

Advice document

Risk profiling for Social Welfare Re-examination

Key takeaways normative advice commission

- > **Algorithmic profiling is possible under strict conditions**
The use of algorithmic profiling to re-examine whether social welfare benefits have been duly granted, is acceptable if applied responsibly
- > **Profiling must not equate suspicion**
Re-examination needs to be based more on service and less on distrust
- > **Diversity in selection methods**
To avoid tunnel vision and negative feedback loops, algorithmic profiling ought to be combined with expert-driven profiling and random sampling
- > **Well-considered use of profiling criteria**
Caring to avoid (proxy) discrimination and other undesirable forms of differentiation, the normative advice commission assessed variables individually on their eligibility for profiling (see [Infographic](#))
- > **Explainability requirements for machine learning**
It is necessary that the sampling of residents can be explained throughout the entire decision-making process. Complex training methods for variable selection, such as the xgboost algorithm discussed in this case study, are considered too complex to meet explainability requirements

Summary advice

The commission judges that algorithmic risk profiling can be used under strict conditions for sampling residents receiving social welfare for re-examination. The aim of re-examination is a leading factor in judging profiling criteria. If re-examination were based less on distrust and adopts a more service-oriented approach, then the advice commission judges a broader use of profiling variables permissible to enable more precise targeting of individuals in need of assistance. For various variables used by the Municipality of Rotterdam during the period 2017-2021, the commission gives an argued judgement why these variables are or are not eligible as a profiling selection criterion (see [Infographic](#)). A combined use of several sampling methods (including expert-driven profiling and random sampling) is recommended to avoid tunnel vision and negative feedback loops. The commission advises stricter conditions for the selection of variables for use by algorithms than for selection by domain experts. The commission states that algorithms used to sample citizens for re-examination must be explainable. Complex training methods, such as the xgboost model used by the Municipality of Rotterdam, do not meet this explainability criterion. This advice is directed towards all Dutch and European municipalities that use or consider using profiling methods in the context of social services.

Infographic – Suggestion eligible profiling criteria

For individual variables the normative advice commission advises on eligibility to serve as selection criteria for profiling in the context of social welfare re-examination. This advice is a suggestion. Organisations must keep evaluating per context whether it is desirable to differentiate based on certain criteria.

Eligible criteria		Ineligible criteria	
Age		ZIP code, city district	
No show at appointment with municipality		Sex, gender	
Reminders for providing information		Reason for appointment with municipality (annual meeting, intake)	
Participation in trajectory to work (training, workplace, social duty)		Type of contact (mail, phone, text, post)	
Type of living (cohabitation, living together)		Literacy rate	
Cost sharing		ADHD	
		Mental health services	
		Number of children	
		Sectoral (work) experience (hospitality, construction, logistics)	
		Assertiveness	
		Professional appearance	

Legend

Unlawful	Subject to change
Proxy discrimination	Subjective
Connection with aim pursued	Unclear definition
No connection with aim pursued	Manageable risks

Box 1

Algo prudence: Case-based normative advice for ethical algorithms

Algorithm Audit does not have a mandate to issue legally binding rulings or official judgements. In our case studies, we give non-binding ethical advice. Ethical advice often goes beyond advice on what is required for legal compliance. Yet in the absence of legal rulings or clear standards established by a supervisory body, our independent ethical advice also serves as a preliminary signpost for organizations. Our case advice may also help elaborate official standards or support future decisions by legal bodies. In this sense, our ethical advice does have relevance for the legal domain.

Table of Contents

Key takeaways normative advice commission	2
Summary advice	2
Infographic – Suggestion eligible profiling criteria	3
Preface	5
Scope of advice	7
General considerations	7
Transparency and explainability	9
Expert-driven profiling versus algorithmic profiling	10
Variable selection for profiling	11
Composition of normative advice commission	15

About Algorithm Audit

Algorithm Audit is a European knowledge platform for AI bias testing and normative AI standards. The goals of the NGO are three-fold:



Normative advice commissions

Forming diverse, independent normative advice commissions that advise on ethical issues emerging in real world use cases, resulting over time in *algoprudence* (see Box 1)



Technical tools

Implementing and testing technical tools for bias detection and mitigation, e.g., [bias detection tool](#), synthetic data generation



Knowledge platform

Bringing together experts and knowledge to foster the collective learning process on the responsible use of algorithms, see for instance our [AI Policy Observatory en position papers](#)

Preface

This advice is the result of the deliberation by an independent normative advice commission. Algorithm Audit has drafted this advice based on a discussion had during a physical meeting of the advice commission. During this meeting, several ethical questions regarding the use of algorithmic risk profiling for social welfare re-examination were discussed.

The specific case on which this advice is based, is an algorithm that the Municipality of Rotterdam used for this end in the period 2017-2021. This algorithm has been the subject of controversy multiple times, for instance in a report of the Rotterdam Court of Auditors¹, who stated that there is a risk for proxy discrimination in using ‘illiteracy’ as a variable. VPRO Argos/Lighthouse Reports, a consortium of investigative journalists, has investigated the model and criticized the use of subjective personal traits and bias in the training data, among other things². In The Netherlands, the controversy about municipal profiling algorithms arose in the context of the child allowance scandal, in which thousands of innocent citizens were run into deep troubles through the Tax Administration’s unfounded suspicions of fraud. Because discriminating profiling algorithms played a role in this, a great urgency is felt to examine how, if at all, such systems can be used responsibly. There are practical problems in investigating governmental profiling models, because their precise workings are often obscure. Through the requests under the Government Information (Public Access) Act (Wob and Woo) by VPRO Argos/Lighthouse Reports, technical documents and evaluation metrics of the Rotterdam model have been made public, so that relatively much is known about this specific algorithm³.

Considering the controversial nature of the algorithm, the great importance of issues concerning the use of risk profiling and (semi) automated decision making by municipalities, and the availability of information on this specific algorithm, Algorithm Audit found this a suitable case for an extensive investigation and evaluative judgement by a normative advice commission. Although they are based on the Rotterdam case, the issues and considerations in this report are more widely applicable. Therefore, the advice is directed at all Dutch and European municipalities, which sooner or later must think upon automation and risk profiling in the context of social services.

Based on an extensive investigation of this case, Algorithm Audit has identified several ethical issues as the most urgent and important. As part of the investigation, not only domain experts have been consulted, but also local residents based on their experiences with social welfare re-examination. This aspect is fully developed in a different document (Problem Statement⁴). It is on this document that the deliberation and judgement of the advice commission are based. The main question is which characteristics or variables are acceptable criteria for risk profiles aimed at selecting residents in social welfare for re-examination. The Problem

¹ Colored Technology, Rotterdams Court of Auditors 2021: <https://rekenkamer.rotterdam.nl/onderzoeken/algorithmes/>

² Inside the Suspicion Machine, Wired 2023: <https://www.wired.com/story/welfare-state-algorithms/>

³ Wob-verzoek VPRO Argos/Lighthouse Reports:

<https://www.vpro.nl/dam/jcr:c87f2d6c-3f9c-4498-9a9c-f3bc5483a437/Downloads%20Model%20Rotterdam.zip>

⁴ Problem Statement Risk Profiling for Social Welfare Re-examination, AA:2023:02:P.

Statement considers this using three subquestions:

1. The issue of variables that count as so-called “proxy variables” for protected grounds, and which of these should be avoided to mitigate proxy discrimination;
2. The issue of subjective and irrelevant variables or otherwise undesirable forms of differentiation;
3. Weighing algorithmic profiling against expert-driven profiling.

During the discussion of these questions, the commission also touched on other aspects considered important for a responsible use of risk profiling by municipalities. These aspects are related to among others explainability criteria and the municipal attitude towards citizens.

This advice develops the deliberative judgements of a group of experts and stakeholders that together formed the advice commission. The commission is a diverse group in which various relevant experts and stakeholders are represented. The exact composition of the commission can be found under the section [Composition of normative advice commission](#). Both the commission and Algorithm Audit are fully independent. Neither the investigation nor the advice have been commissioned by the Municipality of Rotterdam. The advice of the commission, though non-binding, serves as a normative guideline for all parties that struggle with ethical dilemmas concerning algorithmic profiling in the context of social services.

Stakeholders involved in development of advice

For this case study various stakeholders were heard. The composition of the advice commission is provided in the section [Composition of normative advice commission](#).



Individuals subjected to the algorithm



Investigative journalists



Representatives of affected groups



Municipal institutions (Rotterdams Court of Auditors and Ombudsperson)



Municipality of Rotterdam



Legal experts and academics

Scope of advice

Many factors play a role in a responsible use of risk profiling for social welfare re-examinations, especially if algorithms are used. This advice limits itself to a number of hot issues that, according to Algorithm Audit, desperately require normative and public decisions. This is particularly the case for those issues where existing regulations, guidelines and implementation frameworks do not provide ready-made answers. With regards to this case, those issues are as follows:

- > The aim of re-examination and which forms of profiling fit within that framework;
- > Transparency and explainability criteria for (algorithmic) risk profiling;
- > A decision on which variables are and which are not desirable for risk profiling;
- > Weighing algorithmic profiling against expert-driven profiling.

That the advice commission focuses on the issues above, does not mean that other aspects are less important. Like all organisations that make use of algorithmic systems, municipalities must exert themselves in the cause of good governance with regards to data processing, decision-making processes, and allocating roles and responsibilities. Quality control of the data is also of great importance. It is far from self-evident that sufficient attention is paid to these aspects of using algorithms responsibly. As the investigation by VPRO Argos/Lighthouse Reports shows, in this specific case the training data was also not representative. Moreover, the case shows how governance and accountability with regards to algorithms are systematically far from the mark. It is concerning how algorithmic systems are active as a 'pilot' for several years and play a significant role in practice in the internal work processes of municipalities. Internal monitoring, such as a data protection officer, ought to give special attention to prior reviewing of pilots and their data processing. The reason that the commission's advice skips over these aspects of governance and data quality is not because it considers them less urgent, but because existing framework already give sufficiently concrete guidelines. This contrasts with the normative issues discussed in this advice, where applicable norms are still largely absent. To develop and formulate such publicly available, normative standards is therefore what the normative advice commissions of Algorithm Audit aim for.

General considerations

In determining how profiling algorithms can be applied responsibly, it is significant what the profiling aims to do. In other words, what act follows the profiling, and how does that act impact the persons concerned. Algorithmic systems never function independently, and ought therefore to be judged in their socio-institutional context. Consequently, in the case of profiling for sampling for welfare re-examination, it is important to consider what exactly the re-examination aims to achieve.

One approach to re-examination is as a strict examination, in which the resident selected for re-examination is suspected and distrusted from the outset. Social welfare re-examination is not, formally speaking, a fraud investigation, since that is a separate procedure that can only be started based on a concrete indication. Therefore, on paper a re-examination

is definitely not the same as a fraud investigation. Despite this, the procedure may feel that way to citizens in practice. An invitation for re-examination may feel as suspicion, and is therefore, besides other reasons, a stressful event for citizens. To approach re-examination as a strict examination would be based on distrust and is strongly antagonistic: the municipality stands opposed to the citizens. Another approach is based on a cooperative attitude: the municipality and citizens work together. In this approach, re-examination is understood as a service. The aim is to help residents with a correct application and the administrative effort involved. The approach starts from the view that application procedures and official documents may feel complex to residents, and that it is easy to make a mistake. Re-examination then aims to correct these mistakes and, together, produce a correct application for welfare benefits. Contact with residents during a re-examination can result in valuable feedback for the municipality about their provision of information towards citizens. For example, jargon or complex online forms may form obstacles.

The commission is of the opinion that the ethical risks of profiling are less if re-examination is service-oriented. Adversely, if re-examination is suspicion-oriented, the risks are greater and the commission's demands are more exhaustive. If the re-examination were characterised by a service-minded attitude, certain forms of differentiation would be legitimate that in a suspicion-based approach are unacceptable⁵. Identifying groups of people that need more help has, after all, a completely different impact on the relation of citizen and municipality than suspicion-based profiling would have.

The different approaches cannot be just a different way of framing the welfare re-examination practise. Nonetheless, how the municipality communicates with citizens as regards to re-examination is an important part of a service-based practise. For social welfare applicants, the approach of the municipality matters to them: whether it is based on suspicion or based on cooperation and trust. It would help if municipalities, in letters and meetings in person, emphasize that re-examination does not mean they harbour suspicion, but want to help to get to a correct application for welfare benefits. However, communication alone is not enough. A service-based approach need to be implemented more exhaustively. The commission makes the following suggestions:

- > **Cooperative attitude:** If the responsibility for a correct application for welfare is considered shared by residents and municipality, the municipality needs to make an extra effort. Residents may certainly be asked to provide the correct details and documents if they want to make use of public funds. This duty to provide correct information is not only statutorily required⁶, it is also a reasonable condition that citizens understand. At the same time, it must be recognized that citizens and municipality are not equal in power nor in knowledge. Citizens, on their own, face a complex governmental organisation, the procedures of which they oftentimes do not know. An antagonistic relation-

⁵ In Dutch law, positive discrimination based on protected characteristics is sometimes allowed (General Data Protection Regulation (Implementation) Act (UAVG) article 25 sub a).

⁶ In Dutch law, Participation Act article 17 first subsection, with due observance of ECLI:NL:CRVB:2022:1395.

ship between citizen and municipality would be fatal and serve only to increase mutual distrust. It is key that the municipality takes a helpful stance towards the citizen, and keeps a continual eye on the proportionality of their measures and demands.

- > **Service-oriented, not reprimanding:** The welfare procedure needs to be completely clear, with accessible possibilities to get help. Besides digital forms, there always need to be alternative ways to apply for social welfare or to contact the municipality, to ensure that those who struggle with (digital) illiteracy are not left behind. Resident need to be asked regularly for feedback to improve the process. Mistakes in their application are not an immediate cause for reprimanding them, but need to be primarily understood as a failure of the system, that can be solved in a collaborative effort⁷. The commission advises a generous attitude towards erroneous or incomplete applications. Instead of a reprimanding approach, it is possible to adopt a positive attitude that stimulates residents to cooperate in their re-examination⁸. The officials concerned with the welfare re-examination need to be trained in a service-based approach instead of a distrustful one.

These general considerations serve as a recommendation to improve the procedure surrounding re-examination, but also serve as a background for the recommendations that follow aimed at profiling methods. For their judgement, the commission assumes a situation characterised more by strict examination than by service. Under such conditions, it is impactful, unpleasant and stressful to be selected for re-examination. Furthermore, the relationship between municipality and citizen is antagonistic, which may quickly lead to mutual distrust. In this case, it is key that risk profiling meets stringent demands to avoid every sign of prejudice and arbitrariness and to be more transparent towards citizens.

Transparency and explainability

When using profiling methods it is necessary that decisions are able to be explained. For Dutch municipalities, this is required by law^{9,10}. But whether a decision such as the invitation for re-examination can be explained is also an important principle in guaranteeing the legitimacy of and trust in the government. It may be difficult to give 'meaningful information' when using (semi) automated decision-making methods. Therefore, in the context of algorithmic sampling for re-examination, the commission makes demands on the explainability of the algorithmic model.

⁷ Part of French administrative law is the *droit à l'erreur*, which gives citizens the right to make administrative mistakes, if made in good faith.

⁸ Of course, welfare regulations as regarding receiving gifts and compensation need to be kept in mind.

⁹ General Administrative Law Act (Awb), prohibition of prejudice Awb 2:4, principle of due care Awb 3:2-3:4, duty to give reasons Awb 3:47. See also: *In all openness: transparent utilization of algorithms by Dutch governmental and public sector organisations*, Netherlands Institute for Human Rights (2023): <https://publicaties.mensenrechten.nl/publicatie/bf15558a-1b17-43d7-a60e-df9ff8847491>

¹⁰ General Data Protection Regulation (AVG) article 13.2.f, article 14.2.g, and article 15.1.h demand that data subjects have a right to 'meaningful information about the logic involved' as regards to profiling.

Xgboost insufficiently explainable

The advice commission is of the opinion that the xgboost algorithm – the machine learning method used by the Municipality of Rotterdam during 2017-2021 to compile risk profiles – cannot be meaningfully explained to citizens. Xgboost chooses selection criteria and threshold values using aggregate statistics applied to hundreds or thousands of different decision trees¹¹. The municipality can therefore only motivate the decision to select an individual based on an xgboost profile in complex statistical terms. The advice commission opines that such an explanation is too confusing¹².

Therefore the commission advises municipalities wanting to use algorithmic profiling, to use less complex (machine learning) algorithms to select variables or threshold values for profiling criteria¹³. Prerequisite would be that the quality of historical data used to train the algorithm can be trusted.

Provision of information and objections

That a meaningful explanation can be given is also important for notices of objection. A selected resident can enter an objection if they disagree with an assigned category, and may question the legitimacy of said category. For profiles generated by xgboost, this is only possible by questioning the probability distributions of all relevant decision trees. This makes it practically impossible for residents to enter their objection.

The commission advises municipalities to mention selection criteria explicitly when they communicate to citizens why they have been selected for re-examination. If coupled with possibilities to object and appeal, and an appropriate manner of communication, this can contribute to the respectability of municipal decisions and thus increase citizens' trust in the government.

Expert-driven profiling versus algorithmic profiling

In assessing algorithmic profiling methods, it is important to consider what could be possible alternatives. In this case, profiling by domain experts is the most direct alternative for algorithmic profiling. Risk profiles that are compiled manually by domain experts can be more meaningfully explained than profiles by the xgboost algorithm (see [Box 2](#)). However, even when using manually compiled profiles one needs to be able to account for why specific variables and threshold values were chosen as selection criteria. Oftentimes the explanation falls back on statistics, making the practical difference between manual and (explainable) algorithmic profiling smaller than it may seem. Moreover, it is important to be conscious of the risks of (proxy) discrimination and prejudice, even in simple and manually compiled profiles. Manual profiling demands a similar consideration of variables used as

¹¹ See [Figure 3](#) in Problem Statement AA:2023:02:P⁴.

¹² Such an explanation may also be contrary to the data protection rights of citizens (GDPR) and the duties to explain for Dutch public institutions (Awb). On this, no particular court rulings are yet available.

¹³ Consider parametric and non-parametric statistical methods that can be explained in terms of discrete categories, e.g., logistic regression or L1-regularisation methods.

algorithmic methods do, a consideration that must be substantive and value-driven. The advice on selecting variables responsibly that follows, serves as a kick-starter for such considerations.

The commission deems it advisable to use several sampling methods in parallel. Letting one type of profiling dominate may exacerbate tunnel vision and negative feedback loops. This means that one specific group is selected overmuch, with other groups getting off scot-free. This may give rise to a feedback loop, in which an overrepresentation of a certain group in the dataset leads to steadily rising risk scored and so to a bias towards that group. Switching up risk profiles and parallel use of various sampling methods break such patterns and mitigate risks. A continual use of random sampling is of especial importance. The results of random sampling may serve to monitor possible biases in profiling methods continuously.

Variable selection for profiling

Before risk profiles are generated by machine learning algorithms (or domain experts), it is important to ask the question which variables are suitable for such use (step 2 in [Figure 1](#)). To avoid discriminatory biases and other forms of ethically unacceptable forms of differentiation, some variables must be excluded beforehand. The commission gives some general advice for selecting appropriate variables, and then gives their judgement on individual variables that came up in the Rotterdam case.

(Proxy) discrimination

In considering variables it is necessary to avoid personal characteristics that are protected (e.g. nationality and religion) or can lead to discrimination. In most cases, this is also

Box 2

Explainability requirements for risk profiling

Selection by an xgboost profile can only be explained with the aid of the probability distributions of the relevant decision trees:

“You are selected because X/N decision trees have selected you based on your age and Y/N decision trees have selected you based on your type of housing”.

Profiling must generally be able to be explained using discrete categories, for instance:

“You are selected because you age is between A and B years and your type of housing is type C”.

prohibited by law¹⁴. Using characteristics that are not classic protected grounds in non-discrimination law, such as mental health, may also be legally prohibited. Furthermore, some variables that seem innocuous may act as a so-called proxy for protected characteristics, because they are strongly correlated statistically. This means that using such proxy variables can still lead to a discriminatory bias in the model. This is the case for, e.g., illiteracy and zip code (both proxies for origin, among other things). Generally, such proxy discrimination is obviously objectionable. On the other hand, there may exist well-founded reasons to make such a distinction and reach certain target groups effectively. In the context of re-examination it is clear that illiteracy may be an indication for the risk of mistakes in a welfare application. To include this variable in a risk profile would allow the municipality to give extra help to this target group. However, as explained above, for their judgement the advice commission does not assume a service-based approach in risk profiling, but a suspicion-based approach. Therefore, the assessment falls out the other way, because discriminatory bias must be avoided when selecting residents for an impactful and stressful re-examination. For internal diagnostics, e.g., to examine why certain target groups have a more difficult time with welfare applications, the commission sees more leeway to use such variables.

Non-choice personal characteristics

One possible first consideration in selecting suitable variables would be to exclude unchangeable personal characteristics (such as most protected grounds) and only include characteristics subject to personal choice. The reasoning is that in any case people should never be judged based on characteristics in which they did not have a choice. Practically however, this distinction is not an easy one to make. Age, for example, is a characteristic not subject to choice that is nonetheless often chosen as a ground for differentiation, and reasonably so. It is standard practise to exclude people that have reached retirement age from welfare re-examination. And changeable characteristics may be governed by people's free choice in principle, but often not in practise, such as in the case of where people live (e.g., their ZIP code). The example of someone's ZIP code also shows that to differentiate between choice and non-choice characteristics does not give a ready-made answer to the issue of proxy discrimination.

Connection with aim pursued

Another criterion that could possibly be generally applied to variable selection is whether they have a substantial link with welfare re-examination and the risks of unduly granted welfare. Variables can be excluded if they cannot be reasonably linked substantively to this aim. But even if that link exists, their substantial relevance has to be assessed against the risk of proxy discrimination and other forms of undesirable differentiation. This assessment has to be made for each variable individually. An example of an indication reasonably

¹⁴ GDPR and the European Convention on Human Rights (ECHR). Assessment against article 14 ECHR and article 1 ECHR Protocol 12 gives a small measure of space to justify differentiation grounded on origin, provided there are very substantial reasons for doing so. See also Discrimination through Risk Profiling, Netherland Institute for Human Rights: <https://www.mensenrechten.nl/actueel/nieuws/2021/11/30/discriminatie-door-risicoprofielen-voorkom-etnisch-profileren>

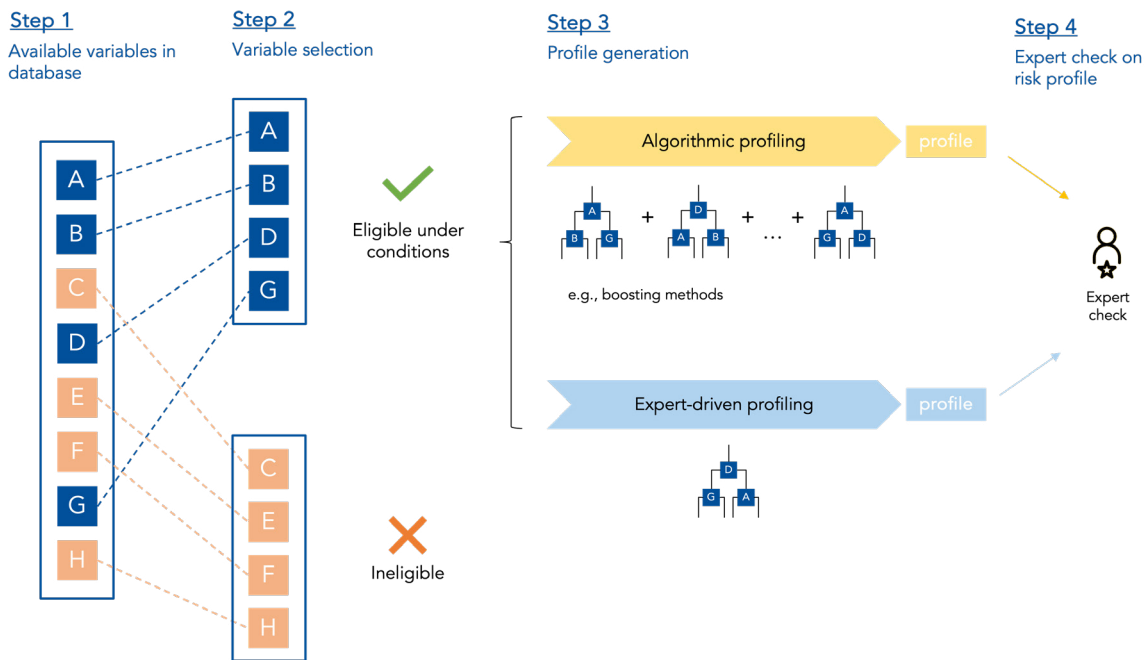


Figure 1 – Schematic representation of variable selection process for risk profiling

linked substantively to welfare re-examination is a no-show: to fail to show up at an appointment with the municipality, showing that the resident is insufficiently cooperative.

Subjectivity

The next consideration examined is the objectivity and immutability of the data of certain characteristics. It is important to keep in mind that acquired data never matches completely with reality, and that this can be very problematic for certain characteristics. Firstly, some characteristics are difficult to quantify or may be subjective. This is especially so for those personal characteristics that cannot be determined objectively, such as 'assertiveness' or 'professional appearance' that come up in the Rotterdam case. Even protocols that are supposed to standardise the scoring of such characteristics can never completely eliminate their subjectivity. Another variable that the advice commission precludes from the outset is formed by open text boxes in which officials can note anything they think useful¹⁵. In the translation to quantitative values such notes are reduced to a binary form (i.e. is a note present or not), which discards the meaning.

Subject to change

Furthermore, for certain variables the acquired data is subject to change and not representative. Because of the mutability of employment, data on the relative share of certain jobs or competences in welfare applications from one year is not representative for the next. For personal characteristics also a strong condition applies: a single measurement may not be saved indefinitely and used as an objective score on a certain characteristic. An inci-

¹⁵ See the Court Of Justice of the European Union, C 817/19, Ligue des droits humains ASBL v Conseil des ministres, 21 June 2022, ECLI:EU:C:2022:491, mn. 130 – 140.

dental squabble with an official may not equate to an eternal increase in someone's risk score. Protocols need to be in place to decide when acquired data must be deleted, and in which way residents can view this data to challenge it. Because this falls under governance, the commission does not elaborate further on this point.

Feedback loops

A last piece of advice as regards the selection of variables is concerned with the necessity to regularly switch up variables and risk profiles. The sampling for re-examination must not be determined by the same characteristics year after year. Besides that the practice itself may be considered undesirable or unfair, feedback loops form a risk. Overmuch attention on certain groups and characteristics can lead to a process that reinforces itself, through which found irregularities for an overrepresented group unjustly lead to an ever-increasing risk score for the selfsame group.

(In)eligible criteria

Given the above considerations, the commission deems some criteria¹⁶ eligible and other variables ineligible for use in profiling for welfare re-examination. An overview of 17 different variables may be found in the [Infographic](#). The decisions are explained by reference to the several considerations discussed above. An overview of the considerations is provided in the legend. Manageable risks refer to adequate algorithm risk management measure, e.g., from an organizational and technical perspective¹⁷.

¹⁶ Based on the list of variables give in Appendix B – Data Collection of the Problem Statement AA:2023:02⁴

¹⁷ An example (in Dutch) would be Research Framework Algorithms, National Court of Auditors (2023)
<https://www.rijksoverheid.nl/documenten/rapporten/2023/07/11/onderzoekskader-algoritmes-adr-2023>

Composition of normative advice commission

This advice is the result of a collective deliberative process. Therefore, specific claims in this document do not perforce correspond with the opinion of individual members of the advice commission. Members of the commission cannot be individually held responsible for this advice.

Date

The advice commission met physically in Rotterdam on 30 June 2023. This advice document has been approved by all members of the commission on 30 August 2023.

Composition of the normative advice commission

The commission for this case is formed by:

- Abderrahman El Aazani, Researcher at the Ombudsman Rotterdam-Rijnmond;
- Francien Dechesne, Associate Professor Law and Digital Technologies, Leiden University;
- Maarten van Asten, Alderman Finance, Digitalization, Sports and Events Municipality of Tilburg;
- Munish Ramlal, Ombudsman Metropole region Amsterdam;
- Oskar Gstrein, Assistant Professor Governance and Innovation, University of Groningen.

Acknowledgements

Besides many individuals we have spoken to or those who have diligently read our work, we extend special gratitude to the following people and organizations for their valuable contributions to this project:

- Hinda Haned, professor Responsible Data Science, University of Amsterdam
- Participation Council Amsterdam
- Lighthouse Reports
- VPRO Argos.

Funding of Algorithm Audit

Algorithm Audit is financially supported by independent public and philanthropic subsidies. These funds are allocated to solicited and unsolicited research and to the drafting of problem statements in which ethical issues are specified that emerge in real world algorithmic use cases. Experts and stakeholders participating in a normative advice commission are offered a reimbursement. We are sharing the results of our work with both the international AI auditing community and with society at large, in order to build public knowledge on how to deploy algorithms responsibly. Working non-profit serves our goals best.



Structural partners of Algorithm Audit

SIDNfonds

SIDN Fund

The SIDN Fund stands for a strong internet for all. The Fund invests in bold projects with added societal value that contribute to a strong internet, strong internet users, or that focus on the internet's significance for public values and society.

European Artificial Intelligence & Society Fund

European AI&Society Fund

The European AI&Society Fund supports organisations from entire Europe that shape human and society centered AI policy. The Fund is a collaboration of 14 European and American philanthropic organisations.



Ministerie van Binnenlandse Zaken en
Koninkrijksrelaties

Dutch Ministry of the Interior and Kingdom Relations

The Dutch Ministry of the Interior is committed to a solid democratic constitutional state, supported by decisive public management. The ministry promotes modern and tech-savvy digital public administrations and governmental organization that citizens can trust.



 www.algorithmaudit.eu

 www.github.com/NGO-Algorithm-Audit

 info@algorithmaudit.eu

Stichting Algorithm Audit is registered as a non-profit organisation at the Dutch Chambre of Commerce under license number 83979212.