# Price for a Life: An Essay on Becoming of Data-driven Market Governmentality

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## Abstract

The topic of my essay is an emerging mode of governing people based on intensive data mining of personal data from public health care, social services and registers and databases. I focus on a proposal, presented in Finland in spring 2018, in which an estimation of the future health care costs of the person based on a personal risk assessment would be calculated for every citizen, with the help of data mining of public register data. I ask what elements of Nordic (post)welfarist health and social policy have made the idea of setting a prospective personal price of life for every citizen possible and reasonable. In particular, I examine the changes in rationales and practices of maintenance of the welfare state data infrastructure, and the relationship between advances in 'datafication' of public health care and the expansion of the neoliberal policy mode I call 'market governmentality'.

## 1 Introduction

The topic of my paper is a proposal, presented in Finland in spring 2018, to calculate a *prospective* personal price for every potential client of public health services. The idea was that the personal price – an estimation of future costs of the client-to-be – would have been counted by utilizing public health care, social service and population databases. Allegedly, the purpose of this operation would have been controlling the 'market' of public services in the framework of the proposed great reform of public health care and social services. So far, the plan has not been actualized. The grand reform was dissolved before the Finnish parliamentary election in spring 2019, and the proposal to put a price tag on everyone's life was put on hold as the general reform was postponed.

I analyse the proposal as an example of an emerging mode of governing people based on intensive data mining of personal data on people's health, life course, use of health and social services, and education and social factors like age, sex or marital status collected in and extracted from public registers and databases (e.g. Ruppert 2012; 2013). I seek

answers to the following questions: How has setting a prospective price of life for every citizen *become possible* to think, plan and (potentially) put into action? What kind of context of political, administrative, epistemic and technical reasoning has enabled presentation and discussion of such a plan as a reasonable, doable and appropriate solution to a key problem of expenditure management in the great health care reform? How has this context come to be?

My effort is based on Foucauldian 'analytics of governmentality' (Dean 1999; Rose 1999; Lemke 2011a; Helén 2016). As is rather well known, this approach unfolds from Michel Foucault's (2000a; 2000b) insight on the specific mode of Western political power that focuses on rationales and arts of governing which attempt to make the conduct and living of populations and individuals governable. 'Government' as a mode of practicing of political power also aligns state authorities with the production of empirical knowledge on people and with expertise in medical, psychological or social interventions in people's lives. Governmentality perspective is particularly relevant for the analysis of the vicissitudes of the Western welfare state (Helén 2016) because it shows the welfare state as a dynamic and dispersed mosaic of 'government of life' (Lemke 2011b; Helén 2016). In addition, it highlights political technologies (Foucault 2000c), i.e. technical and epistemic means to embrace, utilize, control, and intervene in people's conduct in a number of domains of living, ranging from public health to urban planning.

In this essay, I deploy the above concepts and ideas to capture repercussions of the recent trend of 'datafication' (see Mayer-Schönberger & Cukier 2013) in provision of public health care, and to outline an emerging data-driven mode of government of people and their lives (e.g. Ruppert 2012; 2013).

With this topic, my essay is engaged in recent STS discussions on 'datafication' of health care and emerging of a global health data economy (e.g. Prainsack 2017; Ruckenstein & Schüll 2017; Sharon 2016). In addition, it resonates with a wide range of discussions on 'algorithmic power' engendered by compilation of Big Data and its intensive utilization with the help of ever more 'intelligent' ICT devices (e.g. Amoore & Piotukh 2016; Bigo, Isin & Ruppert 2019; Ziewitz 2016). Furthermore, my approach has a close affinity with studies on 'metric power' that emphasize the continuation between the political aspects of current datafication and the historical alignment of population data and statistics with state power (e.g. Beer 2016; Ruppert 2011; Saetnan et al 2011; see also Hacking 1990; Porter 1996).

All these discussions concern the question about the relationship between the technologies for data management and political rule over people's lives. In my essay, I approach the theme by focusing on a very specific case. I attempt to highlight that the reservoirs of digital data and algorithms require a context of political and administrative reasoning and practice in which the technique of 'data mining' can become a political technology. Within such a context, then, technical devices and rationales of 'datafication' – or even their potential and expectations concerning their problem-solving capabilities (see Tarkkala et al., 2019) – can have a significant influence on policy-making and the ways in which public authorities and experts govern people and their lives.

I approach the reciprocity between data management technology and political governing from a historical viewpoint and use the key principles of Foucauldian genealogical critique as my guidance (see Helén, 2005). Thus, I look for a cluster of problems in the domain of public health care in which the calculation of a personal price of life with the help of intensive data mining are expected to provide a solution. Then, I outline the context of political, administrative, scientific, and technical reasoning and practices in which first the problematization of these issues and then the formulation of possible solutions emerges. Finally, I follow lineages by which the elements of that context have formed and connected with each other. I trace political, epistemic, and technological lineages of a data-driven political technology in the context of the Nordic welfare state. I pay attention to the tradition and practices of the collection and storage of the personal data of citizens in public national registers and databases, the adoption of advanced digital data management technology in public administration and services, and the transformation of health and social policy in a 'post-expansionist' (Julkunen 2001) Nordic welfare regime. In particular, I focus on the relationship between advances in 'datafication' of public health care and an expansion of a policy mode I call 'market governmentality' (Helén 2016: 167-218).

 My essay unfolds as follows. In the next section, I present the historical formation of the context in which pricing the life of every client of public health care services with the help of advanced data mining technology appears as a reasonable and doable policy measure and administrative routine. Then I analyse projects of implementation and experimentation of data-driven practices in public health care. These efforts prepare the policy and administrative environment to support or even nurture the emerging IC technology, and I pay a particular attention to the manners by which these projects formulate problems in

public service provision for which digital data and algorithms seem to provide optimal solutions. After that, I move on to analyse in detail the plan and the technology of political governing which it suggests. In the final section, I frame the plan more generally in terms of the current mode of governmental reasoning and practice, and I discuss 'market governmentality' more closely.

## 2 Descent: Five Lines

The proposal did not just appear as a sudden administrative invention. It originated from a governmental health and social service data authority, and it is embedded in both established institutions and practices of the Finnish welfare state and more recent policy developments and trends. Its descent can also be seen as in line with several historical trajectories of the Finnish welfare state. Therefore, it can well be considered just an extension of existing national and local administrative routines and policy measures, as the advocates of the plan claimed. In the following, I present five 'sources' for the proposal that are particularly related to the management and utilization of personal data of clients and citizens in public databases.

## 2.1 The Land of a Thousand Public Databases

Systematic, routine collection of information by public authorities, and the storage of the data in dedicated public institutions so that it is well-ordered and easily available for scientific and administrative uses form a cornerstone of the Nordic welfare state. This includes data about almost everything from ill health to housing. Sweden, Denmark, Norway, Iceland and Finland are famous for having plenty of nationally comprehensive, well-ordered, and electronic health, social service and population databases. These 'registers' are maintained by public institutions that have a legal mandate to collect, store and provide access to the data, which consists of personal information about citizens, residents, and clients of public services. In Finland, there are about 70 different nationwide registers on health issues alone, ranging from general health statistics and surveys to disease-specific data collections, like cancer or infectious diseases registers, and the national patient record archive *Kanta*, established in 2010, which consists of copies of patient record documents and drug prescriptions from local public health care providers.

Dating back to early 18th century Sweden, the Nordic countries have probably the longest tradition of making systematic *Statistik* for over 250 years. During the heydays of social planning from the 1950s to the 1980s, the fabric of Nordic societies became impregnated with regular collection of data about all aspects of people's lives by public authorities and researchers. The data collection and repositories were connected to building up and maintaining public welfare institutions and services – health care, social assistance, pensions, education etc. – and they were deployed for the purposes of social planning. Consequently, data were collected and databases organized according to administrative needs and rationales (Alastalo 2009). Gradually, the public data collections piled up into comprehensive and routinely sustained population, patient and client registers to the extent that, for example, 95% of its statistics on population, economy etc. maintained by Statistics Finland are today based on register data (Alastalo 2009).

Two technical developments facilitated this shift in Finland: the public databases were transformed into an electronic form between the late 1960s and 1980s, and the personal identity number (PIN) for every citizen and permanent resident was introduced in the 1960s (Alastalo 2009).

Public data were also put into active use. Personal and population data from the registers were deployed in the centralized planning of welfare services, for everyday administrative purposes and the execution of public authority, and for research purposes. The PIN provided a tool which allowed personal data from different repositories to be circulated, combined, and compared among the users (Alastalo 2009). The data were utilized predominantly for national purposes and under the regulation of the state. The latter was based on administrative protection of the persons, so that information passing from one public authority to another was strictly regulated and, in most cases, required the personal consent of the data subject. Public data authorities were also the gatekeepers of the research use of the data, and access to public databases was permitted only to researchers from the Finnish public academic or state-related research institutions.

## 2.2 From Social Planning to Governance by Information

The power balance between the national government and local municipal authorities is a major factor influencing the ways population and personal data in public databases are deployed for governance and management of public welfare provision. In war recovery

efforts during the 1950s and the building up of the welfare state from the 1960s onward, the state took the command. Centralized social planning led the way for the arrangement of public health care, social insurance and services, and education from the late 1950s until the 1980s. The Finnish welfare state was organized so that the law and governmental orders obligated the municipalities to arrange health care, and social and educational services; the state payed most of the cost of the services, and the rest was covered by the municipalities themselves with the revenues of the municipal tax. Pensions, health insurance and other forms of social insurance were centralized in specific institutional arrangements in which the Social Insurance Institution (KELA) played the key role.

In the mid-1990's, a major reform of public expenditure increased the power of regional and municipal authorities. In the new order, the government provided a municipality a certain sum of money based on the amount, age structure, unemployment rate and morbidity of its population, while the municipality put in     additional money from its tax revenue, and arranged health, social, and other public services in a manner that local politicians and administrators found appropriate. In health care, the reform resulted in the most decentralized health policy and service provision in Europe (Häkkinen & Lehto 2005). The 1990s reform was implemented at the same time as Finland went through a major economic recession and state cash crisis. Consequently, the new municipal autonomy for arranging public services was recruited to execute the 'austerity policy' associated with neoliberalism and New Public Management all over the world (see e.g. Blyth 2013). With powers to arrange welfare services as they wished, municipal and local authorities focused primarily on cost reductions and cost efficiency, and the 'saving' of public money became the preoccupation of health and social policy on both the national and local levels.

The 1990's reform 'municipalized' welfare policy in Finland. Actualization and success of the national plans was no longer the primary issue; instead, policy-making, composing and executing reform programs, and innovation in, for example, public health care, were now assumed to happen on the regional and municipal levels. Since that time, the government has not given orders to the municipal and regional authorities. Instead, it imposes its rule by financial means and by defining frameworks for service provision, and providing information and guidelines as recommendations. The guidelines are seen as information about appropriate arrangements and standards of public services like health or elderly care. In addition, the government has started to produce statistical information and

indicators based on public register data, and share it with local administrators and politicians. For over a quarter of a century, the National Institute of Health and Welfare (THL) and its predecessor have hosted a special unit for producing and administrating hundreds of population, patient, service use and expenditure-related indicators – and attached databases – tailored for administrative and policy-making use on the regional level. Among many things, numbers provided by the governmental data authority indicate to the local authorities what kind of population inhabits their region: age, income, unemployment rate, morbidity, use of public services etc. For decades, local health and social administrators and policymakers have become accustomed to governing by indicators (Hammer 2011; Ruppert 2012), which has prepared the soil for even more intensive data-driven governing.

## 2.3 Applied Health Economics

Numbers – statistics, indicators, calculation formulas – have also become essential for the everyday functioning of health care organizations. As medicine has become more complex during the past 30-40 years, management in its every aspect has become increasingly central in health care. The more important role of management in health care organizations has made reasoning derived from health economics more pivotal for medicine. A major part of health care management is about directing resources, controlling expenses, and developing more cost-effective practices and organization. The rationale of management of medical organizations is a kind of applied health economics, and health care managers and directors deploy economic and other performance indicators developed for this purpose. In the following, I take a closer look at a widespread instrument called the Diagnostic Related Groups (DRG).

The DRG was developed in the USA in the 1970s to assist hospital management. It regroups patients according to the resources which the treatment of a disease demands and the expenses which this treatment incurs. Thus, 'diagnostic group' is a category of health economics. Statistical indicators form the core of DRG, which is both a rationale and a device that induces an epistemic reorganisation of medical practice in terms of costs and organisational efficiency. A common indicator called Nord-DRG is in use in specialized care in all Nordic countries. It is:

'(…) based on the average costs; the visits and the treatment period are divided in the groups that are medically practical and homogeneous in expenses. As a pricing device, Nord-DRG balances the risks between the provider and the [public] buyer of the medical services.' (https://sotetieto.fi/fi/tuotteet/norddrg-tuottaa-erikoissairaanhoidon-potilaskirjon-ja-hoidon-kustannukset, retrieved 20 March 2019)

In Finland, the DRG is institutionalized. The National DRG Centre is a company owned by the association of the Finnish municipalities. The centre maintains and develops DRG classifications as a 'commodification system' on the national level. More importantly, it annually collects DRG data from the hospitals and regional and municipal health care organizations and returns the statistics and indicators back to local public health care actors. As a result, the DRG and similar economic indicators have been routinized as an essential element of the current Finnish health care system. Against this background, it is interesting that the Finnish DRG centre has introduced a national DRG instrument for primary health care that:

'(…) combines the patients' medical record data (visits, examination and test measures, treatment etc.) with the budget and personnel data of the organization. As a result, the organization receives patient-by-patient data and information about the real costs and service usage.' (https://sotetieto.fi/fi/tuotteet/norddrg-tuottaa-erikoissairaanhoidon-potilaskirjon-ja-hoidon-kustannukset, retrieved 20 March 2019)

### 2.4 Population Medicine Personalized

An important source for the possibility of considering a prospective personal price for health care is the trend in medical reasoning and practice toward data-driven 'personalized' or 'precision' medicine (see Prainsack 2017). From a historical perspective, personalized medicine is inconceivable without population medicine. The latter refers to the epidemiological paradigm in medicine in which illness and health are approached by studying population data with the methods of statistics and probability calculation. From population data, epidemiology detects factors that contribute to morbidity or the prevalence of a disease in a population or predict its onset in the individuals. The breakthrough of medical epidemiology happened in the 1950s and the 1960s when chronic diseases like cancer and heart diseases became the focus of medicine and health policy across the Western countries (Oppenheimer 2006; Talley et al. 2004), and

epidemiological studies pointed out 'lifestyle' factors that contributed to an increase of these conditions in the population (Larsen 2011). In this context, medical epidemiology became closely associated with preventive measures and health promotion, and gradually the idea of health risk became a core idea and object of medicine (Rothstein 2003).

Finland has been a model student in the adoption of medical epidemiology, risk medicine, and popular health promotion focused on health-related 'lifestyle' factors, especially regarding cardiovascular diseases (CVD) (Jauho 2010; 2017). Finland was among the countries in *The Seven Countries Studies*, a comparative epidemiology study on CVD that started in the late 1950s (Kromhout et al. 1994), and launched a wide public health promotion campaign, with the focus on lifestyle-related CVD risks in the late 1960s. Since then, systematic nationwide health promotion has made the awareness that CVD risks can be reduced by the means of diet changes, quitting smoking, increasing physical exercise and medication part and parcel of public health, primary health care and lay consciousness.

Along with the development by which medical care has become impregnated with risk medicine and prevention, practices and devices to detect and measure personal health risks have emerged, in Finland and elsewhere. Prenatal and cancer screenings of the population (predominantly women) have been systematically carried out for decades in Finland, and primary and occupational health care have familiarized most Finns with CVD, depression and type 2 diabetes risk questionnaires and calculators, today readily available on the Internet. Such personalization of risk has become a routine way of approaching and managing illness and health.

In risk medicine, the individual is defined as always belonging to a population and the data about it, and risk calculation relates her to that population. When this epistemic view is combined with the practices and devices that personalize health risks and with an emphasis of personal preventive health care, a fertile soil for visions of data-driven personalized medicine is well-prepared. Indeed, many advocates present personalized medicine as if it is an extension of risk medicine (e.g. NAS 2011; Swan 2012; Topol 2012). It is based on the calculation of massive amounts of population data, which allows for the precise indication of things to come and to be expected with a certain probability: health change, a disease, cancer, or life expectancy. What makes the difference is the amount, scope and pace of data utilization. When more and more widely 'health-related' personal

data will be 'data mined' more frequently, medicine based on statistical averages and risk groups can be replaced by 'precision medicine'. The latter is essentially about defining a health-promoting lifestyle and preventive or anticipatory medical measures person-by-person based on accurate predictive calculations. Promotion of these expectations has captured the future of medicine in a sociotechnical imaginary (see Jasanoff 2015; Tarkkala et al. 2019) in which aggregating more and more of all kinds of 'health related' personal data (Weber et al. 2014), with the help of high-speed computers and smart algorithms, will automatically lead to better and more accurate medical care (see Prainsack 2017). Within this imaginary, it becomes possible to think of medicine and health care as an enduring practice of data-driven control of the 'whole life' of a person, and to consider that following the path to such control medicine is desirable and will bring good for all.

## 2.5 Administrative Hypomania for Utilization of Digital Health and Social Service Data

During the past decade, enthusiasm for possibilities of Big Data and advanced data mining has been contagious among Finnish policymakers, top governmental officials, leading regional public administrators, and academic experts in data analytics who work with innovation policy and health care reforms. 'Health sector' innovation policy in Finland is today impregnated by a passion, almost an obsession, over the 'secondary use' of public database data and the potential of AI, and the mood is spreading to the domain of social services as well. Alex Pentland's (2003, 80) promissory quotation captures well the mindscape of the Finnish innovation advocates and policymakers:

> 'Data analytics can give us stable financial systems, functioning governments, efficient and stable health care, and more.'

In addition, the Finnish enthusiasts are excited about the idea that the Finnish population, public health and social care databases together form a repository of Big Data. In addition to well-ordered and extensive public databases, the PIN for every citizen and permanent resident is seen as an invaluable tool for flexible utilization of the data. Within the landscape of a data-driven future, mining of the digital 'ore' or 'goldmine' of public databases with advanced IT is seen as able to bring all imaginable blessings to Finnish society: resolve expenditure crises of health care and social services; boost innovation in business and the economy; improve administration and policy-making; and make medical treatment and interventions more precise and cost-effective. In a biobank seminar in 2017

in Kuopio, a speaker from a regional biobank presented a graphic that exemplifies the vanishing point of this scenery well (Figure 21).



*Fig. 21:* Graphic

The passion has engendered a political and administrative urge to enable and expand utilization of population and personal data in public databases. The advocates of more intensive data usage view see the main problem as the data being stored and 'stuck' in administrative 'silos' behind legal and regulatory firewalls. They strive for enabling policy and regulation that would allow easier access to public data repositories and encourage 'interoperability', i.e. combination of data from different sources. In practice, this would mean removing or bypassing the 'hurdles' like legal restrictions, consent practices, or privacy issues.

## 3 Top Down: Implementing Data-driven Health Care

Passionate visions and great expectations about data- and algorithm-driven betterment of all walks of life and society, health policy and health care included, have been pushed toward actualization in Finland by a number of proposals, strategy papers, 'road maps', and pilot projects. Participating are regional and governmental authorities and organizations, 'visionaries' from think tanks, and – occasionally – private companies. A salient feature of many projects and plans is the emphasis that more extensive utilization

of public health care, social service and population databases should primarily serve the management of public service provision. These endeavours share a rationale to promote 'knowledge-based' management, which actually means data-driven management. The objective of many plans and projects is to find ways to make data in public databases on the performance and clientele of public service organizations usable and actionable for top managers, so that they can foresee, plan, and manage in a 'strategic' manner and tackle future challenges. As frameworks of problematization, these plan and projects define the problems that extensive data mining of digital public databases would solve in terms of anticipatory, 'strategic' health and social care management and in terms of the efficiency of the organizations.

For over a quarter of a century, regional health care and social service organizations have used to austerity policy and New Public Management style of managerial practices. Therefore, it is quite likely that the proposed devices of data analytics will serve management focusing on the improvement of 'cost-efficiency' of organizations and practices. In addition, they are likely to become tools of local policy-making focusing on 'savings' in public expenditure and supporting such management. As a result, these projects and plans provide support for health and social policy derived from concerns that '10% of the clients cause 80-90% of the costs' (VTV 2017).

As an example of the efforts to implement data-driven public welfare services, I take a closer look at an influential pilot project, conducted in 2013-16, by a semi-public think tank, regional public health care providers, and the Ministry of Social Affairs and Health (Sitra 2014; Sitra et al. 2016). The idea of the project was to construct a model for combining data from the public services providers' databases – both client and administrative data – and from national registers, and for organizing the data in 'info packages' for the top managers and regional policy-makers. Besides the structuring of the data, the info packages consisted of tools for making service demand prognoses, welfare and performance indicators, and the client analysis. In project documents, the latter was pointed out as the most important device.

In the client analysis, the performance data of the public health and social services was combined with the personal data of the clients and inhabitants of a region. In practice, this meant combining patient data and expenditure data in a manner resembling the DRG. This combination was thought to enable an analysis of the clients' service usage and

costs, which had two objectives. First, '(…) to point out the clients who use a lot of services extensively ("the heavy users") ... in terms of service actions and the costs' (Sitra 2014), and to reorganize health and social services according to the service user segments, as well as 'to build data management systems that would provide standard data and indicators about performance, economy, quality and efficacy' (Sitra et al. 2016).

By introducing the info packages, the project did not present anything new in terms of statistical methods, data analytics, or IC technology. Rather, the info packages performed and embodied the view of a future in which the administrative data 'silos' will be opened, and their data will be intensively used in 'interoperable' ways. Congruent with this imaginary, the project presented a rationale, model and devices for data-driven public management: first, IC technology and experts mine data masses in public repositories; data mining provides information for profiling the clientele and calculating the future service demand; then, health and social services can be planned, arranged and managed according to the prognosis. Data and indicators presented in the project reports are almost exclusively about 'economy', i.e. the costs of the services. In graphics, the client analysis looks like this. In Figure 22, the clients are represented in green and the costs in blue, and both of them are divided according to the sectors of public health and social services.
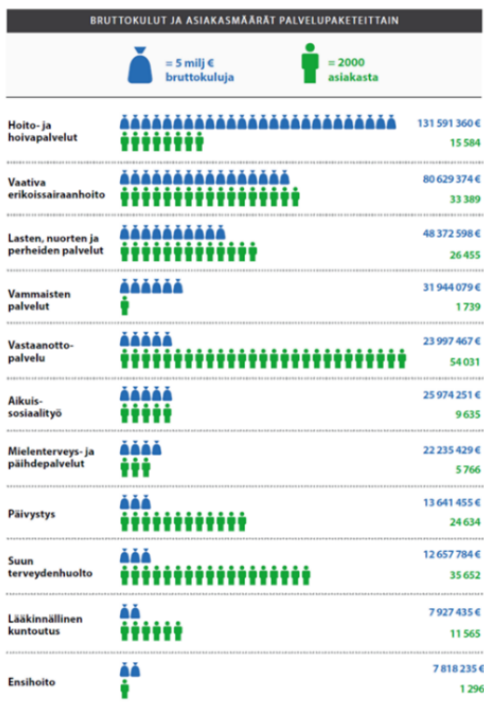


**Fig. 22:** (Sitra 2016).

Picture 23 shows a way to calculate an average cost per patient in a certain patient group and compares the cost between regions: in eastern Finland an inhabitant over 75 years costs 9.600 euros a year on average, while the cost is over 11.000 euros in the southern coast town Porvoo.
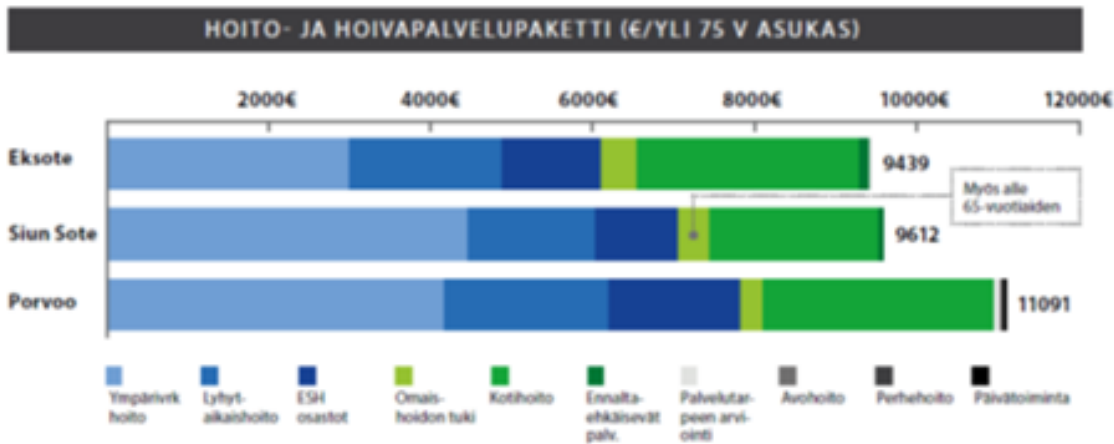


*Fig. 23:* **(Sitra 2016)**.

The most concrete thing that the pilot project seems to provide for local health managers and policy-makers is a data analytic rationale that segments the clientele of the local public services according to the expenses. Despite this simplicity, the numbers and indicators extracted from the data have important implications. First, the client analysis connects the client, her illness or impairment, and the cost of the service through a single number. This number is an indicator of both the performance of the service organization and the 'vital' condition of the client as a person; consequently, the lives of the people in need of medical and social services and the provision of those services melts together under the client analysis indicators. Furthermore, the functioning of data analytics requires that treatment and care in public services are fragmented into clear-cut 'actions', the cost of which can be defined. Health and social care become commodified and, consequently, illness, impairment, and possibly also health and social risks priced. In this process, the data-driven management devices are congruent with the requirements of marketization of health and social services (see below).

The pilot project proposed a data-intensive client analysis focused on client groups. The idea was that the client analysis would connect the groups and the treated diseases or impairments with the costs, figures which would then direct reorganisation of the services. The same rationale and methods can be used to personalize the calculus, i.e. defining the

cost of illness or impairment for every individual client, and it can be extended to health risks, so that the group- or individual-based CVD or depression risks would be related to prospective costs of the treatment. The proposal I will discuss next suggested both extensions.

## 4 Pricing a Life, in Advance

In April 2018, the main Finnish daily newspaper published an article about a plan to personalize the payment the government pays to health care providers as a part of the health care and social service reform (Helsingin Sanomat 10 & 11 April 2018). The idea was derived from the National Institute for Health and Welfare (THL), a main public data management authority and governmental data service provider. *Helsingin Sanomat* interviewed Timo Seppälä, who was the head of THL Social and Health Economics Unit in charge of preparing the plan. The plan of the great health care reform suggested that the main part of public financing of health services would be organized so that the service providers – both public and private – would be payed according to the number of users they serve. This 'capitation payment' per head was planned to cover 2/3 of the payment for service providers, and the rest would be based on the cost of the medical operations conducted. In *Helsingin Sanomat*, Seppälä elaborated that the idea is to refine this model so that every citizen shall have a defined personal 'capitation payment'. The price will be calculated on the basis of service usage history and risk factors related to the health and life situation of the person, and the data for that will be extracted from public population and health care usage registers, personal medical records excluded. The price for a life will be prospective, a sort of health care derivative, because it designates an estimation of the cost a person may cause.

Furthermore,THL suggested that the citizens would not know the personal prices of their health and illness, and neither would the service providers. The idea was that an automatic system for data circulation and calculation would run public financing of health care, so that when a person chooses her health care provider the 'system' of the Social Insurance Institution (KELA) automatically picks up her data – with the help of her PIN -- from public databases and calculates the payment to be payed to the service provider. The automated data management would guarantee that nobody would know the citizen's personal health price, except the data analytics machine at KELA. Seppälä justified the

proposal as a 'necessary' means of market regulation. The great reform proposed that all individuals could choose their health service provider freely among public and private providers. Under the 'freedom of choice' banner, the Finnish government wanted to provide a wider and more easily accessible market for private health care companies. The payment to the service providers was originally planned to be based on robust population segments and average costs, which many commentators saw as problematic. THL's proposal was presented to solve one of them. Seppälä commented to *Helsingin Sanomat* that when public health care will be opened to private companies, 'tailoring' the payment person-by-person is needed to prevent the companies from 'skimming' the health care market and making a profit on public expenditure. According to him, personalized pricing would bring 'a just payment based on an accurate risk assessment' (Helsingin Sanomat 10 April 2018).

Above, I discussed sources of data-driven governing in (post)welfare state of Finland: maintenance and utilization of public databases covering the population as a whole; PIN as a flexible 'operator' of data management and usage; government 'at distance' with the help of data; the rationale and devices of applied health economics; a sociotechnical imaginary of data-driven personalized control medicine; and a passionate belief in the blessings of data-mining among the Finnish policy-makers and top governmental officials. These topics conjoin in the proposal to put personalized price tags on peoples' future lives. The proposal also exemplifies a policy rationale and performative that align marketization of health care and deployment of advanced data mining technology. 'Marketization' refers here to governing of public health care provision as if it were a market and a domain of market competition, and to expanding the market by opening public health care to operations of private companies. The government proposal of the reform considered advanced data management and 'digitalization' indispensable for governing and managing marketization in both senses. In turn, the THL proposal shows that marketization directs the deployment of health data and data analytics in an individuating manner, i.e. to serve personalization of the price of health, illness and living.

Thinking of personalization of 'capitation payment' as an instrument of market regulation has certain implications. First, control of health care costs and health risk control will merge epistemically and technically. This resembles rationales and practices of private insurance; in fact, marketization with the help of personalized price tags for health risks

may mean that public health care will adopt features of private insurance and move away from the Nordic de-commodification model to insurance.

## 5 Business as Usual

Public reception of the THL proposal was not very welcoming. The Data Protection Ombudsman was concerned about privacy issues, and a top official of Statistics Finland presented rather sceptical views about personalization. Both of them also reminded the advocates of the plan public that the GDPR is in force in Finland also. However, the main reason why the plan has not been executed relates to the fate of the great reform of public health care and social services. In spring 2019, the grand reform got stuck in a legal, political, and administrative stalemate. Due to this, the time to pass the legislation required by the reform ran out before the parliamentary election, and the government withdrew the reform plan. As the grand reform dissolved, the proposal for personalization of the 'capitation payment' was also put aside. Despite this, the plan was considered and discussed as a reasonable and appropriate solution to a key problem of expenditure management of the grand health care reform. The epistemic and political rationales for execution of the plan exist, and so do administrative and technical means to put it in action. Especially the experts inside the governmental data management and register-keeping institutions tend to consider that defining the price or payment of public health care person-by-person and on the basis of health risk calculation would be business as usual, 'just an extension of normal register research', as Timo Seppälä claimed (Helsingin Sanomat 11 April 2014).

Indeed, defining a personal, prospective price for every potential user of the Finnish health services – citizens, permanent residents and even the new-born – would not make much difference to existing practices. *Technological* prerequisites for personalized health risk pricing are available: existing and expected IC technology has and will advance digitalization, circulation and mining of population and patient data, and there is the PIN as the operator of interoperability between the databases. From an *epistemic* point of view, the introduction of a personalized 'capitation payment' would not bring anything new to the established manners of knowledge production and indicators of health economics, public administration and public health, and neither to the associated practical rationales of using public register data in policy-making and public administration. Technical and epistemic

prerequisites for setting a prospective price to a person's health and illness are complemented by a *political* rationale embedded in the ethos of New Public Management with neoliberal ingredients. I call this policy mode 'market governmentality'. The concept refers to an art of governing that emphasizes the competition mechanism as *the model* of regulation of the state activities and government of people and their lives, uses the market as *a means* to reform and regulate public service provision institutions, and opens up domains of public services to commercial activities and competition (Helén 2016).

The plan for the great health and social service reform in Finland exemplifies these three dimensions of marketization of governing. First, the generative idea of the reform and the basis of the governance model was that market competition will increase effectiveness and quality of public services, health care included. Second, the reform plan suggested the use of the market as the main means to reform and reorganize public health care and social services. In the government proposal, public health care is conceived of and planned to be organized as if they are market relations between public 'buyers' that represent 'demand' and service providers as the 'supply' side. Finally, the reform plan promoted an additional route of marketization of public services by opening public health care as a market for private companies. Regarding the latter two dimensions, digital data management was thought to play a key role. The plan to use intensive data mining for defining 'capitation payment' person-by-person is a concrete example of both the importance and expectations of integration of advanced data analytics with the new style of public health care management. Thus, 'market governmentality' -- governing *as* and *by* the market – provides a framework in which advanced data analytics technology can function as a political technology … of 'personalization'.

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