - and/or in shifts of attention from service needs in general to those service needs highlighted by the numbers. Bluntly put, instead of the numbers serving to stabilize the organization, we see that the organization de-stabilizes the numbers. By now, more than communicating information about the grassroots upwards, the numbers communicate policy information downwards. And yet, because numbers are widely regarded as stable, as reflecting realities about the phenomena they purportedly measure, the numbers continue to legitimate those policies.

Berg [1], discussing resistance to information system implementation, concludes that design and implementation should strive for synergy – mutually constructive interactions between grassroots work processes, management work processes, and the system. We found that workers both at the grassroots and managerial levels managed to make the system relevant to their tasks, but by invoking different interpretations of the numbers. As managerial interpretations impacted on feedback

loops, the numbers registered at the grassroots level were destabilized. Berg's three-way synergy may be impossible to achieve.

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