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Making Access to a Population of Bodies in the Name of Autonomy

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Abstract

Developments within biotechnology are of a pace and complexity that challenge the predictability at the foundation of legislation, i.e. the possibility for politicians to foresee pitfalls and hazards, and design legislation accordingly. The lack of predictability is not only a challenge for the legislature, but also for the citizen, who is to consent to the new biotech services offered by the health authorities. How can one give informed consent to a measure, the consequences of which is hard to predict? Does the uncertainty and lack of predictability mean that paternalism slipped back in as a 'self-selected' responsiveness to the rhetoric of the health regime? Recently, Denmark has taken another step in the direction of voiding autonomy of actual value by rendering genetic analysis contingent on agreeing that the resulting data may be stored in the recently established National Genome Centre, and reused for research unless the patient opts out.

Keywords

genetics, DNA, informed consent, biotechnology, welfare state, Rose, Foucault, WGS, health law

1 Introduction

Interest in genetics and biotechnology has intensified over the last decades. As Nikolas Rose points out, in this century we are preoccupied with controlling, managing, shaping and reshaping the very ability of human life and DNA. Artificial insemination and the procurement of blood from the umbilical cord are services offered, along with organ transplantation, personal DNA-mapping and physical restructuring, from a new face to gender. The range of techniques, practices and scientific discoveries is challenging our understanding of human life. Meanwhile, legal institutions must contend with understanding rapidly developing biomedical research, materials and possibilities, as well as implementing adequate, timely legislation.

We will use one of the latest biotechnological advances, Whole Genome Sequencing (hereafter WGS) as a case study. WGS is the mapping of a person's entire genome in order to,  

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1 This article is based on an article previously published in Danish, I.H. Asmussen, ‘Vil du høre din DNA-skæbnefortælling?: Det informerede samtykke kommer til kort i moderne bioteknologi’, Retfaerd 40(1) (2017) 15-23.
2 The authors are grateful to Professor Mette Hartlev for her helpful comments.
5 The article is also relevant to other survey methods which belong under the term ‘comprehensive mapping of individual genomes’, such as Whole Exom Sequencing (WES), complete RNA sequencing, Next Generation Sequencing (NGS) as well as the NGS for the sequencing of DNA/RNA from human tumours.
among other things, uncover the disease susceptibility of that person. WGS is used in hospitals in connection with the treatment of diseases suspected to be genetically related and in research projects, such as the 100.000 Genomes Project in the United Kingdom, which investigates rare diseases. Yet, many have expressed concern that WGS may create unnecessary uncertainty and concern about the diseases for which one is predisposed. In this context, the requirement to obtain informed consent from the patient has been used as a kind of ethical warrant, namely: ‘The patients have agreed to it’. As Hoeyer puts it ‘In informed consent procedures, authorities have found a way to document that no abuse has taken place’.

Informed consent implies that the patient must be informed and give consent before a medical treatment or investigation begins, including a WGS. However, as we will elaborate further, the results of a WGS are difficult to comprehend and often very uncertain, just as it is difficult to predict how the results of a WGS will be used in the future. For example, while international bodies have called on states to prohibit genetic discrimination, few jurisdictions have introduced legislation prohibiting employers and insurance companies from accessing genetic data. Even in jurisdictions that have legislated, this position may change, should WGS become a mainstream form of preventive medicine. The uncertainty and unpredictability of the consequences of a WGS also include the constantly evolving knowledge about what answers a WGS can provide. In other words, how doctors interpret the output of the technology. Ultimately, how can patients consent to something, the scope and importance of which doctors struggle to explain?

At the same time, consent has the consequence that the citizen may be held accountable for accepting these risks. The individualisation of responsibility for health attached to informed consent is here viewed in light of the modern, neoliberal welfare state, where responsibilities that previously belonged to the state are transferred to the citizen.

We will first elaborate on what WGS entails and the specific challenges associated with its increased use. The recent establishment of the Danish National Genome Centre is drawn upon as an example of how WGS is increasingly endorsed as routine prevention by the welfare state.

## 2 Whole Genome Sequencing (WGS)

WGS means mapping the entire genome of a person for the purpose of analysing risks of developing certain diseases. If, for example, research shows that a proportionally higher number of people with a particular gene mutation will develop breast cancer, the person whose cells contain this gene mutation will be estimated to have a relatively higher risk than others of developing breast cancer. WGS thereby represents a basis for probability calculations. Later research may show that

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7 The Convention on Human Rights and Biomedicine prohibits all forms of discrimination on grounds of genetic heritage (Article 11), but is not self-executing. In the US, the Genetic Information Nondiscrimination Act of 2008 (Pub.L. 110–233, 122 Stat. 881, enacted May 21, 2008, GINA), prohibits the use of genetic information in health insurance and employment, but not life or disability insurance. In Denmark, insurance companies and employers are not permitted to receive or request predictive genetic information unless it relates to an existing illness. Insurance Contracts Act, LBK no 1237, 09/11/2015, § 3a and the Health Information Act § 1, paragraph 1 and paragraph 3.
8 More in-depth study is possible, for example by following Sharon, who uses Michel de Certeau’s theory of creative tactics and strategies in everyday life, thereby opening up a more symbiotic approach to the relationship between autonomy and heteronomy. However, this falls outside the purpose of this article. See, T. Sharon, ‘Healthy citizenship beyond autonomy and discipline: Tactical engagements with genetic testing’, *Biosocieties* 10(3) (2015) 295–316.
the gene mutation only causes this increased risk in combination with, for example, a second gene mutation or a specific diet. Genes are thus only one factor among several determining that diseases one develops. Other factors may be exercise, education, pollution, food and environment. While there is still only limited knowledge about what these other factors signify for the development of diseases, we know that genes generally play a small role. A genetic study will thus, in most cases, only provide an uncertain picture of whether the person investigated has an elevated risk.\(^9\) In addition, the dissemination of the results opens a gateway of possibilities for misunderstanding and misinterpretation.\(^10\)

Over the years, genetic tests have been utilised in clinical practice,\(^11\) and it is becoming more and more common to supplement these tests with a WGS. Increasingly, WGS is used in large-scale research projects. Meanwhile, commercial testing, such as analyses of heritage and disease risk, has exploded.\(^12\) On the internet, anyone can buy an elementary mapping for less than 100 euro.

Personalised medicine - the possibility that treatment and prevention can be tailored to suit the specific DNA composition of the individual - is a major driving force within the mapping of genomes. In recent years, several governments, including welfare states, such as the United Kingdom, Denmark, France and Norway, have embarked on national strategies for personalised medicine.\(^13\) These initiatives are dependent on the analysis of the population’s genetic and health information, meaning more and more individuals will be invited to have their genome sequenced. For instance, in 2015, then United States President Obama introduced his ‘Precision Medicine’ initiative, declaring:

> We’re going to … create a research group of one million volunteers. And just like analyzing our DNA teaches us more about who we are than ever before, analyzing data from one of the largest research populations ever assembled will teach us more about the connections between us than ever before. And this new information will help doctors discover the causes, and one day the cures, of some of the most deadly diseases that we face. \(^14\)

The Danish government’s vision for personalised medicine is arguably more ambitious (and controversial). In 2017, the government launched its strategy for personalised medicine, including draft legislation establishing a National Genome Centre that will store sequenced genetic and health data from the entire Danish population. To start, 100,000 Danes will be offered sequencing, although the intention is that, in the future, all Danes will have their genomes sequenced – a more


\(^9\) In particular, it has created concern and given rise to discussion, when genetic information has been communicated by personnel who are not health professionals, A. Harris, S.E. Kelly and S. Wyatt, ‘Counseling Customers: Emerging Roles for Genetic Counselors in the Direct-to-Consumer Genetic Testing Market’, Journal of Genetic Counseling 22(2) (2013) 277-288.


\(^{11}\) Harris et al., supra note 10.


ambitious target than that of President Obama.\textsuperscript{15} The proposal provoked controversy in Denmark, with critics arguing that the amendment to the Health Act breaches the right to privacy, while supporters maintain that the Centre is vital for ensuring innovative treatment in the future.\textsuperscript{16} Informed consent manifested as a particular point of contention, as discussed further in section 8. Next, the genesis of informed consent as a requirement in treatment and research is introduced.

### 3 Informed Consent in Clinical and Research Settings

During the second half of the 20\textsuperscript{th} century, informed consent emerged as a fundamental principle of national and international law, transforming the relationship between the medical profession and the individual from one grounded in paternalism to one of patient autonomy.\textsuperscript{17} Today, numerous international treaties and declarations contain provisions enshrining informed consent. While informed consent in treatment and research developed in parallel and encompass different legal requirements, they share commonalities.\textsuperscript{18} Notably, in both cases, outside forces, specifically judges and legislators – not clinicians – were the drivers.

The philosophical justification for informed consent is the recognition of the individual’s right to self-determination. Judges, adjudicating battery claims, played a critical role in clarifying physicians’ legal obligations.\textsuperscript{19} Informed consent to treatment protects the patient’s right to control what is done to her body, even when this goes against medical opinion. The doctrine thereby rejects a paternalistic model of care, where the physician makes clinical decisions based on her assessment of the patient’s interests and ‘protects’ the patient through withholding potentially distressing information.\textsuperscript{20} Instead, the doctor must provide the patient with adequate information, owing to her fiduciary duties, and with a view to correcting the information imbalance between the doctor and patient.\textsuperscript{21} Treatment is thereby no longer driven by beneficence (i.e. doctor knows best), but by the patient’s decisions regarding her own health. At the same time, this can prove demanding, requiring the patient to understand and weigh complex (and sometimes unclear) health information, as in the case of WGS.

Separately, the international community, horrified by systematic violations of research subjects’ rights during World War II, drafted hard and soft law protecting informed consent in clinical research,\textsuperscript{22} starting with the Nuremberg Code.\textsuperscript{23} Consent in research settings seeks to ensure

\begin{itemize}
\item \textsuperscript{15} Danske Regioner, 
\textit{Handlingsplan for Personlig Medicin} (Danske Regioner, 2015) p. 6 (emphasis added).
\item \textsuperscript{16} H. Ullum and A. Beich, 
\textit{Genomcenter – ja eller nej’}, 
\item \textsuperscript{17} Instances of consent in ancient times have been recorded, see, for example, S. Selek, ‘A written consent five centuries ago’, 
\textit{Journal of Medical Ethics} 36(10) (2010) 635-638. However, these lack the elements of informed consent: namely, the obligation of the physician to inform and obtain the patient’s consent.
\item \textsuperscript{18} See, for example, P. Nelson-Marten and B.A. Rich, ‘A historical perspective of informed consent in clinical practice and research’, 
\textit{Seminars in Oncology Nursing} 15(2) (1999) 81-88. For a detailed discussion of the history of informed consent see, R.R. Faden, T.L. Beauchamp, 
\item \textsuperscript{19} Particularly, common law countries, like the USA and UK. See, 
\item \textsuperscript{20} P.M. Murray, ‘The History of Informed Consent’, 
\item \textsuperscript{21} Faden and Beauchamp, supra note 18, p. 26.
\item \textsuperscript{22} UNESCO, 
that the individual is not at the mercy of science and society – but adequately informed and thereby willingly agrees to the potential risks associated with taking part in research. Binding post-World War II human rights treaties also enshrine informed consent in treatment and research, namely, the International Covenant on Civil and Political Rights\(^{24}\) and the European Convention on Human Rights.\(^{25}\) These treaties aim to protect human dignity and human rights, and to avoid future violations of individual rights by nation states. Notably, in 1997, the first convention dedicated to providing minimum standards in biomedical law entered into force: the Council of Europe Convention on Human Rights and Biomedicine.\(^{26}\) The Biomedicine Convention’s origin lies in a desire on the part of the Council of Europe to protect human dignity in light of biotechnological advances.

Several non-binding declarations apply informed consent to the field of genetics, notably the Universal Declaration on the Human Genome and Human Rights, The International Declaration on Human Genetic Data, and the Universal Declaration on Bioethics and Human Rights.\(^{27}\) The Council of Europe has adopted an Additional Protocol to the Biomedicine Convention on Genetic Testing for Health Purposes (it does not apply to research settings).\(^{28}\) However, while the Biomedicine Convention has been widely ratified, the Additional Protocol does not enjoy the same widespread support or influence, with a mere five states parties.\(^{29}\)

The Biomedicine Convention, which applies to both clinical medicine and research, reiterates the rule that medical interventions can only be carried out with ‘free and informed consent’, following ‘appropriate information as to the purpose and nature of the intervention as well as on its consequences and risks’.\(^{30}\) While a weakness of the Biomedicine Convention is that no Court is tasked with monitoring compliance, the European Court on Human Rights draws on the Biomedicine Convention in determining whether a state party has breached the European Convention on Human Rights. For instance, the Court has found that sterilisation without full, free and informed consent runs contrary to the principles of autonomy and dignity, and thereby violates rights to family life and freedom from inhuman and degrading treatment under the European


\(^{25}\) Council of Europe, ‘European Convention for the Protection of Human Rights and Fundamental Freedoms’, as amended by Protocols Nos. 11 and 14, 4 November 1950, ETS 5 (see, Article 8). Further, Article 3 of the European Charter on Fundamental Rights (ECFR) guarantees the right to respect bodily integrity, including the right to the free and informed consent of the person (Charter of Fundamental Rights of the European Union 2012/C 326/02).


\(^{27}\) UNESCO, Universal Declaration on the Human Genome and Human Rights, 11 November 1997; International Declaration on Human Genetic Data, 16 October 2003; Universal Declaration on Bioethics and Human Rights, 19 October 2005.


\(^{29}\) Council of Europe, Details of Treaty No. 203 https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/203.

\(^{30}\) The explanatory report notes that consent is ‘an already well-established rule’. Explanatory report, *supra* note 9.
Convention on Human Rights. The Court has also held that the desire to conceive a child unaffected by a genetic disease of which the applicants are carriers and to use technology to achieve this desire, is protected under Article 8 ECHR.

The above declarations and treaties attest to sustained international endorsement of informed consent as a fundamental principle of international bio law and human rights. Fundamentally, informed consent is underpinned by respect for the individual’s dignity and self-determination. Furthermore, the principle has been included in newer declarations relating to the human genome, thus underscoring its continued application to genetic analysis, including WGS. However, as discussed in the next section, informed consent has not fully transformed the power dynamics of the patient-doctor relationship. Perhaps part of the answer lies in the genesis of informed consent: a doctrine imposed on doctors by lawyers and politicians.

4 Self-determination and Power

Informed choice is seen as the basis for the patient's autonomous choice, and most research in genetics and genetic counselling assumes that 'true non-directiveness is a realistic and desirable goal'. This is fully in line with the legal assumption that underlies informed consent: giving the citizen the opportunity for self-determination.

Based on their observational study of genetic counselling, Koch and Svendsen question the assumption of autonomous choice. They take as their starting point a Foucault-inspired concept of power. Foucault describes power as productive, i.e. that power not only oppresses and confines subjectivity and autonomy, but also that power is exercised through certain contextual rationales that govern autonomous choice in a particular direction. Koch and Svendsen thereby describe how genetic counsellors have specific normative rationales that they, in various ways, express and support in the person being advised.

For instance, the information that a patient gains through sequencing may be relevant to family members. If the genetic knowledge is disseminated to relations, the latter will also have the ability to prevent the increased risk that they as family members may bear. But when the genetic counsellor only has access to the patient, the possibility of briefing family members goes through the patient. The patient's willingness to involve the family is supported by a moral norm of biological relatedness, when disease becomes a part of family culture: 'This thing in our family' (S.M. Cox, W. McKellin, 'There is this thing in our family: predictive testing and the construction of risk of Huntington Disease', Sociology of Health & Illness 21(5) (1999) 622-646. Leeming describes a historical change in the conceptualization of recurrent disease in the family from being 'biological relatedness' to 'related to chromosomes and genes' (W. Leeming, 'Tracing the shifting sands of 'medical genetics': What's in a name?', Studies in History and Philosophy of Science Part C 41(1) (2010) 50-60, p. 51).
‘familial responsibility’.37 This is, for example, expressed in the way that when the patient is willing to follow up with family members, this is accepted without any further comment, whereas a lack of willingness is challenged, referencing a rationale of accountability. This means that the counsellor introduces a premise that the patient qua her knowledge about the increased risk holds a familial and social responsibility. Thus, a ‘yes’ and a ‘no’ answer to the question of informing family do not hold the same moral status. The patient-doctor relationship, in other words, contains an imperative of ‘yes’ to mapping of genes for disease prevention. The point is not that the governance is in opposition to autonomous choice, but rather that specific rationales are prevalent and become powerful through voluntary consent.38 The responsibility of dealing with and preventing the possible effects of the genetic risk information is thus changed from being an individual question to assuming the form of a family obligation.39

In this manner, relations’ fates become intertwined, yet, under law, they primarily remain separate beings with individual rights to autonomy and privacy. Interestingly, Danish law includes an exception to the norm of patient consent. Under the Health Act, information about a patient’s health can be shared without their consent, where necessary to protect the interests of others, such as a family member.40 Indeed, the preparatory works of the law mention the situation where a patient or family member has a serious hereditary disease, as a basis for bypassing patient consent.41 Therefore, the law reinforces the decision to inform as an ethical ‘choice’ for the patient. If the doctor views the patient’s decision not to inform her family as immoral, she may even bypass patient consent.

The issue of relatives is also an example of how the neoliberal technology of governance works. Specific rationales and truth logics are reproduced and created not only through formalised practices, like the doctor’s conversation with the patient, but also from family member to family member. If we simplistically assume that a patient consents to a WGS on the basis of formalised practices, governance works. Specific rationales and truth logics are reproduced and created not only through patient consent. Therefore, the law reinforces the decision to inform as an ethical ‘choice’ for the patient. If the doctor views the patient’s decision not to inform her family as immoral, she may even bypass patient consent.

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38 ibid., p. 828.
40 Sundhedsloven (Health Act), § 43(2)/.
41 Lovforslagsbemærkninger (Comments to Genome Centre Bill), section 4.2.4.
43 Asmussen, ibid.
The basic premise of the patient's 'free and informed consent' as defined under national and international law must thus be seen in light of the rationales that characterise the context in which the consent is given. This applies not only to the actual meeting between doctor and patient, but also the institutional context (typically a hospital), and the more general social discourse, the importance of which we elaborate on below.

5 The Genetic Human Being

Nikolas Rose describes how citizens in the Western world have increasingly begun to understand themselves as biological, medical and genetic beings. In the language of biomedicine, we are 'somatic' beings who experience, articulate, judge and act in relation to our own bodies, often expressed as 'genetic responsibility' or 'genetic prudence'.

For example, the body is used as an expression of the degree of life fitness. Today, a clean bill of health is no longer a sign that you have a fit and healthy body. Because are you eating healthily enough? Are you exercising adequately? Moreover, is your everyday life too stressful or is your sleeping pattern in disarray? Regardless of a lack of symptoms, the body is viewed as a ticking time bomb of disease risks, and a number of government screening programmes contribute to viewing it as such. Thus, we see people as potentially ill or pre-ill rather than healthy people, even when they do not have active symptoms. However, you can maximize your vital capital, as Leeming puts it, for example, by having your DNA mapped and following advice on eating and lifestyle habits. In practice, this means that being diagnosed with a serious illness, previously considered 'bad luck', is today regarded as something for which you are individually responsible. Through the mapping of genetic risk for various diseases, a moral responsibility is placed on the individual, for example, when a woman takes a position on whether she wants to have a breast removed as prevention against breast cancer.

The concept of biopower indicates that the world has not, 'itself' designated what constitutes a 'healthy' or a 'sick' body, but that specific descriptions and classifications mean that certain bodily expressions are defined as 'sick', for example by defining what constitutes a 'gene mutation'. WGS is an example of such a risk assessment. Hacking describes how estimates, like probability calculations and statistics, have in the course of the nineteenth century challenged a deterministic view on risk, as the possibility of 'taming' the risk by means of preventative measures was thus made accessible.

Further, the shift towards an individualisation of responsibility for risk through sophisticated genetic testing, DNA screening and WGS can be seen in the light of what is described as the neoliberal welfare state. It is the term used for a welfare state increasingly emphasising efficiency, responsibility, freedom, empowerment, self-help and similar values for...

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45 Rose, supra note 2.
48 Leeming, supra note 36.
the citizen, thus helping to shape the citizen as someone who can and wants to solve their own problems. For example, by highlighting ‘citizens who take responsibility for their own lives and health’, the state contributes to creating citizens who take care of their own lives and their own risks. It is not a matter of well thought out manipulations arising from individuals, but rather that societal development contributes to shaping that perceptions of truth become dominant. As the welfare state came under financial pressure, we started talking about ‘withdrawal of the welfare state’ and ‘privatisation’. These agendas, however, have been reworded into ‘self-management’, ‘empowerment’ and ‘self-determination’. The difference is that the former terms relate to the wishes of the state, while the latter address citizens’ interests, which by their very nature has won rhetorical ground in the political agenda.

WGS can thereby be seen as an example of this neoliberal form of governance where the citizen is held responsible for her own health. Through the results of the sequencing, the citizen is made aware of the specific risks her body holds, and in that way also given the opportunity to act responsibly by preventing these risks through medicine, physical intervention and modification of diet, exercise and sleep habits. However, this assumes that the individual is able to understand and accurately interpret the results of sequencing, as discussed in the next section.

6 Master of One’s Own Body?

Free, informed consent requires that the patient can understand the consequences of giving consent. The patient must have the capacity to consent, meaning the patient’s ability to make decisions must not be impaired, due to, for example, illness, disability or age. If the patient is to be able to foresee the consequences of giving consent, it follows that whoever is ‘prepping’ the patient to give consent, normally the health care professional, can in fact predict those consequences. The question thereby becomes whether the professionals can genuinely foresee the consequences of a WGS.

Previously, consent was given to carry out examinations to explain specific, present symptoms. The patient’s consent has thus been given to uncover current diseases. In the case of a WGS, consent is given to uncover potential disease scenarios, which may, or may not, occur. This is even expressed with a stipulated percentage calculation. The uncertainty alone of being in a ‘risk situation’ will affect the self-image and life quality of most people. A study shows, for example, that citizens who are considered to be at risk of developing cancer were likely to see themselves as neither sick nor healthy. As a result, they consistently sought out health authorities for health checks.

Further, despite the expectation of self-determination, WGS may challenge the patient’s autonomy. International bodies, including the UNESCO International Bioethics Committee, have pointed to several ethical dilemmas. One central dilemma questions the breadth of the ‘right not to know’, where a WGS shows that the patient has a fatal disease unconnected with

53 Mik-Meyer and Villadsen, supra note 46.
55 Explanatory Report, supra note 9, paras 35-37.
56 Convention on Human Rights and Biomedicine, supra note 26, Article 6.3.
57 Scott et al., supra note 47.
the purpose of the sequencing. Generally, patients can opt out of receiving findings that go beyond the original purpose of the treatment or research – so-called incidental or secondary findings. Yet, informing the patient may be time-sensitive, for instance, if the potential for successful treatment will become more remote the more time that passes before the patient is treated. In this situation, two significant interests collide: respect for the patient’s right not to know and the doctor’s obligation to save lives. While Wolf and others argue that doctors hold a legal and ethical duty to inform patients of incidental findings, informing the patient against her wishes undermines self-determination, which is supposed to be upheld by the informed consent paradigm.60

Less comprehensive sequencing offered by private companies can also bring unforeseen consequences beyond the original purpose. A recent example is the identification of the ‘Golden Gate killer’, forty years after a string of unsolved murders and rapes in California. According to news media, police identified the suspect after uploading DNA gathered from a crime scene to an open-sourced genealogy website. The website then matched the suspect’s DNA with that of a relative who had uploaded his data for genealogy purposes.61

Were users aware that law enforcement could or would use genealogy websites to track murder suspects? The website used claims that it was neither contacted by police nor cooperated.62 While commercial websites enter into legal agreements with their users, which would require a warrant to assist police, not for profit, open access sites go unregulated. For example, under Danish law, DNA gathered under the DNA registration law must be deleted after ten years, whereas DNA voluntarily uploaded will remain online presumably until the owner deletes it (that may be much longer than ten years). Such online databases thereby potentially allow police to bypass laws regulating official DNA databases. Furthermore, the individual’s decision to upload her personal data can have unintended, unpredictable consequences for relations.

7 The Autonomous Self-determining Citizen

The shift - from the paternalistic professional as an omniscient expert opposite a passive citizen, to the ‘coach’ or ‘facilitator’ of an active citizen, whose knowledge and resources are at the heart of the citizens’ decisions - is sometimes described as a ‘paradigm shift’ and denotes the development that has taken place in the relationship between the state and citizen through recent decades. This applies, for example, to the relationship between teachers and students in schools, doctors and patients in hospitals, and caseworkers and clients in the probationary system and employment services.63 In a legal context this development, as described above, signifies that consideration for the autonomy of the individual has become a priority. The paradigm shift is usually described as positive and welcome, that we do not contest. However, we believe that it is essential to recognise that the notion of an autonomous choice cannot stand alone, but must be read in light of the institutional and societal context. The ‘autonomous’ choice cannot be reduced to something that

63 On the paradigm shift within the legal system, see, Asmussen, supra note 42.
comes ‘from the inside’, but is a choice made by a person whose statements are created by the relationships, contexts and discourses, she has been and continues to be surrounded by. So, who or what is it actually that gives consent to a WGS? It seems somewhat misleading to maintain a notion that the decision merely stems from one person, namely the one who is articulating the answer. This pattern is intensified where the welfare state actively promotes WGS through prioritising personalised medicine, as discussed in the coming section.

8 The Danish National Genome Centre

Seen in this light, how should we understand the latest controversial initiative in Denmark, where genetic analysis is only possible if the patient agrees to her data being stored in the National Genome Centre?

Despite the international norm of informed consent, the establishment of the Danish National Genome Centre requires that a patient who undergoes any form of genetic analysis, simultaneously agrees to her data to be stored in the Centre.64 Further, this data can be reused for research, unless the patient opts out. Already under the Danish Health Act, biological samples gathered during treatment (through informed consent) can be stored and reused for research without the patients’ renewed consent.65 The new legislation extends the opt-out to not only biological samples, but also to any information stored in the National Genome Centre derived from biological material.66 The Health Act now stipulates that, when gathering informed consent for genetic analysis, the doctor must inform the patient of the right to opt-out.67 However, even where the patient opts out, her samples will be stored in the National Genome Centre unless she specifically requests her samples be destroyed or returned to her.

While the Danish government describes the legislation as in line with the principle of informed consent,68 it is problematic for two reasons. First, the patient does not have a choice whether her data is transferred to the National Genome Centre. An ill patient must therefore forego treatment if she does not want her data to be stored in the Centre. Second, the patient must take action to avoid her data being used for future research, otherwise her consent is presumed. The government has thereby created an expectation of both consent and involvement in the Genome Centre, meaning that consent is even more clearly normalised and moralised. The ‘morality’ of the Genome Centre is underscored by the surrounding policy documents that emphasise the necessity of widespread sequencing for the future of the (arguably already beleaguered) Danish welfare state.

64 Ministry of Health, Forslag til lov om ændring af sundhedsloven (L 146, 2018).
65 Health Act (LBK nr 191 af 28/02/2018), § 29.
66 Law amending the Health Act (L 146), § 29(1).
67 Ibid, § 29a. This was not provided for in the first draft of the bill (Forslag til lov om ændring af sundhedsloven (organiseringen i Sundheds- og Ældreministeriet, oprettelse af Nationalt Genom Center m.v. (18 september 2017)). The adopted legislation now gives the Minister of Health the power to adopt rules on how the patient should be informed (§ 29a(2)). Further, the Minister plans to introduce rules that require consent to genome sequencing to be given in writing (SUU spørgsmål nr. 16 (L 146 – forslag til lov om ændring af sundhedsloven (Organiseringen i Sundheds- og Ældreministeriet, oprettelse af Nationalt Genom Center m.v.)).)
68 For instance, when answering questions of members of parliament on the bill establishing the National Genome Centre, the Minister for Health replied: Det er min klare overbevisning, at der er med lovforslaget sikres et fuldstændigere samtykke. (it is my clear assessment that the bill secures a fullest consent). (Health and Elderly Committee 2017-18 L 146, answer to question no 16).
and the health of the Danish population. Ultimately, neither the patient nor the state knows how the patient’s data will be used in the future but it is the patient who must accept the risks: she cannot access treatment, unless she accepts that her data is kept in the Genome Centre.

By reusing the same term, ‘consent’, the actual gap between asking and not asking seems smaller. The term ‘consent’ draws from a reference to an enforcement that stems from peoples’ wishes. In other words, though the initiative is a limitation on the room for ‘no’ to genetic analysis, the naming of the initiative puts focus on the remaining possibility of autonomy. Nevertheless, in reality it is a step back to paternalism as the state presumes, and thereby governs, the citizens in a much more direct way than described in regards to an actual informed consent alias: Are you going to do the opposite of the norm of the majority? It thereby calls for consistent, strong and well-informed attitudes to take another position than ‘expected’.

The distribution of roles and power is certainly more evident and straight-forward here compared to our portrayal of the international norm of informed consent, but that is of course not to say that it to any extent legitimises the Danish construction.

9 Conclusion

Within pragmatic welfare policy and legal regulation, it is often overlooked that self-determination can only be exercised within a certain normative framework. Autonomy continues to be governed and controlled by a specific institutional practice, disseminated through the professional. The practice of self-determination is thus accompanied by instructing, motivating and follow-up conversations that guide and regulate the conversation in a certain direction. At the same time, the citizen is articulated as the ultimate drafter of agreements and decisions, and as a result, the citizen feels to a greater extent bound by these. The citizen thereby bears the main responsibility, should these agreements prove inadequate or fail. This is particularly relevant within modern biotechnology, where the ability to relate to the choices we face as a citizen, as well as the ability to foresee their consequences, is under pressure. The more unclear and hypothetical the choice facing the citizen, the more the foundations of the informed consent crumble, leaving it an empty structure that perhaps first and foremost serves the paradoxical purpose of signalling that the citizens ‘themselves’ decide. In this light, the Danish Genome Centre might not be as controversial as it looks. However, it certainly exemplifies the complexity and need for thorough development of improved legal and ethical tools and guidelines that respect individuals in data sharing within health and life sciences law.

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69 The Ministry’s policy document is entitled ‘Personalised Medicine for the benefit of the patients’, supra note 13. Page 5 discusses how a large proportion of the medicine used in the health system does not work and harms patients. ‘This is both a hardship for the individual patient and a financial challenge for society’.