



Research Paper

Risks and benefits of transnational exchange of forensic DNA data in the EU: The views of professionals operating the Prüm system



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ABSTRACT

Under EU Law, Member States are compelled to engage in reciprocal automated forensic DNA profile exchange within the so-called Prüm system. Presently, 25 operational EU Member States exchange DNA data within the Prüm system to combat terrorism and cross-border crime. This article discusses the perceived risks and benefits of the Prüm system on the basis of a set of 37 interviews conducted in 22 EU countries, with 47 professionals operating the system (the National Contact Points – NCPs).

The perceived benefits relate to the intensification of tools for combating transnational criminality; development of standardisation and harmonisation of forensic DNA testing procedures; and reinforcement of professional cooperation. The perceived risks are associated to the possibility that individuals may be prosecuted on the basis of false positives; the lack of available data to measure the effectiveness of the Prüm system; and the different *modus operandi* of police forces and judicial authorities. Our results reveal that perspectives on the risks and benefits of the Prüm system significantly vary according to the type of work performed by the NCPs. Our data shows a more complex range of perceived benefits and risks than those suggested in previous studies about the Prüm system.

1. Introduction

The transnational exchange of DNA data has been heralded as an increasingly important feature of efforts to create new forms of police and judiciary cooperation across international borders, in particular, to support criminal investigations of organised crime, control strategies and counter-terrorism measures.^{1–6} The informal exchange of DNA data is not new and has often taken place on an *ad hoc* basis.^{1,7–9} The technical implementation of the reciprocal automated searching and the comparison and exchange of DNA data between the European Union (EU) member countries have been mandatory since August 2011, after the Prüm Decision 2008/615/JHA coming into force in August 2008.^{10,11} The latest report on the progress of the implementation of Prüm, dating from September 2019, indicates that there are 25 EU Member States exchanging DNA data. Greece, Ireland and Italy are not operational in the Prüm system.¹²

With regards to this type of exchange, the Prüm system functions in two different steps, as follows: Step 1 refers to the moment when a search is made in a national database for a DNA profile retrieved from a

crime scene and no match is found, the Council Decision permits the DNA profile reference to be transmitted and searched in other Member States national databases. A notification is then sent to the original Member State informing it of a match or no match.¹ If a match is identified, Step 2 occurs and further requests for information are processed through the existing police and/or judicial channels.

The EU regulations for the Prüm system stipulate that to supply data, each Member State must designate a National Contact Point (NCP) whose powers are governed by applicable national legislation.¹⁰ Different countries have attributed custody of the national DNA databases to different entities, ranging from judicial authorities to police forces. In the vast majority of countries involved in the Prüm system, the Ministry of the Interior (or Ministry of Internal Affairs or Ministry of Home Affairs) – a government ministry typically responsible for policing, emergency management, national security, and immigration matters – has custody of the National Forensic DNA Database. In the following EU Member States, the Ministry of Justice has custody of the National DNA Database: Belgium, the Netherlands, Portugal, and Sweden. The Ministry of Justice typically has specific duties associated with

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¹ A 'match' or a 'hit' are both terms used to describe a correspondence between DNA profiles discovered in a database search at a given moment in time.⁴⁶

organising the justice system, overseeing public prosecutors and maintaining the legal system and public order. As a result, the roles and responsibilities of the Prüm NCPs may vary among countries, according to different organisational structures and national legislation.

Despite national differences, in general, the NCPs in charge of complying with the technical standards for the exchange of DNA data information among the Member States on a match/no-match basis, are officially called Step 1 NCPs (NCP1). Typically, these NCPs are forensic experts working in forensic genetics laboratories or deal with ICT systems and carry out the routine work that enables DNA data to be exchanged transnationally. Step 1 NCPs have to organise and implement the necessary procedures and connections to perform automated exchanges with other databases (both receiving and sending information), perform tests with partners in other countries, and manage and report DNA matches. After Step 1 is completed, Step 2 NCPs (NCP2) are in charge of the requests for additional information through mutual assistance procedures. As a result of differences in organisation and jurisdiction of forensic DNA databases across countries, Step 2 of Prüm brings together both police and judicial authorities. Taking into consideration the diverging rationales that such different entities might have concerning to crime control – as police agencies work with investigative clues and intelligence¹³ and prosecutors are mainly interested in rendering proof – diverging practices and several tensions emerge when submitting or responding to international legal assistance procedures.¹⁴ Also, since there is not a standardized format to process information within Prüm Step 2, professionals might also use different information exchange channels (Swedish Initiative, SIRENE, SIENA, INTERPOL).

Previous studies about the Prüm system have identified several major potential benefits, including fostering closer transnational cooperation to combat cross-border crime and terrorism, speeding up the exchange of information, and raising efficiency in the detection and solving of transnational crime.^{6,15–17} Other studies have extensively analysed the potential risks emerging from the operations of the Prüm system, such as the following: the automated comparison of DNA profiles has increased the possibility of false positives² given the volume of profiles that are available for comparison^{18,19}; national differences in operational, legal and ethical policies, including privacy safeguards, raise civil rights concerns^{3,4,7,8,20–22}; there is limited information on the overall effectiveness and efficiency of this crime-fighting tool^{5,6,23}; and there are diverse issues related to lack of transparency and accountability of the Prüm system.^{1,6,20}

There is a gap in knowledge about how NCPs perceive the risks and benefits of Prüm. This article aims to fill that gap by presenting the results of an empirical study about the views of the Prüm NCPs. This study article draws on interviews with professionals who play an active role in transnational DNA exchange in the Prüm system, namely NCPs for Step 1 and Step 2. In particular, we aim to examine how such professionals view the risks and benefits of the Prüm system.

2. Methods

The data on which our analysis is based includes a total of 37 interviews with 47 professionals in charge of operating the Prüm system. These interviews were conducted in 22 EU countries between November

² As defined by Council Decisions, a full match implies that all the allele values of the compared loci are the same in the requested and requesting DNA profiles. Near matches are accepted in Prüm when the value of only one of all the compared alleles is different (one mismatch). However, Kees van der Beek showed that near matches consisting of six loci plus a mismatch are almost certainly false positives – i.e., a declared match that is invalid – or false-negative – a match not found due to a mistake in a DNA profile. Therefore, the Netherlands does not provide demographic data for near matches without the guarantee of confirmatory testing.¹⁸ Nevertheless, it remains unclear how other countries proceed with near matches.^{8,19}

2015 and May 2018. The criterion for selecting participants was to choose professionals acting as NCPs for Step 1 and Step 2 of the Prüm system. Participants were recruited by email, letter, and telephone calls. We contacted all NCPs which were operational in Prüm in May 2018.³ Two participants (NCP1) refused to participate and one participant (NCP2) has not provided any answer to our requests.

As detailed in Table 1, twenty interviewees had professional qualifications in biology, forensic science and related fields. Besides, eleven had professional qualifications in police, nine in law, five in information technology and two in other fields. Twenty-seven NCPs were associated with police and judicial organizations and twenty with forensic institutes. In terms of the type of work performed, twenty-two interviewees worked in international cooperation (which aggregates both police and judicial authorities), twenty-one worked in the laboratory and four in information technology.

Twenty-six participants were Prüm Step 1 NCPs, seventeen were in charge of Prüm Step 2, one was in charge of both Step 1 and Step 2 and three were assistants of Prüm Step 1 NCPs. As mentioned earlier, each country has the autonomy to define how to assign NCPs roles. This implies that, while in some countries only one person is responsible for operations associated with Prüm Step 1, in other countries other people may be involved in these tasks, being denominated as “assistants of Prüm Step 1 NCPs”. In the latter situation, whenever individuals demonstrated a willingness to participate in the study, they were interviewed.

The interviews were conducted under the protocols and procedures of the European Research Council’s ethics regulations. The script for the interviews covered the following themes: i) views and experiences on the implementation of Prüm at a national and European level, ii) opinions about Prüm challenges, purposes and contributions; iii) and ethical issues raised by Prüm. All NCPs were asked the same questions. Quotes about participants’ conception of the risks and benefits of the transnational DNA data exchange were coded and subjected to multiple readings to develop an in-depth understanding of the meanings expressed by the professionals operating the Prüm system.

Before the interviews, all the participants signed a written informed consent document and agreed to be audio-recorded. The interviews took place at the participants’ workplaces or a location of their choice. Thirty-four interviews were conducted in English, two in Portuguese and one in Spanish. All interviews except one were digitally recorded and tran-

Table 1
Characterisation of interviewed NCPs.

Professional Qualification	
Biology, forensic science, and related fields	20
Police	11
Law	9
Information Technology	5
Others	2
Organisation	
Police and Judiciary	27
Forensic Institutes	20
Type of work performed	
Law enforcement international cooperation	22
Laboratory	21
Information Technology	4
Activities related to Prüm	
NCP 1	26
NCP 2	17
Assistants of NCP1	3
NCP 1 and NCP 2	1
Total number of participants	47

Source: Interviews with Prüm NCPs in 22 EU Member States

³ Until May 2018 only 23 countries were operational.⁴⁷

scribed *verbatim*. When necessary, interviews were translated into English by professional services.

The interview quotes were then systematically compared, contrasted, synthesised and coded by theme and thematic category following the principles of content analysis in qualitative research^{24,25} using an approach which combines manifest and latent analysis contexts.²⁶ The two authors performed the analysis separately and discussed their results until they obtained a consensus. After the categorisation process, a table was produced with a description of themes and thematic categories found during the data analysis, as well as interview quotes that the two authors found to be the most exemplary (Table 2).²⁷ To protect the identity of the participants, a letter and number were attributed to each interview. The letter refers to the country and the number to the sequence in time of the conduction of the interview in the respective country.

3. Results

The analysis of the interviews showed that participants in this study had the view that the major potential benefit of the Prüm system is to improve crime-fighting at a transnational level. One additional priority topic highlighted by the interviewees was the Prüm system might speed up police cooperation among different EU countries.

This study fills gaps in previous research regarding the views expressed by the Prüm NCPs concerning data protection issues, in which opposing views coexist. On the one hand, some participants pointed out that the Prüm system has created higher standards for data protection issues. Such opinion was justified by the participants by referring to practices such as the anonymisation processes applied to DNA profiles and the separation between exchanging DNA data (step 1) and requesting/receiving further information (step 2). Other participants stated that the Prüm system might exacerbate data protection issues due to the differences in national legislations. These differing perspectives can be reconciled by establishing higher standards for data protection resulting from consensus among NCPs from different countries.

Some interviewees outlined that one overall risk of the Prüm system relates to its current state of affairs: at present, there are 25 operational countries, but such countries have different levels of connections. For instance, while the Netherlands and Austria are connected to 23 countries, Bulgaria is exchanging DNA data with 9 countries and the United Kingdom with 1 country.¹²

Other perceived risks and benefits tend to be differentiated according to the type of work and activities related to Prüm that the NCPs have to perform. In particular, a significant differentiation emerges between NCPs conducting laboratory work (this group of participants is mostly associated with Prüm step 1), and NCPs working within law enforcement international cooperation forces (Prüm step 2 procedures).

NCPs working in laboratories declared as advantages of the transnational exchange of DNA data the harmonisation of forensic DNA analysis procedures among different countries; the upgrading of DNA national databases and procedures for forensic DNA analysis; and the opening up of possibilities to interact with colleagues based in different countries, which poses new opportunities for scientific cooperation.

Regarding risks, the topic most frequently cited by NCPs working in laboratories regards the possibility of the occurrence of false positives/adventitious matches. Coupled to this issue, participants mentioned existing differences between EU countries in terms of procedures for reporting matches and, associated with that, their reservations about the lack of quality in forensic analysis in other countries. Finally, NCPs working in laboratories also identified as possible risks the inexistence of feedback on what was the final output (if any) generated by the communication of DNA matches to another EU country. As a result, participants do not have information that allows them to perceive the effectiveness of the Prüm system.

The Prüm NCPs working in the field of law enforcement international cooperation, and more associated with Prüm Step 2 procedures,

primarily emphasised how the Prüm system can improve transnational mechanisms of cooperation within criminal investigations. Participants mainly mentioned that the Prüm system might make it possible to speed up criminal investigations and the upgrading and reinforcement of the principle of availability, introduced by the Hague programme.²⁸ This principle stipulates that information available to law enforcement authorities in one Member State shall also be made accessible to equivalent authorities in the other Member States.

In regard to perceptions of risks, the Prüm NCPs working in law enforcement international cooperation emphasised the challenges posed by the different *modus operandi* of police and judicial authorities; the excessive focus on DNA matches to measure the efficiency of the Prüm system; the scarce standardisation of procedures for requesting information from other countries in step 2 of Prüm; and the potential use of false positives in legal actions.

Regardless of the type of work conducted (either as NCPs in Step 1 or 2) interviewees thereby agree that standardisation of procedures at a transnational level is utterly beneficial and, in cases in which it has not been implemented or current procedures are outdated, extremely necessary. This regards, for example, the need to update standards for reporting matches in step 1 and for defining which channels should be used when exchanging information in step 2. NCPs in step 1 and 2 of Prüm also show similar concerns regarding the potential risks of reporting and/or following up false positives. The main point of disagreement relates to the measurement of the efficiency of Prüm system. NCPs working in step 1 call for the need to know if DNA hits were (or not) followed up by criminal investigations and what was the outcome. According to their accounts, this would be the way of understanding the efficiency of Prüm system. By opposition, NCPs working in step 2 tend to be highly critical of what they perceive as being an “excessive focus” on DNA hits. Their view is that forensic DNA data is merely one piece of information that might, or might not, become significant in a given criminal case and, as such, the efficacy of Prüm should not be measured according to the number of matches resulting in criminal convictions.

4. Discussion

The interviews conducted with Prüm National Contact Points indicate an overall willingness to highlight the benefits of the DNA data exchange in the Prüm system: the participants in this study emphasised the Prüm system's role in improving crime-fighting at a transnational level, and the potentialities to serve as a tool in supporting faster and more effective criminal investigation.^{15,16,21} These expectations are in line with previous studies which indicate that the DNA matches generated within mechanisms of transnational cooperation are viewed as being potentially useful for intelligence-led police work in terms of opening up new possibilities for criminal investigation.^{2,9,29}

In terms of balancing risks and benefits, our results show a more nuanced scenario than that suggested in previous studies about the Prüm system. The key findings of our study which fill up the gap in previous research relate to the contraposing views on data protection coexist in the narratives of NCPs. Contrary to what previous studies in the domain of social sciences have indicated in regards to the Prüm system, several participants in this study do not foresee considerable risks related to data protection or lack of ethical oversight of the transnational flow of law enforcement information.^{1,3,4,7,8} Interviewees mentioned that stricter data protection rules have been imposed by the Prüm system. As a result, according to their view, the amount of personal data circulating across borders probably decreased, rather than increased.³ The risks associated with data protection pointed out by some interviewees were mainly directed to different approaches that countries might adopt for dealing with personal data information.^{1,6,19} This nuanced and ambiguous positioning regarding data protection and privacy issues concurs with previous studies conducted with stakeholders who work in the criminal justice system and forensic genetics. These studies have shown

Table 2
Perceived risks and benefits of the Prüm system.

Thematic Categories	Benefits	Quotations	Risks	Quotations
Overview	Improve crime-fighting at a transnational level	The benefits are clear, we send together, to each other, every DNA profile that is taken from a crime scene in [country], or from a suspect, to all the other Prüm countries, so we have the opportunity to get much more hits compared with only doing the comparison nationally. O02	Exacerbation of data protection issues	As regards to risks, well, a major risk is data protection. The way in which [country] regards data protection and the way in which [another country] may regard data protection could be different. W01
	Speed up police cooperation among different EU countries	The benefits are clear, we send together, to each other, every DNA profile that is taken from a crime scene in [country], or from a suspect, to all the other Prüm countries, so we have the opportunity to get much more hits compared with only doing the comparison nationally. O02 The benefit is that you can find very quick matches from travelling people who commit crimes. U02	Current incomplete country connections might lead to loss of intelligence	There are several countries not linked (...) so that a lot of police officers (...) expect that as soon as they enter into the database, they are automatically checked everywhere in Europe and that if they do not get a hit it means that there is no DNA hit in the whole of Europe, which is the wrong interpretation. O02 The risk is that I may be sending out a request to countries that are not connected to Prüm, for some reason we consider that they are Prüm when they are not. (...) The fact that not all countries are operational is causing risks, for me, that is the major thing. W01
	Higher standards for data protection issues	I think that the two-step approach – first, compare DNA profiles and then, if you find a match, go and exchange the case and personal information– is a good measure to protect the privacy of the people involved. A01 There is no invasion of your private life, because everything that is exchanged is anonymous. I02		
Laboratory	Harmonisation of forensic DNA analysis procedures among different countries	Since Prüm started, we had more discussions about inclusion rules, matching rules, reporting rules (...) We now know that we have international matches and we need to be more harmonised. (...) If we didn't have Prüm, each country would be completely separated from the others, they do on their own, and we wouldn't need to discuss, really. I01	False positives/ Adventitious matches	In terms of risks, from a forensic point of view, adventitious matches (...) [If] the person using the information does not realise that there is a possibility that it is not an actual match, even though it looks like a match. V01
	Upgrading DNA databases and procedures of forensic DNA analysis	We managed to acquire a system locally – thanks to the funding from the European Union – which I do not think we would otherwise have been able to purchase. But it was a great helping hand for our laboratory. X01	Differences of procedures for reporting matches	We have good procedures in place to make sure that we first find out if it is a good match before it is reported to the authorities. I think that in [my country] there is no risk of a false positive match being used for legal actions. But I am not sure whether this is also the case in other countries. A01
	Opportunities for scientific cooperation	Benefits can be that we can be directly connected with the operation of other countries, with their work and their laboratory rules. Because these rules should be similar in all countries, but every country also has some different practices. (...) We can learn from each other and visit each other by cooperation. L01	Inexistence of feedback	We actually have had no feedback on what benefits have been, if there have been many cases solved, we do not know because we don't get any feedback. B01
Law enforcement international cooperation	Improve transnational mechanisms of police cooperation	When you do an investigation with the international case officers, you can put a puzzle [together]. You could not do that before (...). Prüm gives us the abilities to do this. U01	Different modus operandi of police and judicial authorities	It's a pity [that some countries] (...) are obliged to go through the judicial network. Because the exchange is really slow, and most of the time incomplete, compared with what we can do in the police. H02
	Speed up criminal investigations	We are able now to cross-check in the speediest way with countries. H02	Excessive focus on DNA matches to measure the efficiency of the Prüm system	If I am the director of a lab I say: "OK, highest quality, and I could never make an error because when I have a hit it is 100% correct". But sorry, for this kind of solution I could just as well have a trained monkey in the laboratory. M01
	Reinforcement of the principle of availability	The main benefits are that information is now more available. X02	Scarce standardisation of Step 2 of Prüm	Despite the fact that there is a Prüm Treaty, there is some leeway. And I think that not all countries have the same point of contact. Some use INTERPOL, some use SIRENE, some use EUROPOL. It would be better if there is one point of contact. X02

(continued on next page)

Table 2 (continued)

Thematic Categories	Benefits	Quotations	Risks	Quotations
			The potential use of false positives in legal actions	And what we see is that some countries give information that is not sufficiently verified. (...) We think this is a risk because if you give information in such a case that means there could be a chance of 60% that the right person is also there, but also 40% that you have been dealing with the wrong person. A04

Source: Interviews with Prüm NCPs in 22 EU Member States

that different professionals groups tend to highlight forensic uses of DNA as highly beneficial resources for fighting crime and improving justice, whereas the ethical risks are relatively devalued.^{30,31}

One other risk mentioned by several interviewees performing different types of activities within the Prüm system relates to the incomplete state of connections.¹⁸ To the best of our knowledge this topic has not been covered in any previous study before. Two main issues should be highlighted. Firstly, such a scenario may pose a risk since it may lead to potential problems based on the wrong assumption that Prüm already allows exchanging data with all EU countries. Secondly, relevant information may be lost due to the impossibility of quickly exchanging data with countries that are not operational within Prüm. This result stands in line with previous studies about police transnational cooperation which emphasise the need for more expansive and faster exchange of intelligence.^{2,7,8,15,16,18,23,32,33}

Also, our analysis demonstrates that the perceived risks and benefits of Prüm are highly influenced by the activities NCP perform within the transnational exchange of DNA data. In particular, a relevant distinction emerges between NCPs working in laboratories and NCPs working in law enforcement international cooperation. This result is in accordance with previous studies about public perspectives on science and technology in general that indicate that professional socialisation and academic background influence perceptions of the risks of science and technology.³⁴ As such, our results bring forward a more detailed and nuanced scenario about perspectives held by professionals actively involved with Prüm.

For NCPs working in laboratories, the perceived benefits related to the improvement of standardisation and harmonisation of forensic DNA analysis are in line with the historical trajectory of forensic DNA profiling and databasing, which is built upon the design, validation and dissemination of standards.^{35,36,37} A previous study about the Prüm system indicates that the current practice is orientated towards the adoption of minimum standards. This position permits flexibility and autonomy at a local level since it enables interoperability of DNA databases to exist in a scenario of national differentiation.¹⁶

Previous studies on the Prüm system have demonstrated how considerable differences between EU Members, which have distinctive levels of development of forensic DNA databases and DNA profiling,^{3,4,18} as well as unequal financial and human resources, pose several challenges to the viability of operating system.^{1,3,5} Our results reveal a more complex scenario. As previous literature demonstrates, NCPs working in laboratories point out the perceived benefits of some countries upgrading their forensic DNA databases and procedures of forensic DNA analysis and learning with more technologically advanced ones.^{16,19} As a result, differences between countries are, at least partially, framed by NCPs as possibilities to learn and enhance scientific cooperation.

Regarding risks, NCPs working in laboratories mainly refer to the issues associated with the occurrence of false positives. This perceived risk is in line with previous studies about the concerns showed by Prüm NCPs in regards to false positives leading to false incrimination, the different quality assessment used in each country, and the potential pressure to confirm “near matches” as reliable leads.^{5,8,19,22} One study

also provided empirical evidence that NCPs of the Prüm system who work in laboratories tend to be critical about police procedures.²²

The view about the lack of adequate protocol for reporting matches reported by the participants in this study as a risk relates to what studies in the field of forensic sciences have consistently reported about the challenges of communicating, to the court, probabilistic results and likelihood ratios related to DNA evidence in typical identification casework.^{38,39} Finally, NCPs working in laboratories cite the inexistence of feedback on cases that were followed-up and lead to a conviction, and the lack of statistics to measure the effectiveness as a risk. Such positionings are linked to widely discussed issues relating to the limited information on the overall effectiveness and efficiency of this crime-fighting tool^{5,6,23}; and the diverse issues concerning the lack of transparency and accountability of the Prüm system.^{1,6,20}

Regarding NCPs working within law enforcement international cooperation, the Prüm system is seen as one instrument that allows supporting cooperation across borders, anchored on the principle of availability of information.²⁸ In terms of perceived risks, the ones associated with differences between the practices of police and judicial entities have been already explored in previous studies. Such studies show that judicial professionals working in police transnational cooperation tend to see judicial authorities' methods as time-consuming and too restricted.^{14,33,40} Besides, interviewed NCPs' views about the risks of an excessive focus on DNA matches to measure the efficiency of the Prüm system are in accordance with what a considerable body of literature has already revealed about over-expectations towards the capability of DNA evidence to solve criminal cases.^{41–43} This result is also in line with previous studies which demonstrate an enhanced sensitivity among law enforcement professionals regarding the contingencies of forensic work.^{14,44} Finally, NCPs working within law enforcement international cooperation point out the scarce standardisation of Step 2 of Prüm and the associated operational challenges, a topic that has also been outlined by other studies focusing on the utility of the Prüm system.^{6,18}

5. Conclusion

This article discussed the perceived risks and benefits of the Prüm system based on a set of 37 interviews conducted in 22 EU countries, with 47 professionals operating the Prüm system. The major perceived benefits relate to the intensification of tools for combating transnational criminality; development of standardisation and harmonisation of forensic DNA testing procedures; and reinforcement of professional cooperation. The major perceived risks are associated to the possibility of prosecuting based on false positives; the lack of available data to measure the effectiveness of the Prüm system and the different *modus operandi* of police and judicial authorities.

One limitation of this study is that our analysis does not capture how the perceived risks and benefits might be affected by the heterogeneous characteristics of the different national contexts. In particular, how countries' positioning towards political power, economic resources and level of development of forensic science affect perceptions over the Prüm system. As such, an in-depth analysis of this topic is still required to capture how different countries are framing the benefits and risks

delivered by implementation of the Prüm system. It would also be of utmost interest if forthcoming research took into consideration the views of other professional groups who are also involved or affected by Prüm. In addition, one other limitation of the present study relates to the conduction of joint interviews in some particular national cases. The use of joint interviews might prevent certain types of data from emerging.

By providing a complex, detailed and nuanced scenario of how NCPs conceive the risks and benefits of Prüm, this article contributes to filling a gap in the literature. Besides, it is highly likely that the Commission will soon propose amendments to the Prüm regime.⁴⁵ As such, the analysis of the views conveyed by NCPs – as actors actively involved in the system – might help to propose amendments founded on principles of transparency and accountability.

Declaration of competing interest

We declare no conflicting interests.

CRediT authorship contribution statement

Helena Machado: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing - original draft, Writing - review & editing. **Rafaela Granja:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing - original draft, Writing - review & editing.

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