CHAPTER 2

'Quality' on the Dashboard: How Datafication Changes the Measurement of Work and Performance in Public Healthcare Services

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Abstract: Modern welfare states have a long tradition for measuring the quality of work and performance in public health and care services. Datafication is currently changing how this is done and thus, how quality is known. This chapter uses the ongoing case of the Health Platform (EPIC) in Central Norway to investigate consequences of datafication to quality data work. The platform aims to launch a joint journal system across all health and care services and service levels in the region. This includes an automation of quality indicator data production to tailor the services to focus on specific management goals and benefits realization. The new view into the services introduces new conceptualizations of quality and new possibilities for regulating and coordinating work. The chapter suggests that the case illustrates a shift towards *deductive* statecraft. Quality indicators do not emerge as categories inductively from data, but data is made to fit categories. Indicator categories become models of quality that get tested through the ongoing activities of the services. They do not necessarily fit easily with the observations of service employees and users but are often used as if they represent real activity that speaks directly to stakeholders. Data on quality is, in the end, core decision-making material for service planning and policy. It is therefore important to further explore how changes in speed, time and visualization of quality known and done affect this material.

Keywords: quality indicator production, health and care services, quantification, datafication, benefit realisations, the Health Platform, deductive statecraft

Introduction

What happens to analogue information when it turns into digital representations is a main concern in critical literature on digitalisation (Christin, 2020). Arguably, digital information would benefit from a warning label, Lack of Robust Information (see chapter 1). As is often observed, the opposite seems to be true. The combination of being both 'digital' and 'data', with its double decontextualized and mobile character, is rather understood as giving the indicated information an extra aura of usability, precision, objectivity, and rationality (see Bartl et al., 2019). It is also broadly acknowledged that expressing reality in (digital) numbers cannot grasp the world holistically, but necessarily implies simplifications and reductions. Inventors of numbers and statistics as planning tools have warned about the dangers of not taking this simplification into account when using these kinds of representations. Yet, when numbers are put into the hands of stakeholders, this awareness seems sometimes to be put aside.

A telling example is the use of *quality indicators* (QI) in public organising and policy. Since Thatcher and Blair and their aggressive implementation of target management in the UK public sector in the 1990s (Hood, 2006), QI has had a bad reputation (Bevan & Hood, 2006) – while simultaneously being used as a preferred and valued method for public governing and management (Wallenburg et al., 2021). Despite criticism,[1] the survivability of indicators in policy and management culture is impressive. The ongoing intense datafication of public governance even strengthens their position and voice (Bartl et al., 2019; Saltelli & Fiore, 2020). With the speeding up of data production and dashboarding of information that new digital technologies and platforms imply, the use and circulation of quality indicators are on the rise.

The case of quality indicators enables us to explore the effects of interactions between healthcare work classifications, digitalisation, and the practical work of making things, acts, and people fit into categories (Bowker & Star, 2000). QIs are also a good example of unavoidable tensions inherent in the quantification of information, because there is a lot of interpretive flexibility and practical-political concerns involved when defining what

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1   Arguments against QI and performance measurement point out the risk of goal displacement, tunnel vision, target fixation, and process bias – that one tends to measure what is easily measured (see Tøssebro et al. (2022) for a discussion of performance management in Norwegian services for disabled people, including a summary of these arguments. See also Bruijn (2007) for an extensive critique of performance measurement systems in practice).

quality is (Tøndel & Rindsem, 2022). In municipal care, an elderly person may interpret high quality service as a good, friendly talk with a professional care person. The carer might believe that their work is high quality if they have enough time for the task and interpret it as the opposite if their work schedule does not allow for assisting someone to shower. Management may not even think about such concerns when they evaluate the services and interpret the available documentation. They then need to simplify and summarise the information from the services.[2] Quality indicators, understood as the institutionalisation of quantifiable knowledge about a certain 'quality', afford many opportunities for distortions, simplifications, and reductions, requiring cautiousness in terms of which information they convey.

In this chapter, we use one ongoing case of digitalisation within Norwegian public healthcare services as a vignette to investigate the consequences of recent shifts towards the datafication of quality (indicator) work: The introduction of a digital health record system called the 'Health Platform' in the region of Central Norway, across municipalities, professions, patient groups, services and service levels.[3] Among many changes, the platform aims to speed up the creation and use of quality indicators for management, and is a well-suited example for discussing how digitalisation may affect the institutional infrastructuring of 'quantified knowledge about quality'. Our aim is to outline a future research agenda for further exploring the performative roles of knowledge infrastructures as governance tools for welfare state workability.

At the same time as datafication in public governance increases, the sociomaterial assemblage of quality indicators in public health and care services is undergoing change as well, including the way indicators as objects work and how they are known. Some changes are anticipated, while others emerge from practical challenges discovered along the way, for instance those related to technical infrastructure, access to data, privacy

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2   The list of different and equally legitimate quality definitions can be easily expanded … Leadership may rate something as high quality if the carer manages to serve many users/patients during one shift. Kin of the elderly person might consider it high quality if there is stability in the staff, and if the staff take time to discuss matters of the care arrangement with them – even if this reduces the time that staff have available for their care tasks … and so on.

3   The system is delivered by EPIC Systems Corporation (EPIC), an American privately held healthcare software company. Much could be said about EPIC, but that is not our aim in this chapter. Several countries (e.g., UK, Denmark, Finland) have experienced many problems related to the implementation and use of this electronic health record system, yet the Central Norway hospital trust decided to buy it anyway.

and security, skills gaps, organisational culture, and data quality and accuracy (Redden, 2018). Hoeyer and Wadmann (2020) call our attention to that new digital tools for datafication generate new forms of inspection and control, reconfigure perceptions of work, and potentially erode both goal orientation and the room for professional judgement.

Thus, the question arises as to how datafication affects the relation between quality done and quality known – and how this may change the public services from within. How does datafication change the traditional work of making quality indicators, with what consequences for whom? In what ways does datafication represent a new paradigmatic change in governance that also shapes the knowledge of 'quality' in health and care work and service performance?

In the following, we will first situate our research interest within the recent shift towards data driven public governance, and then proceed to introduce our empirical vignette. Norway is an especially interesting case in this context. Here, the use of QIs in health and care service management differs from other more dominating and marketised healthcare systems internationally, such as the US (Panzer et al., 2013). The main part of the chapter describes instances of data driven quality creation in and through the Health Platform. Our contribution is part of a bigger research project,[4] with interviews on measuring quality in health and care services in Norway. The research project explores the making and doing of quality (through measurements) in the municipal health and care services. This is a work environment where creating objective data about phenomena and processes such as care, loneliness, and social support is demanding but still required, and currently formatted through digital tools.

The chapter draws on a small number of qualitative interviews done in 2022 with core employees from the agencies establishing the managerial quality indicator structure in the Health Platform. These are supported by a larger number of interviews (from 2021–2022) with municipal health and care service managers and bureaucrats about the making and use of quality indicators for the same services before this datafication turn. The core informants work, respectively, for a public specialist hospital, a large city municipality, and for the Health Platform firm. Our aim is not to give

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4   The acronym of the project is MASQ (MeASuring Quality: Exceeding the limitations of quality management in municipal health and care services). The acronym is not random. It camouflages a reference to the old interactionists Goffman and Strauss, who wrote about the importance of the masks that people wore for the construction of reality. Organisations can also wear masks, such as Qis.

a detailed empirical study of the Health Platform itself, but to introduce broader issues and developments in datafication that can be seen from this example. We conclude with reflections on what the automatisation of data production for quality implies, and the outlined future research agenda. But let us first begin with a short background section on making quality indicators before the datafication turn.

Making Quality Indicators Before Datafication

'Quality work' has always been on the agenda of the Norwegian health and care services, but how policy and management agencies have conceptualised quality has changed over the years. The origin of the current institutional vocabulary of 'quality' is clearly traceable from the 1990s and the then emerging ways of knowing regulations and standards for quality systems. Tøssebro et al. (2022) explain that while many countries introduced performance measurements with QI in response to the marketisation of services, this was slightly different in Norway, and in some cases linked to an implemented purchaser-provider split. Tøssebro (2019) also links the introduction to a general shift that simultaneously took place, from a social-policy reasoning that focused on living conditions to a reasoning that addressed the role of quality issues in the internal control systems that then became mandatory in health and care services.

As mentioned, specialist health and care services have been seen to provide an environment in which indicators mushroom well. Some health occurrences are straightforward to measure. For example, the number of 'births – with occurrence of birth defects', 'hip fractures operated on within 24 hours and 48 hours', and 'stroke – survival 30 days after admission'[1] can be counted rather easily. Other output is more complicated to formulate into such clearcut targets, for instance in municipal elderly care, where users depend on long-term assistance to secure life quality and dignity. An approach to solving this measurement problem is to sequence work. Slicing depends on the approach to the work tasks, processes, and results that are deemed interesting to operationalise. For instance, in a study of female leaders, Wadel (1990) reported that one short morning care situation could be broken into 90 small acts. In theory, one could choose any act of these 90 and turn them into indicators of quality.

As described by Tøssebro (forthcoming), first attempts within the Norwegian municipal health and care services to define, document, and make quality tangible were based on user surveys, annual reports, the introduction of internal control, and individual guidance. However, the emphasis quickly shifted to procedures to ensure quality, and quality was redefined as quality *development*. After 2000, the approach of the national government gradually transitioned away from a more reflective process and assumed a measurement orientation, and quality indicators emerged as a topic in national policy (Tøssebro et al., 2022). The development of professional quality registers came into focus, and quality indicators became a part of a national strategy for quality improvement in the public sector.

Tøssebro (forthcoming) explains that then the next step was that internal control and quality indicators become obligatory in the Norwegian health care sector from 2010. The Norwegian Directorate of Health was commissioned with the mandate to develop, disseminate, and maintain national quality guidelines, including national quality indicators as a tool for management and quality improvement in the municipal health and care services. According to the law, the indicators should be publicly available and provide users with a basis for safeguarding their rights. Two years later, the government committed to even more systematic quality improvement. Their white paper about quality and patient security in the health and care services (Meld. St. 10 (2012–2013)) suggested to use more indicators on national and local levels, also committing the municipalities. On the national level, this development culminated in 2018 with what the Norwegian Directorate of Health termed 'a national framework for quality indicators for the health and care services'.

Since the introduction of indicators and quality control in the public health and care services, general knowledge about quality has turned into specific knowledge derived from very specific welfare state and managerial methodologies (see e.g., Tøndel & Rindsem, 2022), such as checklists and reports (Mjøen, 2019). Checklists importantly order ways of knowing quality and establish a hierarchy with criteria for formality, transparency, and transport possibilities being core sorting principles. As a consequence of such ordering practices, 'quality work' and 'quality improvement' have in many ways become two completely different work practices in the welfare services: 'Quality work' often gets identified as the daily (and invisible) efforts to achieve quality in the services' human-processing work (Hasenfeld & Cheung, 1985); while 'quality improvement' represents the

work that supports and makes 'the quality system' transparent – in line with the criteria of the system and revision demands.

Sande (2023) refers to a municipal homecare service unit manager, who describes a situation of two 'worlds of qualities' – the formal and the practiced – as such: It is as if the unit manager is responsible for quality in the same way as in large companies, where the chairman must answer to criticism even when she has nothing to do with it directly. At the same time, the work of making quality indicators implies an extensive workload for hardworking health personnel and street level bureaucrats, often identified by them as vague 'meaningless reporting demands'. They are not necessarily aware of the end use function of the information they report from the corridors and care situations within the services, but they do know that they are obliged to pass on this information.

In sum, it is fair to say that quality indicators have become the paramount method for measuring quality in the public health and care sector. Critics could say that this diagnosis is not reasonable for the *municipal* health and care services, as the extension and use of quality indicators in management and policy are here quite humble. Yet, the point is that there does not exist an alternative system for quality measurement produced by these services. QIs are thus the authoritative representation of the quality of the municipal health and care services. Currently, parts of the information infrastructure enabling quality work is undergoing change due to datafication, and the question emerges how this changes quality work and quality done.

From the Quantified to Datafied Welfare State?

Calculation and quantification have always been critical features of modern societies, but the increased use of quality indicators in the public health and care sector in Norway illustrates how in the past thirty years, the pace, purpose, and societal scope of quantification have greatly expanded (Mennicken & Espeland, 2019). Increasingly, administration, management, and mundane daily activities have become structured around performance measurements, cost-benefit analyses, risk calculations, ratings, and rankings (Hovland, 2010; Mennicken & Espeland, 2019; Wallenburg et al., 2016).

Partial answers as to why numbers and measurements play dominant roles in current welfare societies and policy can be found in technological

development increasing the possibility for data collection, analysis, and dissemination (Sætnan et al., 2011). This development is currently accelerating due to digitalisation reinforcing the spread of *management methodologies*, such as NPM, Post-NPM and other neo-liberal specialties, which demand 'objective knowledge' and specific information systems to function in accordance with their workability principles. This management methodology trend has strengthened a knowledge hierarchy, in which figures and measurements have greater value than other kinds of knowledge (Larsen & Røyrvik, 2017), and where these objects, such as QIs, transform the world they claim to describe (Bartl et al., 2019).

If what is measured is what matters (Bevan & Hood 2006), 'what is measured' requires close attention. From a sociological perspective, classification and categorisation (Bowker & Star, 2000) are at the heart of quality indicator work. In the work of making quality indicators, even the most mundane and least visible acts of care work are objectified and sliced into categorised sequences. The outcome of the slicing, such as the mentioned morning care situation, could always be otherwise – as the old interactionist saying of Hughes (1984) goes. What was earlier identified by a patient as a 'hospital visit that went well due to the physicians who saved the suddenly acute and life-threating situation', could later turn into one of several reported crises in a hospital quality system. The translation of work into measurements goes through a very intricate molding to achieve the status of an institutional reality in organisation and policy documents. The dimensions of work that are ordered into measurements in the first place are not random. As introductorily sketched, these decisions are often results of 'what data can be collected', due to practical technical-administrative concerns, yet always in some relation to professional and policy concerns about 'what we are working on' and 'what data is needed'.

In the current age of datafication, *any* social action can potentially become digitally recorded as a quantitative occurrence (Mayer-Schönberger & Cukier, 2013). With the increase of datafication, the question of 'what data can be collected' is no longer relevant, because any data can hypothetically be collected. Indeed, never has any actor had so much and such diverse data about things and people (Bigo et al., 2019) as public authorities and companies can have today. Consequently, attention towards public services data has increased exponentially with the emergence of datafication (Broomfield & Reutter, 2021). Here, important works have addressed

the relation between data and the welfare state (Dencik & Kaun, 2020; Mann, 2020; Reutter, 2022), and one finding is that there is a worrying lack of information available about the impact of new data systems in the public sector (see Redden et al., 2020).

According to Fourcade and Gordon (2020), the change towards datafication can imply that it is no longer 'what data is needed' that governs data collection, but rather data is collected because 'we can', and categories then do not prompt data collection, but are increasingly produced *inductively*. In other words, Fourcade and Gordon's argument is that statecraft in the digital age is characterised by states no longer seeing their populations through man-made, broad categories, but that these categories emerge organically from regularities observed in the data. What makes this possible is machine learning. Artificial intelligence systems today cannot only imitate rulelike procedures but can play chess games or write poems. This was made possible by feeding them large amounts of data, and by training them to decide rules and categories themselves. At the same time, states are in a unique position to mint data, like they print money, in the course of delivering public services (Fourcade & Gordon, 2020, pp. 90 ff.). If governance relies on machine-based analysis of these data, states, Fourcade and Gordon (2020) argue, can turn to inductive statecraft. By inductive, they mean that the state lets exploratory data bring categories worth attention – what matters – into view (p. 87). When digital infrastructures get to define categories, they become powerful actors. We move from governance through policy towards governance through technology (Metzler & Åm, 2022).

The question of course emerges whether these predictions hold true. In the following, we want to probe developments of datafication by having a close look at changes in quality work made possible by the Health Platform that was introduced in Central Norway. Zeroing in on empirical developments in the health care sector makes sense for studying the performative consequences of datafication, because 'intensified data sourcing' (Hoeyer, 2019) became a goal in Nordic public health governance as part of a general trend in sharing, making use, and marketisation of data unprecedented in history. As part of this development, heavy investments are made to make health data more available and integrated, for example, by creating digital health platforms, such as the Health Platform in Central Norway.

Vignette: The Health Platform in Central Norway

The Health Platform is an impressive organisational infrastructure. The core setting for the development of the platform is the city municipality of Trondheim, which has been known to be an early innovator in the development and use of public and service statistics as a tool of governance. Trondheim currently happens to be the arena for a digital experiment of considerable scope: A digital electronic patient record platform termed the Health Platform, which also brings with it new operationalisations of 'quality'. While quality indicators and the measurement of quality on the managerial level until now have had more the aura of bureaucratic exercises, report writing and (digital) quality reports covering different sectors, a completely different municipal quality data production line potentially enters the scene with the Health Platform, containing aspects of digitally driven automation, speed, and time. But first, what kind of species is this platform?

The Health platform aims to launch a joint journal system across all health and care services and service levels in the region of Central Norway, thus eventually tying up its hospitals, municipalities, general physicians (GPs), health stations, elderly homes, and homecare services. Currently the Health Platform is limited to being used in Central Norway, thus making the region a lab and testing arena for the government's white paper, *One citizen – one journal* (2012–2013). Thus, the initiative does not arise bottom-up from the frontlines of the services, even though they also have acknowledged the need for improved communication between services to secure patient security and service quality.

The story of the Platform is international, complex, and long, and it is beyond the scope of this chapter to elicit how Norwegian actors decided to buy a patient administration system delivered by the American company Epic. Answers can partly be found in previous research on social, technological, organisational and health-related dimensions of the platform, especially within eHealth and health service research (see Mehmood & Farschchian, 2021; Hertzum et al., 2021). It is not surprising that the platform attracts research interest, since it represents the biggest ICT project ever realised in the Norwegian health and care sector.

Importantly, the Health Platform is far more than just a large-scale ICT project. The goal is, among others, to achieve more collaboration across

sectors, and to enable professionals to communicate across services and units, while also making the patients more active through increased transparency in relation to their own received health services and health status. With the Health Platform, patients will have access to all their patient information, in one immediately accessible archive. The platform will also contribute to cost reductions, for instance through eliminating prospective 'time thieves' in the services' daily operative work by enabling users to book and cancel appointments themselves in maternity and child health care centers, and school health services (see e.g., Trondheim Municipality, n.d.).

After ten years of preparation, the Health Platform was launched in 2022 in Trondheim municipality, and then in the regional specialist somatic hospital, St. Olav. Today, 70% of the inhabitants in Central Norway live in a municipality that has implemented the platform or decided to do so in the near future (Health Platform, 2023). Since the launch, the platform has been discussed heavily in regional news. Hospital health employees have gathered in public protests over worries about the system's potential negative impact on the quality of the services and patient safety, and the Office of the Auditor General of Norway has started to revise the platform case together with a local municipal revision agency. Recently, an anonymous webpage, called the 'Hell Platform,'[5] emerged that collects critical media reports about the Health Platform. In general, the hard work that employees on the platform do on a daily basis with and around this digital infrastructure is drowning in media criticism.

Gains Measured on the Dashboard

Our interviewees anticipate the platform to improve 'quality work' through the datafication of communication within and between services. The platform produces data now synchronised and in real time. If the hospital changes a patient's medical prescriptions, the patient's home care services are notified automatically and immediately on the platform, so that they can adapt accordingly – and the patient is given the opportunity to be informed of the journal change as well. In line with digitalisation policies in general, seamlessness and interoperability are envisioned goals.

Quality indicators are now produced automated, and they will appear on dashboards on the daily welcome screen of municipal service unit

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5   https://helvetesplattformen.no/

managers. This real-time dimension constitutes a significant difference from the traditional, previous work with quality indicators. For instance, while Trondheim municipality publishes their indicator-based quality report on elderly care annually, the quality indicators produced through the Health Platform will be updated on a day-to-day basis. Dashboard visualisations using traffic light color prominently provide leaders with real-time quality data. An informant who leads the development of quality indicators for the platform firm explained:

> All leaders will be able to monitor their benefit goals through indicators on the solution's dashboard. They will be responsible for implementing actions to achieve the desired development in these indicators. The Health Platform supports customers by providing access to indicators on the dashboard, but it is up to the customers themselves to achieve their benefit goals by using the functionality and management information correctly. It is crucial that when benefit goals are set, they are not hidden in an Excel sheet with manual measurements. These goals must be displayed on the dashboard you use in your daily work.

The organization shall be tailored to focus on management goals daily. In the quote, the informant introduces the term 'benefit goals'. Within the sphere of the Health Platform, quality indicators are operationalised into measurements of 'benefits' and 'profit targets'. Within the platform, these terms and also 'benefits realisation' all relate to a modeling for how to improve the services. This way of working reflects the position of the ICT and project expertise that are involved in the design of the benefit realisation process. The change of vocabulary wording from quality to benefits have already and brittlely emerged in the Norwegian health and care sector during the past decade, for instance through innovation frameworks linked to the implementation of care technologies in municipal services (Tøndel, 2018). How these frameworks were introduced, by whom, and how 'benefits' started to emerge within the Norwegian public sector as a regular requirement for creating sustainable services is an interesting discussion, but beyond the scope of this chapter. What is a relevant take-away on the performative effects of changes in digital infrastructures on quality work is, however, that the introduction of the Health Platform contributes to cementing and institutionalising discourses of 'benefits' or 'gains' – and to materialise them through the orchestration of benefit realisation as a driving force for the legitimation of the platform itself.

Overall, the platform has developed eight overarching 'benefits' or 'gain targets' for specialist and municipal health services, respectively. The two target lists are quite similar (Table 1).

Table 1 Gain Targets, the Health Platform of Central Norway (Health Platform, n.d.)

Specialist Health Services	Municipal Health Services
Patient involvement	Citizen involvement
User friendliness	User friendliness
Drug handling	Drug handling
Digital home follow-up	Digital home follow-up
Research	Research
Governance information	Governance information
Collaboration and patient logistics	Logistics
Quality registers	Collaboration

Behind each of these targets lie a number of quality and effect indicators that should measure whether the introduction of the HP contributes to achieving the intended gains. For example, St. Olav's hospital wanted to achieve increased patient involvement by introducing the platform. This potential effect is measured by an increased score in a patient satisfaction survey, in combination with the number of patients who have logged onto the platform and/or booked or changed a consultation themselves there. Another example is the target 'collaboration and patient logistics'. Here, indicators are the number of days between the registered physician referral and when the patient is informed about the outcome, or how quickly a doctor reviews the referral.

To anchor the platformed gain system into the services, hospital sections appointed 'gain/benefit coordinators' and municipal services appointed 'gain/benefit owners'. Coordinators at the hospital were typically section managers or employees who had worked with quality management from before the platform project. Thus, the implementation of the Health Platform also implies a subtle translation of quality into benefits or gains, within the service reality.

What is interesting for us to bring into this chapter is that the quality indicators in the Health Platform aim at measuring how services improved due to the introduction of the platform itself. In the words of one of the municipal informants working with quality indicators in the platform,

'What we have been concerned about on the indicator side is that we should share more information. For example, how many days does it take before test results are online, and did the doctor share their notes with the patient? This is completely new that you share the journal note with the patient'. It is assumed that monitoring work through measuring time and sharing will improve the quality of the services, but this does not answer what quality is.

Indicators Coming from the System

The Health Platform is supposed to take over as the key machinating instrument for indicator production in the health services that use it. In the introduction, we mentioned that quality is measured relative to governance demands. For example, if the law demands that elderly care must provide worthy services, the question is how 'worthiness' is translated into a quality indicator, and then put on the agenda. The translation is affected by the standard, as the meaning of the definition limits which data can be used to shed light on and watch over 'worthiness', yet it still reflects the original political goal. How then have governance demands been incorporated in the HP?

According to our informants, many discussions took place to extract the most important items to focus on. Examples of important items were 'waiting time' and 'breach of deadline', as was 'drug alignment'. Thus, the short answer to the question of policy incorporation is the 'quality indicators'. The longer answer is that digitalisation changes the work of creating quality indicators, through mutual co-production of the indicators, law requirements, new software solutions, and new competences, especially ICT and project management. A benefit-oriented configuration of the services takes place through the platform. In what follows, we try to explain briefly what we mean by that.

The process of developing quality indicators as measured in the platform involves many steps, including a series of workshops, counseling and adjustments. It started with what an informant termed 'a gigantic workshop' in 2019, in which health and medical experts, consultants, platform representatives, management and employees and union representatives tried to develop common denominators bottom-up. They also had a meeting with service user representatives. This process concentrated upon *harmonisation* and creating consensus among the involved partners and evolved over long time after the initial workshop. When deciding for a list of indicators,

an important criterion was to select indicators that were mentioned *most often*.

Practices of systematic quality improvement and quality indicator systems are different in the municipalities and the hospitals. The latter were, for instance, genuinely concerned with integrating existing quality registers, due to the aforementioned high quality and level of operationality of the quality registers in the Norwegian hospital sector. However, the final list of quality indicators integrated into the Health Platform software is more flexible than traditional quality indicator systems in the municipal sector. Epic offers many hundreds of indicators, and participants in the Health Platform can choose what events they need to be measured and visualised. In the words of interviewees, 'Units can pick indicators for areas that need attention' …. 'The list is like an IKEA catalogue.' Despite this freedom of choice, an informant told that, to her surprise, when given the opportunity to choose, different municipal actors seemed to choose very similarly. She interpreted this as a consequence of the municipalities having the same tasks to solve and the same legal frameworks, but still, she emphasised that 'it is very important that they [the municipalities] are allowed to choose themselves'.

Data are envisioned as emerging more automatically through digital platforms such as the Health Platform – this is one of their main tasks and a main reason for building them in the first place, and this also applies to quality indicators. In the words of an informant from Trondheim municipality:

> What we have as a main principle is that the indicators that we create should be measurable by the system, that they come out automatically. Some indicators need to be plotted in manually, but not many. Most indicators come through the system. This is pretty new. Or maybe not new, but this makes indicators more manageable and easier to follow up.

Note that the goal is that the indicator measurements will be automated through the technology. This delegates a lot of power to the setup of the software. Much time and work were invested into developing the right codes that structure the health personnel's work with and reporting into the platform. Thus, the originally coded data in the system, which are produced from health personnel-user interactions, affect the aggregated set of quality indicators. An informant from the specialist hospital described how software solutions secure systematic data:

> Previously, there was a lot of free text in all journal systems. Then you do not get to retrieve the data and you do not get to structure them. You had to go to the doctor's or nurse's notes, and then you had to read them page by page to try to understand a patient's medical history. In EPIC, you put in medical records as neatly structured points. It is very clearly specified, like 'then he got this diagnosis.' Much better oversight and structure.

In the quote, the informant argues for why free note taking is restricted in the platform. While the physicians and other employees may experience this as facing 'the tyranny of the drop-down menu' (Almklov & Antonsen, 2019), in which they must find and apply codes prestructured by the system, the informant considers this necessary to enable automatic retrieval of the information produced.

Thus, the platform and the accompanying ambitions depend on controlling the data reporting moment. The detail level of the drop-down menu was also higher than what characterises traditional patient journal writing practices, making the platform very effectively enabled to potentially monitor work. An informant from the hospital maintains that this had triggered discussions and resistance in making the platform as well. 'Now, everything becomes very visible. For example, that one doctor usually spends four hours on the same surgery and another only two, but that the one who spends two hours needs to conduct several resurgeries.' Thus, the now available view into the organisation opens new possibilities for regulating and coordinating work, as they can measure and compare individual levels of performance on a more detailed level than before.

We see that the automation of data production implies automatic monitoring of employees, which is challenging. New information about the work, such as time spent on a surgery, demands that management can make ever more wise decisions. According to the informant from the municipality, platform developers have therefore set as a main principle that '[w]hat is important is that employees are informed that everything is registered. Everything is counted and measured. Heads of sections need to convey this message to their employees: Everything you do, can potentially be measured. This is not only about "gains"'. Informed consent was hereby made into a necessity, and in practice, part of the work contract. Yet, this also distributes the responsibility for informing and collecting informed consent to the unit and the individual level, and it is still necessary to explore how this constant monitoring and potential for automatic data analysis

will change health personnel's reporting of their activities and the content of patient data that are fed into and circulated by the system.

Towards Deductive Statecraft?

What can we say from our initial observations of the Health Platform for the future of quality work and knowledge of quality in times of datafication? Although only a vignette and as such preliminary observations, there are indications that the balance of actors involved in the mundane governing and regulation of quality work will change. The distribution of power among stakeholders who speak about or contribute to defining measurements of 'quality' will then also potentially change. IT, project and data analysis expertise obviously become even more important than before, and they contribute to build another way of making measures of work and service quality. The speeded-up character of the making and testing of quality indicators represents something different than the traditional data work of public administration. A gap in the health administrative data culture may emerge – a then and a now, before and after setting up automation, with potential changes in authority implied.

The story of change that emerges from the vignette of the Health Platform points to important questions about the manufacturing and role of monitoring technologies in the public health and care services in times of datafication. While previous research on quality indicators is aware of these questions, the challenges that they pose have become urgent within a datafied context. For example, how are the people in the services, from frontline care workers to professions and managers, affected by being monitored on such a detailed level? How will management use the new possibility of seeing into organisational life and the employee-service user interaction through dashboard technology? How is automation changing the quality demands that the services are asked to respond to, and how does this change prioritisations in everyday care and medical work? Further, how will awareness of these changes in speed, time and visualisation among service employees change their investment in work, colleagues, and patients/users? And how will visualisations and real-time production affect the production of data on quality – which in the end is core decision-making material for health and welfare planning? This list of questions creates a usable research agenda, once the Health Platform is properly implemented, and has become part of routine practice. Further research is

needed that will follow these developments closely to analyse what is lost and gained, with the datafication turn concerning knowledge production from and about the performance and quality of public services.

Earlier in the chapter we introduced the concept of *inductive statecraft,* that the modern datafied welfare state will turn into, according to Fourcade and Gordon (2020). While the case of QI could have been another example supporting this hypothesis, we suggest that the vignette reveals the opposite: quality indicator work is more deductive than inductive. That is, quality indicators do not emerge as categories inductively from data, but data is made to fit categories. Indicator categories are models that get tested through the ongoing activities of the services, and they do not necessarily fit easily with what the actors in the corridors of the services observe and experience. This was the quality indicator developer's dominating story before the Health Platform and its dashboard, and they strived to use these data as such, implying a lot of energy spent on translating the message that could be drawn out from the indicators – when transporting the data further around in the service apparatus and to the politicians. The speed and automation effect of the platform may camouflage this deductive characteristic. It may give even more power to the voice of the indicators, as if they represent real activity that has spoken directly to stakeholders through the technology.

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