

STATISTICS AS A TECHNOLOGY OF GOVERNANCE: THE NORWEGIAN NEED FOR NUMBERS & NUMBERS FOR NEED

Purpose: This study explores the development in Norway from an awareness of the need for numbers to govern in the 70s to a statistical information system launched in 2006, called IPLOS, to respond to this need. The article discusses how this system was developed, what the Norwegian authorities attempted to achieve with the development, which goals they desired and how the statistics were intended to contribute to reach them.

Design/methodology/approach: This study has a multisite approach inspired by situational analysis, and draws on “governing by numbers” among other theoretical debates. It is based on original data (qualitative interviews) and secondary sources (policy and statistics development documents). The sources represent both top down and bottom up perspectives; authorities, municipalities, expertise involved in the development and disability activists.

Findings: The statistics development expresses three challenges in Norwegian health and care service policy: planning and governance, the growing complexity of the welfare state and changing welfare ideologies.

Research limitations: The study is limited to a Norwegian context and does not provide generalized conclusions about the sociohistorical context for developing statistics as technologies for governance purposes.

Originality/value: Statistics and numbers for governance purposes are most often talked about as ready-made facts. This study explores a quantifying tool and its numbers in the making, with a methodologically approach that extends the governing by numbers tradition.

Keywords: Norway; governance technology; planning; welfare ideologies; statistics; municipal health and care services; assistance need

1. Introduction

In 1919 the chief of Vital Statistics in Michigan, William Petrie (1919: 71), spoke as follows to the American Public Health Association: “Vital statistics and public health administration may be termed a business proposition (...) Statistics, in brief, is a system of accounting (...) [and form] an indispensable part of the public health administration of all progressive cities, states and countries at the present”. Today, Petrie’s call for acknowledging the usefulness of numbers for government has come to constitute a truism in two respects.

First, Western states have a long history of collecting and utilizing numbers for government purposes (Hacking, 1990). Numbers equip the modern State with intellectual machinery and “know-how” (Rose and Miller, 1992)¹, and make it possible for government to act at a distance (Bloomfield, 1991, Latour, 1987). Yet, since the 1970s important changes have taken place in all Western nations, known as the modernization of public sector and the rise of New Public Management (NPM) (Hunter, 1996, Hood, 1991). Or, as a former Auditor General of

Norway described the changes; from 1970 to 90 “[a] transition similar to an experiment occurred from a fine-tuned focus on details to top-down spending limits, towards a lesser degree of state initiated governing of resources and organization to governing by results” (Mørk-Eidem, 1999: 11).² The situation is now characterized by among other traits an increased use of formal accounts in public services (Lee and Cassell, 2011), supported by an extended and professionalized number-producing industry for the public government. Briefly put, more numbers circulate in Western state bureaucratic processes than just some decades ago.

Second, the use of numbers in public sector is often characterized by a lack of knowledge about social processes and actors involved in the development of the quantifying tool and organizationally produced numbers. They are blackboxed; treated as if they work “outside social order” (Star and Lampland, 2009: 9), as if it does not matter whose they are, who has made them, or who knows them (Code, 1995). But often, it does matter. When used as organizing devices in welfare services, standards, such as accounting numbers and statistical categories, can rule people in or out (i.e. when used to measure individual needs for assistance). They codify, embody and prescribe ethics and values (Star and Lampland, 2009). As an old phrase says, “what’s counted counts”. Further, calculative practices that build upon the numbers (re-)shape social and economic relations (Miller, 2001), even as they to some extent reflect past policy. Standards and statistical categories, which are mobilized through quantifying tools, were formally defined through the technology development. In some cases this process take place over several decades with changing policy inspirations.

An implication of the truism as approached through these observations is that there is little control of which and whose ideas, desires and visions that are attempted transformed to public service practice through the quantifying technologies. This article aims to open up the black box of statistics as a technology of government to explore the background of its development – which is not visible in the official presentation of the technology. The article draws on a case study of a statistical information technology, which has been obligatory used in every Norwegian municipality since 2006, to measure “levels of functioning in daily living and assistance needs of every citizen who applies for or receives help from the municipality’s health and care services” (Directorate of Health 2009). The technology is called IPLOS, or “Individual-based health and care statistics”, and constitutes the national nursing and care

statistics in Norway. IPLOS is meant to be used both in planning of the health and care services and in research, and is also used in budgeting by some larger municipalities. The article starts with a modest question: How was the IPLOS technology developed? It then follows the methodological advice formulated and advanced both within sociology of science and technology and recent debates about “governing by numbers”: To use technologies as lenses to explore society in the making (Callon, 1987), or “problematics of government” (Rose and Miller, 1992, Miller and Rose, 2008). As Rose and Miller (1992: 183, 175) argue in a Foucauldian frame, it is through governmental technologies, such as statistics, forms, and procedures, which the authorities seek to embody and give effect to governmental ambitions. This means, through our exploration of the development of the given statistics, we are led to “the historically constituted matrix within which are articulated all those dreams, schemes, strategies and manoeuvres of authorities that seek to shape the beliefs and conduct of others in desired directions by acting upon their will, their circumstances or their environment” (Rose and Miller, 1992: 175). What have the Norwegian authorities attempted to achieve with the development of IPLOS? Which goals did they desire and how were the statistics intended to contribute to reaching them?

Since quantifying tools and numbers are seldom acknowledged as sociocultural projects, official versions of *when* public technology development processes started should seldom be taken for granted (Star and Lampland, 2009), or listened to from only a bottom up or a top down perspective. This analysis explores both these perspectives to the development of the statistics. It starts with the dreams and fears of Norwegian authorities; their health and care policy visions, that called for a standardization and formalization of the municipal health and care services from the 1970s, as documented in reform work. The article argues that the development – from awareness of a need for numbers to govern, to IPLOS as a technological achievement - expresses three interrelated and processual challenges in Norwegian health and care service policy: 1) planning and governance, 2) the growing complexity of the Norwegian welfare state, and 3) changing welfare ideologies.

2. Research methods and data material

When the Ministry of Health and Care Services (2006) announced the implementation of IPLOS in 2006, the Ministry described it as “an important tool to mapping local and national needs for nursing- and care services”, it would increase the knowledge about the services, and

it “had been demanded by the municipalities for a long period”. The immediate impression of the importance of the system was rapidly counteracted by harsh criticism from interest organizations working for disabled people and service users’ rights. For instance, Flaum (2006), a disability activist, addressing a demonstration in front of the Parliament, proclaimed that the system was a product of “a view of human life” which normalized the acceptance of sorting people out on the basis of their deviations from the norm; therefore, “IPLOS must die!”

According to Clarke (2005), the missing dimension to understanding such situations is often history, “the raw material” out of which we construct the here and now (Jones, 2005: 165). This implies that something interesting could have taken place before the launch of IPLOS in 2006, something of importance for the statistics’ development. To gain insight into the assemblage of diverse “forces” that more or less actively could have been involved in the construction of the statistical technology, we adopted a multisite approach inspired by situational analysis during data collection and analyzing. Situational analysis (SA) is developed by Clarke (2005), and is an attempt to revise classic grounded theory toward new approaches to grounded theorizing that are adjusted for the postmodern turns in social theory and qualitative research. Among other tools, SA addresses the increasing need for multisite research – projects that examine multiple kinds of data from a particular situation of inquiry, as opposed to single-site, intensive, immersed ethnographies or interview studies of the past (Clarke, 2005: 165). Within a situational analytic frame, the basis for multisite research is to empirically follow the thread of cultural process itself (Marcus, 1995: 97). Knowledge is not seen as buried, waiting to be uncovered by the researcher. Rather, the researcher is a traveler, who enters conversations, notices sites along the way, and gathers stories and other available “collectibles” (Kvale & Brinkmann, 2009: 67). This has some implications for research practice and the content of the analytic accounts. For instance, the researcher needs a “tracking strategy” during data collection (Marcus, 1995), analyses will often be based upon a broad data material, and the produced account will contain a high level of details.

As Clarke (2005) recommends, this study of the Norwegian statistics builds on qualitative interview data and archival materials and documents, strategically gathered from theoretically sampled sites, with a focus on depth and variation. Data collection was guided by the principle of saturation: We collected data until we could not see that anything more could add

something useful to the analysis (Clarke, 2005). Our tracking strategy has been to follow numbers and relevant words – such as assistance need, function level, statistics, care, planning and municipal services – instead of actors. This strategy led us to *different* authors, related through the discursive or structural conditions which tied them together in the first place. The result is data material gathered from the following broadly defined “sites”: 1) central authorities, 2) municipal health and care services, as represented by politicians, front-line care providers, middle management and municipal management, 3) expertise hired by the authorities during the statistics development, such as private consultants, researchers and statisticians, and 4) disability activists involved in health care policy work. In all we have conducted 55 interviews with informants representing sites 2, 3 and 4. Documents are also gathered from these sites. One consultant, representing site 3, made his personal archive of documentations from the development process available for the second author. The material from site 1 consists entirely of documents.

The interviews were mainly semi-structured, with the exception of interviews conducted by the first author during a more explorative fieldwork in municipal health and care services. The semi-structured interviews lasted from thirty minutes to three hours and were audiotaped and transcribed. Most of the analysis here, however, is based on documents, e.g. White Papers and contract research reports. All collected documents describe technical design processes related to the statistics or were written in response to the situation in the health and care services and published by institutions related to the statistics and policy field, as represented by authorities or experts. Grounded in arguments of the 1970s representing a turning point for political climate in ways that are relevant to public statistics practices (Sætnan, Lomell and Hammer, 2011: 5), we strategically selected documents produced from this period and forward. A large amount of documents were read, but sorted out, either because they did not show clear relevance to our analysis or due to saturation. Documents explicitly used as data in this analysis are published by SINTEF (a contract research institute), Statistics Norway, Aftenposten (a national broadsheet newspaper), and the Norwegian Ministry of Health and Care Services (formerly known as the Norwegian Ministry of Health and Social Affairs (1993-2001) and the Norwegian Ministry of Social Affairs (-1993)). Complete publication details are given in the reference list.

We carefully read the documents with an open mind to what they could tell for a “historicizing” purpose (Clarke, 2005: 264). We approached the documents as “containers of content” (Prior, 2004), but with awareness of them being produced in institutional settings for specific purposes. During analysis we have avoided making early analytic commitments and attempted to specify difference and variation of all kinds within the complete data material (Clarke, 2005). One of the strengths of this as a multi-site study is that we had access both to historical texts *and* living persons with pertinent knowledge and experiences (Clarke 2005: 267) about the inquired statistics development. This gave us the opportunity to gather several views on “the same” problematics and use them to dig more into the variation of their stories, than we could have done with a single data source from a single point in time. We were also in general aware of the potential bias for interpretation and inference which *the order* of the reading of texts and transcripts represents. Whose perspective the researcher are introduced to first, may affect which documents or transcripts the researcher chooses to read next and how competing perspectives are interpreted. This challenge confronts all kinds of inference, but in multisite approaches it becomes especially prominent due to the many actors and sites that are represented in the material. To conclude, we do not argue that the “bigger picture” presented in this article is the only possible account of the statistics development and its sociohistorical matrix, but due to our focus on variation, multiple voices and systematic data collection we do claim that this account is to be trusted as one valid possibility.

3. The need for ”chains” to govern life

Over the past decades the art of planning and governing Norwegian health and care services seems to have become more complex practices, both due to sophisticated transformations of the welfare state itself and ideological influences, related to management models and human rights. Norway has been called a reluctant reformist regarding New Public Management-inspired reforms (Christensen and Lægreid, 2007). However, both the central and local government has gone through numerous small and large changes and reforms, which has led to an increase in elements such as competition, management, market and public choice (i.e. Jacobsen and Mekki, 2012, Christensen and Lægreid, 2007, Johnsen, 1999). A brief map of reforms undertaken from the late 1960s/70s to the launch of IPLOS in 2006 illustrates the intensity of the authorities’ work to both respond to challenges confronting their government and to engineer the services in desired directions.

The wave of reforms started with a situation characterized by mainly institutional care. The services functioned as “storing places with a certain primitive hotel-like impression, where care personnel mainly performed ordinary housewifely functions” (NOU, 1972: 49). An existing Law of Social Care of 1964 gave certain rights to service users who could not support themselves, but did not go far in terms of what we consider “patient rights” today. The municipalities had the responsibility for homes for the elderly but home-based care was primarily considered a family task. In 1970 a Hospital Law delegated the administrative and financial ownership of the hospitals to the counties. More formal structure was added in 1984, when the Law of Health Care was implemented. This law regulates which services the municipalities are required to offer, including general practitioners, physiotherapy, community nursing, home nursing care, midwife services, nursing homes, and emergency services. Some of these services were already offered, but until then not regulated by law. The counties offered most of the institutional services. In 1988 responsibility for nursing homes was transferred from the counties to the municipalities. The responsibility for service users with mental disabilities followed the same way in 1991. In 1998, the Ministry of Health and Social Affairs (1997a) implemented an action plan for elderly care, which increased the number of employees in home care, sheltered housing and the number of single-bed rooms in nursing homes over four years. It also prepared for stronger state control with an emphasis on financial and legal instruments (Ministry of Health and Social Affairs, 1997a: 5). The action plan was not a reform of law, but a political priority, strengthened through earmarked grants transferred to the municipalities and counties through the central government budgets.

The reforms all point in the same direction: A decentralization of formal responsibility for the service users, including a dismantling of centralized institutions, an increasing demand for health professional knowledge in the municipalities, and a strengthening and sophistication of users’ rights. Early in the wave the authorities’ overarching arguments on the need for reforms were among other tools based upon quantitative and “objective facts” about the development of society in general and the welfare state specifically along with qualitative interpretations of challenges which society and the services confronted due to this development. Demographic numbers and the population’s rising income level (NOU, 1972: 44) suggested future capacity problems and resource scarcity due to a larger population and higher demands for and on medical services. Also, experts and authorities documented already existing organizational problems in the services, which biased the future planning. For instance, in 1978 the Ministry

of Social Affairs (NOU, 1982: 2) reported that confusion about the distribution of responsibility for tasks and funding arrangements for services outside institutions between state, county and municipality created problems for planning and further development of the sector. At a more general level, authorities presented the need for governmental action as a product of the emergent society, diagnosed as follows:

”More than any other individual factor, this century’s knowledge explosion has been significant for developments also in the health and social sector. One consequence of the increased knowledge is that conditions, phenomena and terms which earlier were recognized as simple and uncomplicated, have been provided with new content and new nuances, split into components, revealing differences where before there was apparently uniformity. This differentiation is one of the most pronounced characteristics of the development in present society.... Together with and partly also as a consequence of the scientific and technological development, radical changes have taken place in the society’s social and economic structures” (NOU, 1972: 42).

The authorities perceived society as rapidly changing, difficult to control, knowledge- and technology-driven, and moving towards an untamed and fragmented state. The differentiation process outdated the current organization of sector. External challenges came from abroad and from other institutions, such as science and industry. Internal challenges arose due to the confrontation with the new opportunities and the willingness to respond – without a clear stance formulated for what the response should be. Known categories for services, people, knowledge and tools, diffused into many, with unclear boundaries.

The differentiation could among other sites be traced in the treatment of service users. The Ministry of Social Affairs (NOU, 1972: 49) reported that different administration arrangements had led to differentiated institutions and different criteria for treatment, such as age or disease symptoms - despite the fact that the institutions had approximately the same categories of patients. The authorities stressed the importance of a more open treatment model. New medical knowledge had to be embodied into the basis for governmental and health administrative action:

“Today, most of us recognize that disease and distress can only relatively rarely be addressed through one single cause, but that in most of the cases a chain of causes [emphasis added] can be found which partly resides in the individual and his or her local environment, partly caused by social conditions” (NOU, 1972: 42).

Since experts analytically “drew” the chains, the reforms had to work – as the naturalness of the authorities’ way of presenting the chain metaphor suggests. The newly discovered (some might say “invented”) connections between the individual service user and his or her environment gave grounds for new approaches to public assistance and care practices. The chain metaphor was also adopted as an organizational dream for future health and care services. The Norwegian Director General of Health (cited in NOU, 1972: 43) described this as expressed through reform suggestions: “partly already carried out, partly future-oriented – developed by experts in this area. [It] builds on the principle known as ‘treatment chain’, drawn from preventive, domiciliary activities, through different types of outpatient and institutional kinds of treatment to supportive therapy and follow-up-care”. Hence, the chain could be used as a unifying principle across differentiated services, differentiated service user groups, and differentiated disease symptoms. Fragmented collectives of people and activities would be re-connected, and the services – seen as islands in society – would be bridged. From being islands, the services could be pictured as networked. Then, the service user could be managed as a traveler, within a territory consisting of sites and treatments possible to link in different ways. And, as we will see, to exercise health and care for such a user demands user representations that can travel as well, between geographical localizations, services and professional practices: data, documents, numbers.

4. Call for solidity: Tuning in on statistics

Chains create order. And sometimes, they order orders. Both the differentiation process itself and its remedy, the chain, required a more detailed and broader overview of the services and users. After all, the chain was supposed to intervene in user’ lives, through the connections between their bodies, well-being and environment. Yet, in the early 70s’ there seemed to be little consciousness about planning in the municipalities, making it difficult to reorganize the services in accordance with the chain principle. The Law of Social Care did pay some attention to what was termed ‘social planning’, implying that the consideration of each

individual's health and welfare should get top priority (NOU, 1972: 49), but locally it did not hold a strong position:

“When it comes to those elected by the people, it is often emphasized that they spend most of their time and commitment on individual client cases, while they offer little time to general debate on the objectives of social work in the community. When it comes to the employees in the social sector most of them have a stressful work load and they have more than enough with getting the daily work tasks done. This leads to disregard of long-term work. ...[E]mployees in social services and other social institutions have neither the capacity nor often the qualifications to systematize or process the information the institution possesses so that they can form a basis for new social political initiatives” (NOU, 1972: 49- 58).

Local politicians focused on details rather than the total picture, ignoring the potential implications of systematization for resource use and needs covering. Service employees did not have time to bother. They were neither in a position to initiate the construction of these required “devices” to cover the needs, nor did they have the competence to manage them. According to the Ministry of Social Affairs (NOU, 1972: 49-58) this resulted in a situation where information had “less impact on other sectors and in the work with the general plans ... for the use of the municipalities’ resources and for problem solving in relation to the construction of devices to cover common needs in the municipality. ... Planning and administration become increasingly recognized as tasks which demand a special insight”. The processing of organizational data for governance purposes had to be delegated to someone or something other than the ordinary employee. And it was best undertaken by a few - not the many, implying a more specified division of labor related to planning and data production work. The municipalities could not be totally blamed. The current situation did not offer them the right tool for the job. Therefore, the Ministry required “necessary data about needs, about the use of existing resources, about access to personnel and so on, through utilizing the possibilities opened by the EDP technique, which will make it reasonably easy to quickly collect such information in the future” (NOU, 1972: 53). EDP specialists could then take responsibility for data production, regardless of the municipalities’ local competences and efforts.

4.1. From local initiatives to a national technology

The tradition for little attention to social planning at the national level and a lack of standards for administrative practice in municipalities led to locally adapted data management traditions. In the early 80s these were mainly of two types: a more or less ad hoc use of numbers to satisfy obligatory reporting requirements to the government and the development of local tools for producing and utilizing data for administrative purposes. The first must have been annoying – if the central authorities discovered it all. The municipalities were annually obliged to submit social services statistics to Statistics Norway,. The aggregated statistics contained, among other information, the number of users in home care and homes for the elderly and total costs in social care (Statistics Norway, 1986). According to one informant, “the head of services adjusted the statistics. The number of clients reported was adjusted to the budget in retrospect [...] there was no clear overview of how the care resources were used”. The numbers were used as provisional substitutes to link budget and resource use; typically for planning and strategizing where administrative groups set the parameters for tasks at hand (Lampland, 2010). Whether they were correct was not important.

Larger municipalities’ initiatives to develop local data systems did not pass the eye of the central authorities unnoticed. Their initiatives were taken to express a need for a system on behalf of other municipalities, and local systems could be used as models for a national system. Also, initiatives documented that local data production, more specifically data about service users’ function level and level of service, could be connected to budgeting. According to a consultant involved in developing the emerging nursing and care statistics, “clients’ function level became more important as a predictor of utilization and costs than for instance age when they connected the data to finances”. The budget could then be linked to the number of users and their individual needs. At least one of the municipalities mentioned in a Norwegian study (Nygård and Hansvik, 1986) tried to view these separate data sources as related, resourcing municipalities with a “new” method for budgeting and individual service allocation. Results were increases in productivity and expenditure cuts, as documented by the numbers.

In 1990 the Ministry facilitated the development of an information system available to *all* municipalities. The project was in collaboration with Statistics Norway, Ministry of Health and Social Affairs, Norwegian Ministry of Local Government and Labour, selected

municipalities and the Norwegian Association of Local and Regional Authorities. The system, called *Gerix*, was inspired by the afore-mentioned Nygård and Hansvik (1986) and related studies, recent development in municipal ICT systems, and the development of international classification systems, especially the *International Classification of Impairments, Disabilities and Handicaps* published by WHO. In other words, sources of inspiration constituted a complex of international health and disability politics, municipal managerial technologies, and national expert knowledge, melted together and translated into one standard.

The scope of this technology signals an ambitious attempt to effectuate governmental plans for the municipalities' management of the services and their way of knowing their service users. *Gerix* was framed as a lock, to create a statistical realm across the geographical, social, managerial and medical and nursing boundaries of the municipalities, services and service users. Additionally, it was framed as a multi-tool. For instance, during the technical development consultants had many suggestions to which administrative functions the system could be delegated, from being a tool for client assessments, a basis for developing weekly plans for home visits for individual care workers, to collecting user co-payments "and so on" (Holmøy and Heldal, 1994: 15). At some point the Ministry of Local Government and Labour also considered using *Gerix* data as the allocative key related to the governmental transfer to the municipalities (Kitterød, 1995). But to analyze resource use in the nursing and care sector, "data about all users were required" (Kalseth and Magnussen, 1995: 13), "from all the various types of municipalities" (Kitterød, 1995: 6) – requiring a common level of standardization.

4.2. Control health professionals and spread target oriented management

Statistics as a standardization tool was an appealing argument that attracted more stakeholders than management, statisticians and politicians, but related to another challenge: the problem of securing individual users' rights in the services. The committee that evaluated health care for the mentally disabled had depressingly concluded that "there is no automatic control mechanism" for service allocation (NOU, 1985: 27). At another site, yet echoing the same observation, consultants noted that the different ideologies of professional gatekeepers opposed the standardization of allocation practice – which was a barrier to the statistics and its potential budget function. However, the professionals' ideologies were seen as malleable. A working group involved in the development of *Gerix* organized what they called "expert panel

analyses” to test health professionals’ “prioritization behavior and care ideology related to costs” (Devold et al., 1991: 5):

“Through expert panel analyses participants must consciously evaluate and if necessary revise their own care ideology. The analyses represent a consensus process that aims at a unified ideology and prioritization behavior. The analyses have an individually oriented starting point where needs, measures and economy are viewed as related, i.e. the analyses bring together the three main elements of the Gerix project. Thus, the analyses are used to build up behavior and ideology dependent cost functions” (Devold et al., 1991: 1).

The working group aimed for a machine that could mirror society and shape it as well: clean up professional practice, produce a robust relation between service users and budgets, and at a certain level construct *one* behavior in the municipalities – one ideology. Panel analyses showed there was cause for optimism about the machine’s ability to intervene and initiate such processes: “Participants were very engaged in this process and felt that they benefited from making an evaluation of their own prioritizations and resource dispersal” (Devold et al., 1991: 8). They concluded that expert panel analyses should be used as a natural part of a running evaluation of care ideology and prioritization in the municipalities and that this could “give the concept of a target oriented management an operative meaning” (Devold et al., 1991: 6). The suggestion was followed by an enlarged panel seminar in 1992, which confirmed that the participants were “very united” about how different users should be positioned on a care burden scale (Rømo, 1992: 3).

Later, the impression of unity was questioned. A larger test of Gerix in a bigger sample of municipalities showed variable data quality (Kitterød, 1995: 8), suggesting that the expert panels’ samples of participants differed somewhat from the municipalities “everyday health care worker”. Another working group suggested that it was a complex business to explore causes for resource use since this required a model of behavior, but access to a better and broader data source could contribute (Kalseth and Magnussen, 1995) to solving the matter. The standardization requirement was also counteracted by the argument that *quality* differences – in contrast to *efficiency* differences - could be the result of differences in municipal prioritization which the governmental authorities had to accept as long as the

services were a municipal responsibility, making it not necessarily a goal in itself to remove *all* differences (Kalseth and Magnussen, 1995: 55). Standardization was framed as a *choice* the authorities could take or not.

5. Screwing the statistics tighter

As the authorities knew that the overall structure of the local health and care services had changed radically during few years, they wanted to explore the changes' impact upon life in the services. How did the transfer of responsibility for the services for users with mental disabilities affect the municipalities' nursing and care services? To what extent did users receive the needed services? Was it true that the average institutional resident was in greater need of care than in previous years? What were the needs of residents in eldercare homes compared to those in qualified nursing facilities (Ministry of Health and Social Affairs, 2000: 16)? The interest in pursuing such questions revealed another problem. The Ministry of Health and Social Affairs (1997a: 47) announced that it had “not been easy to follow up the changes [in the nursing and care sector] in the statistics while at the same time assuring comparability” and one should consider “collect[ing] more data than what is presently done”. Aftenposten, a national newspaper, framed Gerix as a “failed computer project in elderly care” (Johansen, 1997). The Ministry of Social and Health Affairs (1997b) speedily answered the newspaper with a press release the same day, defending Gerix as a system which “is well suited as an information and decision support system for municipal nursing and care services. A [new] system will build on technical solutions developed in the Gerix project, but the information about the individual will be concentrated in few details”.

5.1. *The solution and the promises*

The “new” system was IPLOS – a project so similar to Gerix that a consultant said, “one agreed to change name, so that this [Gerix] was called Individual based nursing and care statistics”. The Ministry of Health and Social Affairs formed IPLOS' working group in 1998, with the mandate to decide which information the State should instruct the municipalities to collect and formulate unambiguous definitions of the data set – in “close contact with Statistics Norway” (Ministry of Health and Social Affairs, 2000: 5). The group included representatives from the Gerix project, a county medical officer, county governor, the Ministry of Local Government and Regional Development, the Norwegian Association of

Local and Regional Authorities, Norwegian Social Research, Statistics Norway, one municipality, the Ministry of Health and Social Affairs, and members of interest groups representing the elderly and the disabled (Ministry of Health and Social Affairs, 2000).

The Ministry of Health and Social Affairs (2000: 20-26) had many ambitions with IPLOS. The new system would raise the information value and quality of other statistical data that interacted with the system. It would reduce the need for reports related to the central government's earmarked grants to the municipalities and perhaps even erase the need for earmarked grants. It would cover the public inspection authorities' needs for statistical information as a basis for inspection at the county level. It would contribute to better administrative routines in municipalities, and strengthen users' legal protection connected with the administration of their cases. And according to the Ministry of Health and Social Affairs (2000: 33), it would not be particularly problematic to implement the new system into the municipalities, since they already had a manual or electronic "register" of the service users, which "they necessarily needed to manage the services".

The many promises set tight design parameters. Since it was to be a national system, it had to be useable in every municipality. Also, the data set had to be flexible enough to capture changes in the nursing and care sector: adaptable to future needs and possible to extend with special registrations and surveys if needed. And it had to be possible to group individuals in similar cost groups, in order to ease the introduction of future case-based funding (Ministry of Health and Social Affairs, 2000: 26-27). The design had also to be seen in relation to possibilities which Gerix and other existing systems gave and be coordinated with this work (Ministry of Health and Social Affairs, 1997a: 47). The authorities had also in advance decided that the new system should be a mandatory register. The working group ended up discussing especially four questions that were not settled beforehand: Should the data be reported individually or aggregated, person-identifiable or anonymized? Should the system measure "function level" or "need for assistance"? Should it register diagnosis, decided by physicians, or just a tick-list of conditions, which could be done by nurses in the nursing and care services (Ministry of Health and Social Affairs, 2000: 7)? According to an informant involved in the Gerix project, the working group had to go a "penalty loop" with the first question:

“The question came once more... Some advocated that we should again return to aggregated statistics. At this point the representative from Statistics Norway said as I recall that [if so] Statistics Norway will pull out of the project, as it has no purpose. ... The Norwegian Association of Local and Regional Authorities was quite unenthusiastic for a while, they thought this was too much to require from the municipalities.”

The association’s response reflected its’ interpretation of the value of the data for care work. The working group highlighted that IPLOS data would “not be sufficient as a tool in the municipalities’ daily, professional decisions about services (...) nor give sufficient information for municipal administrative procedures and decisions about nursing and care services” (Ministry of Health and Social Affairs, 2000: 18). The statistical purpose seemed to take precedence over the municipalities’ interests. This discussion was important, as it would settle the detail level of analyses to be done based on the data and hence their managerial and statistical usefulness.

5.2 Negotiations, provocations

The detail level that the technology would be allowed to operate on was also relevant for service users and their organizations, and for national privacy rules. Too much scope for action for the municipalities could imply that they would use the tool and the numbers for their own purposes as before, potentially creating ambivalences in the relation between service users and the services’ administration. When the system was tested, this happened. An informant from an interest organization, who observed the working group from the sideline and met IPLOS in action through her own job, recalled that:

“...it was said very clearly that this was not meant to be used at the individual level. It was going to be used as a plan and mapping system for budgeting and... further development of the fields at the national and municipal levels. I remember specifically that some municipalities did not understand that... [Some] started using this new tool related to service applications. I contacted [one of the persons from the working group] and got confirmed that this was not the way the system should be used. I went out and started a dialogue with the chief administrative officer and head of the local social services about them being on the wrong track.”

Dissonance suddenly appeared between system definition and use, and between interest organizations and the working group, related to the statistical categories' ideological framing. The organizations had experienced their voice and message as included in the authorities' governmental ambitions, as expressed in the national health and care policy, earlier reform work, and communication density in general. They had assumed that their ideological influence was maintained in the construction of the national nursing and care statistics. After all, the authorities and the organizations had shared a common interest: measurement of assistance needs, as for instance requested by the working group that evaluated care for the mentally disabled in the 80s. According to an organization representative these reform preparations had created a close link between human rights thinking and the central authorities' work:

“At the time when we had the reform ... a very close and productive cooperation developed between the interest organizations, Ministries, and political life. (...) Already then we understood that there is a need for plan- and steering instruments. ... [But] it went from a process that was relatively inclusive, where they who managed the process and the system were people who also had been involved in the mentality around the reform [of care for mentally disabled]. (...) And then it came: The reorganization of the Ministries and the establishment of the Directorate, and the field was handed over to others.”

As the informant experienced the development, the reorganization led to an erosion of the cooperation between the organization and authorities, with the consequence that the link between the organization's disability ideology and the authorities' engineering of their government technology crumbled as well. Neither the authorities nor organizations seem to have recognized the implications of their changed relationship – until the Ministry officially launched IPLOS in 2006 in all the municipalities. As an organization representative reported, “...something happened. It was quiet for a long time. Or perhaps I didn't follow up. Until I got this request from an executive officer in the county ... who was totally shocked over the use of words, the content, that IPLOS was to be used at the individual level and the scope it got. ... [T]he basic thoughts [as she interpreted them] weren't followed up in what became the result.” While the authorities and the IPLOS working group dated the birth of IPLOS to

when the working group settled down, the organizations obviously dated the birth of the statistics to an earlier moment, when they still had a close cooperation with the authorities – early in the reform wave.

Another factor that provoked the organizations was that the authorities fronted them as allied with IPLOS. Another organization representative reported that, “[another] association came to us and said, ‘do you know that the Ministry says you support what is done with IPLOS?’ And we answered: ‘No, we don’t and we are not!’” The authorities seemed to underestimate the ideological diversity in the health and care policy field. As experienced by the organizations, IPLOS demonstrated the political limits of whose visions and values (Star & Lampland, 2009) that the authorities attempted to give effect to through the government technology – and the organizations’ ideological thoughts were not included in this effort. Rather than accepting IPLOS as *the* groundbreaking tool for planning and governance of the services, the system turned into a contestation of social values with a gust of distrust.

6. Conclusion

When we opened the black box of the Norwegian nursing and care statistics from the 1970s, we did not find a streamlined technical innovation process, with a self-evident direction towards IPLOS as the particular end product in 2006. Rather, we found a generation of statistics, and a sociocultural landscape of governmental worries and ambitions, organizational challenges in the municipalities, expert influences upon policy and statistics development, changing knowledge processes, and an assemblage of people from different institutions, related through a common concern for the need for numbers to govern.

The analysis shows that the governmental ideas of using numbers, or at least data and documents, to improve management, budgeting and efficiency were already present in the early preparations for reform of the services from the 70s. The ideological concerns, which drove the request for numbers, came from within the state bureaucracy itself (see also Krause, 2010). It was fuelled by fears of differentiation processes in society in general, reports of violations of human rights and dignity in the services specifically and dreams for what the welfare state could achieve for its citizens if society and technological development were tamed.

A key step towards establishing an infrastructure in the health and care services, a step necessary to start thinking about statistics as a feasible project in the first place, was the adoption of the chain metaphor. The services were no longer seen as islands where service users were kept, but as a network with the users traveling along their connections in accordance with their assistance and treatment needs. The idea of the chain seems to have focused the authorities on social planning in the municipalities and on asking what materialities for planning existed at the time. What they found was mess and variation in service administrative practices both between and within the municipalities. The authorities required more systematization and more data, since this diversity biased the systematization of available data about the service users and the municipalities' resource needs and use. It was suggested, not least by consultants who offered to do the job, that *devices* had to be constructed to solve this situation, as well as an extraction of the responsibility for the local data production and management to specific formal positions, reserved for people or tools with special insights in this work. The authorities asked for a materialization of communication lines along the connections between municipalities, services, people and budgets, through technology and standardizing of administrative practice and planning in the local health and care services. These efforts implied making the diversity manageable, to make the service users and the municipalities resources more "thinkable" for the authorities (Rose and Miller, 1992). Through "thinkability", as offered through statistical categories, the local calculations of public expenditure and national planning of the services could be rationalized. Central authorities also felt a need for numbers aimed towards controlling the health professionals, their assistants and local administrators who turned claims of assistance needs into budgets. But the authorities also wanted a tool to control their *own* actions, to screen out feelings of insecurity about whether they took the right decisions on the basis of the right information.

The diversity of municipal practices related to local production and use of data from and about the services was also expressed through a few municipalities' efforts to construct local technologies for managing the data and utilizing them for budgeting – in contrast to other municipalities' that ignored the data. Within the former, assemblages of techniques, experiences (Rose and Miller, 1992), theories of management and test results emerged, which convinced the central authorities of the potential for using local systems as models for a

national information system – first Gerix, then IPLOS. Gerix gave direction for the further development of the nursing and care statistics into IPLOS. It locked up the subsequent development process. What Callon (1991: 149) terms *irreversibility* emerged. It became impossible to go back to a point where this kind of quantitative tool to govern the services was only one amongst others. The many promises that the authorities launched on behalf of the technology strengthened the irreversibility. Since these numbers could do nearly everything the authorities could ask for, from controlling allocation to calculating budgets and standardizing services, was there any point in looking back?

The composition of interests represented in the IPLOS working group had same effect, which leads us to the close relation between the technology development and changing welfare ideologies. As the analysis has shown, hired consultants attempted to give target-oriented municipal management meaning and form in the early 90s through the technology under construction. Here, the Trojan horse works as a metaphor for how they perceived that this could be effectively done, through writing management ideas into the seemingly neutral statistical categories and rules of use. Yet, when organizations working for the rights of the service users and the disabled confronted the seemingly ahistorical tool which the authorities "suddenly" launched, they acted against it with their own history in mind. The organizations saw IPLOS as a horse which no longer contained the planning and governance ideas of the welfare state from the 70s and 80s - ideas that were woven together with the fight for the rights of the disabled and the normalization of the service users. The numbers visualized a social order in Norwegian health and care policy which the organizations could not recognize as including *their* ideological project for the welfare state anymore – a project which they had perceived as the welfare state's own.

References

Bloomfield, B.P. (1991), "The Role of Information Systems in the UK National Health Service: Action at a Distance and the Fetish of Calculation", *Social Studies of Science*, Vol. 21, No. 4, pp. 701-734.

Callon, M. (1987), "Society in the Making: The Study of Technology as a Tool for Sociological Analysis", in Bijker, W. E., Hughes, T. P. & Pinch, T. (Eds.), *The Social Construction of Technological Systems*. Cambridge, The MIT Press.

Callon, M. (1991), "Techno-economic networks and irreversibility", in Law, J. (Ed.), *A Sociology of Monster: Essays on Power, Technology and Domination*. London, Routledge.

Christensen, T. & Læg Reid, P. (2007), "NPM and Beyond – Leadership, Culture and Demography", Working paper 3, Bergen, Stein Rokkan Centre for Social Studies.

Clarke A. (2005), *Situational Analysis. Grounded Theory After the Postmodern Turn*, Thousand Oaks, SAGE.

Code, L. (1995), "How do we know? Questions of method in feminist practice", in Burt, S. & Code, L. (Eds.), *Changing methods: Feminist transforming practice*, Peterborough, Broadview Press, pp. 13-44.

Devold, R., Hellenes, H., Nilssen, I. and Rømo, F. (1991), *Gerix – et informasjons- og beslutningsstøttesystem for kommunale omsorgstjenester. Forstudie – fagpanelanalyser*, Trondheim, SINTEF.

Directorate of Health (2009), *IPLOS. Veileder for personell i kommunale helse- og sosialtjenester*, Oslo, Norwegian Directorate of Health.

Flaauum, K. (2006), Appell 20. aug. 2006. Unpublished.

Hacking, I. (1990), *The Taming of Chance*. Cambridge: Cambridge University Press.

Holmøy, J. and Heldal, J. (1994), *Gerix testprogram: dokumentasjon*, Oslo, Statistics Norway.

Hood, C. (1991), "A Public Management for All Seasons?", *Public Administration*, Vol. 69, pp. 3-19.

Hunter, D.J. (1996), "The Changing Roles of Health Care Personnel in Health and Health Care Management", *Social Science & Medicine*, Vol. 43 No. 5, pp. 799-808.

Jacobsen, F. F. and Mekki, T. E. (2012), "Health and the Changing Welfare State in Norway: A Focus on Municipal Health Care for Elderly Sick", *Ageing International*, Vol. 37, No. 2, pp. 125-142.

Johansen, P.A. (1997), "Feilslått datasatsing for eldreomsorg", *Aftenposten*, 15 May 1997.

Johnsen, Å. (1999), "Implementation mode and local government performance measurement: a Norwegian experience", *Financial Accountability & Management*, Vol. 15, No. 1, pp. 0267-4424.

Jones, I.R. (2005), "Power, present and past: for a historical sociology of health and illness", *Social Theory & Health*, Vol. 1 No. 2, pp. 130-148.

Kalseth, J. and Magnussen, J. (1995), *Gerix – Styringsdata for pleie- og omsorgssektoren*, Trondheim, SINTEF NIS.

Kitterød R.H. (1995), *Funksjonsnivå og hjelpebehov blant brukere og ikke-brukere av pleie- og omsorgstjenesten i kommunene*, Oslo, Statistics Norway.

Krause, M. (2010), "Accounting for State Intervention: The Social Histories of "Beneficiaries"", *Qualitative Sociology*, Vol. 33, pp. 533-547.

Kvale, S. and Brinkmann, S. (2009), *Det kvalitative forskningsintervju*, Oslo, Gyldendal Akademisk.

Lampland, M. (2010), "False numbers as formalizing practices", *Social Studies of Science*, Vol. 40, No. 3, pp. 377-404.

Latour, B. (1987), *Science in Action: How to Follow Scientists and Engineers through Society*, Cambridge, Harvard University Press.

Lee, B. and Cassell, C. (2011), "Learning to count: a challenge facing trade unions in their educational role", *International Journal of Sociology & Social Policy*, Vol. 31, Nos. 5/6, pp. 287-301.

Marcus, G.E. (1995), "Ethnography in/of the World System: The Emergence of Multi-Sited Ethnography", *Annual Review of Anthropology*, Vol. 23, pp. 95-117.

Miller, P. (2001), "Governing by Numbers: Why Calculative Practices Matter", *Social Research*, Vol. 68, No. 2, pp. 379-396.

Miller, P. and Rose, N. (2008), *Governing the Present: Administering economic, social and personal life*, Cambridge: Polity Press.

Ministry of Health and Social Affairs (1997a), *Handlingsplan for eldreomsorgen: Trygghet – respekt – kvalitet*, White paper, No. 50 (1996-97), Oslo, Ministry of Health and Social Affairs.

Ministry of Health and Social Affairs (1997b), "Mislykket dataprojekt i eldreomsorgen?", Press release, No. 33, 15 May, available at: http://www.regjeringen.no/nb/dokumentarkiv/Regjeringen-Jagland/shd/Nyheter-og-pressemeldinger/1997/misslykket_dataprojekt_i_eldreomsorgen.html?id=237744 (accessed 16 July 2012).

Ministry of Health and Care Services (2006), "Nytt register for individbasert pleie- og omsorgsstatistikk (IPLOS)", Press release, No. 7, 17 February, available at: <http://www.regjeringen.no/nb/dep/hod/pressesenter/pressemeldinger/2006/nytt-register-for-individbasert-pleie--o.html?id=103858> (accessed 16 July 2012).

Mørk-Eidem, B. (1999), *Handlingsplaner som statlig styringsvirkemiddel*, Oslo, Riksrevisjonen.

NOU (1972), *Utdanning av sosial- og helsepersonell. Del 1 av utredning om Den framtidige utdanning av sosial- og helsepersonell*, White paper, No. 23 (1971), Oslo, The Norwegian Ministry of Social Affairs.

NOU (1982), *Spesialistene i helsetjenesten, pleiehjemmene m.v.*, White paper, No. 10 (1982), Oslo, The Norwegian Ministry of Social Affairs.

NOU (1985), *Levekår for psykisk utviklingshemmede*, White paper, No. 34 (1985), Oslo, The Norwegian Ministry of Social Affairs.

Nygård, L. and Hansvik, H.P. (1986), *Korleis brukar kommunane omsorgsressursane sine?*, Trondheim, SINTEF NIS.

Petrie, W.F. (1919), "Relation of Vital Statistics to Public Health Administration", *The American Journal of Public Health*, Vol. 9, No. 1, pp. 71-74.

Prior, L. (2004), "Doing things with documents", in Silverman, D. (Ed.), *Qualitative Research: Theory, Method and Practice*, London, SAGE Publications, pp. 76-94.

Rose, N. and Miller, P. (1992), "Political Power beyond the State: Problematics of Government", *The British Journal of Sociology*, Vol. 43, No. 2, pp. 173-205.

Rømo, F. (1992), *Fagpanel i Gerix: Analyse av prioriteringsatferd i omsorgssektoren*, Trondheim, SINTEF Anvendt økonomi.

Star, S.L. and Lampland, M. (2009), "Reckoning with Standards", in Lampland, M. and Star, S. L. (Eds.), *Standards and Their Stories: How Quantifying, Classifying, and Formalizing Practices Shape Everyday Life*. Ithaca, Cornell University Press.

Statistics Norway (1986), *Sosialstatistikk 1984*, Oslo, Statistics Norway.

Sætnan, A.R., Lomell, H.M. and Hammer, S. (2011), *The Mutual Construction of Statistics and Society*, New York, Routledge.

¹ With “know-how ” Rose and Miller (1992: 177-178) points not simply to ”ideas”, but to the vast assemblage of persons, theories, projects, experiments and techniques that has become such a central component of

² All citations from Norwegian documents and texts are translated by the authors. Any grammatical errors in the translations are our responsibility.