FOR PUBLICATION

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

UNITED STATES OF AMERICA, *Plaintiff-Appellee*, v. THOMAS EDWARD KRIESEL, JR., *Defendant-Appellant*.	No. 11-30197 D.C. No. 3:03-cr-05258- RBL-1 OPINION

Appeal from the United States District Court
for the Western District of Washington
Ronald B. Leighton, District Judge, Presiding

Argued and Submitted
July 10, 2012—Seattle, Washington

Filed June 28, 2013

Before: Mary M. Schroeder, Stephen Reinhardt,
and Milan D. Smith, Jr., Circuit Judges.

Opinion by Judge Schroeder;
Dissent by Judge Reinhardt

SUMMARY*

Criminal Law

The panel affirmed the district court's order on remand denying a motion pursuant to Fed. R. Crim. P. 41(g) for return of a blood sample provided to the government for analysis of the defendant's DNA as a condition of his now-completed supervised release.

Rejecting the government's contention that the defendant lacks standing, the panel agreed with the district court that the defendant is seeking the return of "property" and that defendant was "aggrieved" within the meaning of Rule 41.

The panel agreed with the district court that the government carried its burden of showing the samples were retained for a reasonable use – to ensure that the matches to forensic evidence, identified through the government's Combined DNA Index System database searches, are accurate.

The panel concluded that the government's continued retention of the defendant's blood sample is reasonable under the circumstances presented on this record, notwithstanding that he has completed the term of supervised release.

Dissenting, Judge Reinhardt wrote that the majority's opinion illustrates the failure of today's judiciary to stand up

* This summary constitutes no part of the opinion of the court. It has been prepared by court staff for the convenience of the reader.

to clear abuse of governmental authority as well as its unwillingness to protect the fundamental right to privacy of all Americans.

COUNSEL

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OPINION

SCHROEDER, Circuit Judge:

Government and commercial entities enjoy increasing capacity to obtain, store, and analyze information about people, giving rise to increasing concerns about privacy. Nowhere is that upward spiral more evident than in litigation, like this case, calling into question practices relating to identifying people through their deoxyribonucleic acid (DNA) sequences.

The appellant here, Thomas Kriesel, pled guilty to a drug conspiracy charge, and was sentenced to a term of imprisonment followed by a term of supervised release. One condition of his supervised release required him to provide a blood sample for analysis of his DNA, and inclusion of his DNA profile into the government's Combined DNA Index System (CODIS) database. Now that Kriesel has completed his term of supervised release, he has made an unusual invocation of Federal Rule of Criminal Procedure 41(g), asking the government to return the blood sample. He has no remaining objection to the government's retention of the information in his DNA profile, which the government analyzed from the extracted blood sample, and which it currently stores in the CODIS database.

Kriesel argued to the district court that the government had no legitimate reason for retaining the blood sample—which of course has within it not only the limited information the government has analyzed for his DNA profile, but his entire unanalyzed genome. The district court ruled the government had a legitimate purpose in retaining the blood samples that generate the CODIS profiles in order to ensure that the matches to forensic evidence, identified through CODIS searches, are accurate. The court found no reason at this time to believe the government would use the blood for other purposes, many of which are already prohibited by statute. The district court therefore granted judgment to the government, and we affirm on a similar basis.

I. THE GOVERNMENT'S DNA DATABASE

The Federal Bureau of Investigation (FBI) administers CODIS as a nationwide database of genetic identifying information.

The CODIS database stores DNA profiles of convicted federal felons on supervised release and others who have had brushes with the law. *See* DNA Analysis Backlog Elimination Act of 2000 (DNA Act), Pub. L. No. 106-546, § 3, 114 Stat. 2746, 2728–30; *see also* 28 C.F.R. § 28.2. These DNA profiles are commonly generated from blood samples.

The blood is collected from offenders and then sent to the Federal DNA Database Unit (FDDU) in Quantico, Virginia. The FDDU extracts the DNA molecules from each blood sample, analyzes the molecules, generates a profile of identifying characteristics, and uploads the profile to CODIS. In addition to storing the profiles in CODIS, the FDDU retains offenders' physical blood samples to help ensure accurate matches to DNA found at crime scenes.

It is important in this case to understand how the government uses both the DNA profile and the samples for identification purposes. Blood cells in the samples contain two types of DNA: the biologically important coding (or non-junk) DNA, and the biologically unimportant non-coding (or junk) DNA. *See United States v. Kincade*, 379 F.3d 813, 818 (9th Cir. 2004) (en banc) (plurality) (explaining the difference between junk and non-junk DNA). We held in *Kincade* that the government may extract junk DNA from samples, and use it to generate profiles for inclusion in CODIS, because present scientific understanding indicates that

junk DNA reveals no sensitive, private genetic or medical information. It is useful, however, for identification purposes. *See id.* The government uses only junk DNA to generate the CODIS profile. The record in this case reflects that the government makes no use of the non-junk DNA in the blood sample.

The CODIS system searches for matches between offenders' DNA and crime scene evidence. It is when a match is found that the actual sample is tested. The federal lab retrieves the offender's actual blood sample, which it has retained in storage. It again extracts junk DNA from that sample, generates a new DNA profile, and compares the new profile to the CODIS profile. This verifies that the person whose profile CODIS matched to the crime scene evidence is the same person who provided the original blood sample.

The FBI created CODIS after Congress passed the Violent Crime Control and Law Enforcement Act of 1994, which authorized the agency to create a national database of DNA samples from convicted federal offenders. *See* Pub. L. No. 103-322, 108 Stat. 1796 (Sept. 13, 1994). Following the creation of CODIS, all fifty states passed laws requiring convicted felons to provide DNA samples for CODIS.

The legislative history reveals concerns that the database be as accurate and trustworthy as possible. Representative Henry Hyde acknowledged that while a DNA database could be valuable to law enforcement, the accuracy of the database was critical:

> [W]hen properly performed, DNA analysis has proven an extremely effective investigative

> tool in the criminal justice process. As DNA technology is increasingly employed in the courtroom, however, there has been growing concern over issues of quality assurance and standards for conducting DNA testing. H.R. 829 [the DNA Act] will guarantee that needed quality assurance standards are developed and implemented.

139 Cong. Rec. H1650-01 (daily ed. Mar. 29, 1999) (statement by Rep. Hyde).

In response to such concerns over the accuracy of CODIS, the 1994 Act requires the Director of the FBI to develop quality assurance and proficiency testing standards. 42 U.S.C. § 14131(a)(C)(2). Recommendations for these standards were to come from "an advisory board on DNA quality assurance methods from among nominations proposed by the head of the National Academy of Sciences and professional societies of crime laboratory officials." *Id.* at § 14131(a)(1)(A). Responsibility for implementing the standards lies with the FBI. The statute provides that the FBI Director "after taking into consideration such recommended standards, shall issue (and revise from time to time) standards for quality assurance, including standards for testing the proficiency of forensic laboratories, and forensic analysts, in conducting analyses of DNA." *Id.* at § 14131(a)(C)(2).

The procedures challenged in this case thus came from the advisory board's recommendations. The FBI Director implemented "Quality Assurance Standards" in which he required that "where possible" the actual blood samples of offenders be retained in the CODIS database. Fed. Bureau of

Investigation, *Quality Assurance Standards for DNA Databasing Laboratories* (revised July 1, 2009), *available at* http://www.fbi.gov/about-us/lab/codis/qas_databaselabs.pdf. The FBI thus retains Kriesel's blood sample as part of its implementation of quality and accuracy standards developed pursuant to Congressional directives.

II. THIS LITIGATION'S HISTORY

In this round of Kriesel's extended litigation, his Rule 41(g) motion asks us to order the government to return his original blood sample. The litigation has a long history and has already been to this court twice. *See United States v. Kriesel*, 508 F.3d 941 (9th Cir. 2007) (*Kriesel I*); *United States v. Kriesel*, 604 F.3d 1124 (9th Cir. 2010) (*Kriesel II*).

Kriesel pleaded guilty in 1999 to one count of conspiracy to commit possession with intent to distribute methamphetamine. 21 U.S.C. §§ 841(a)(1), 846. He was sentenced to a term of 30 months imprisonment, followed by a term of 36 months supervised release. As a condition of his supervised release, the probation office required him to provide a blood sample for DNA analysis. Kriesel objected on the ground that the requirement was unlawful, and the probation office asked the district court to revoke his supervised release on account of his refusal to provide the sample.

The district court rejected Kriesel's arguments, which were, first, that the extraction of a blood sample for DNA analysis violated the Fourth Amendment, and second, that the implementing regulations were promulgated in violation of the

Administrative Procedure Act (APA), 5 U.S.C. § 553. The court revoked his supervised release.

A. *Kriesel I*

Kriesel appealed to this court, and we affirmed. On Kriesel's Fourth Amendment challenge, we considered the totality of the circumstances, and viewed Kriesel's status as a convicted felon on supervised release to be key for our analysis. Noting Kriesel's "diminished expectation of privacy" as a supervised releasee, we concluded he had only a limited interest in preventing the government from confirming his identity through analysis of his junk DNA. *See Kriesel I*, 508 F.3d at 947 (citing *Kincade*, 379 F.3d at 833 (plurality)). We recognized that Kriesel raised a number of legitimate concerns about other DNA tests, i.e., "about DNA samples being used beyond identification purposes." *Id.* at 948. The presence of significant criminal prohibitions on the unauthorized use or disclosure of DNA samples, *see* 42 U.S.C. § 14135e(c), however, supported our conclusion that Kriesel's concerns, on the record before us, were speculative.

Our majority opinion in *Kriesel I* recognized three "undeniably compelling" interests that supported the collection and analysis of DNA samples of convicted felons: (1) linking supervised releasees to crimes committed while on release; (2) deterring future crimes; and (3) solving past crimes. *Id.* The majority also rejected Kriesel's APA challenge, concluding the implementing regulations were exempt from the notice-and-comment process. *See id.* at 945 (citing § 553(b)(3)(A)). We did not decide what information could be retained after Kriesel served his term of supervised release,

or as Judge Gould had asked in his concurrence in *Kincade*, when supervised releasees had "wholly cleared their debt to society." *Id.* at 949 (quoting *Kincade*, 379 F.3d at 841 (Gould, J., concurring in the judgment)).

After our 2007 decision, Kriesel submitted to DNA extraction by providing the blood sample to the district court's probation office. His sample was analyzed, the profile uploaded to CODIS, and the sample stored with the FDDU. Kriesel thus complied with all conditions of his sentence.

Kriesel then filed a motion in the district court asking, on Fourth Amendment grounds, that his DNA profile stored in CODIS be removed, and also seeking under Fed. R. Crim. P. 41(g) return of the blood sample. The district court denied the motion, concluding that while a former supervised releasee had more privacy interests than a current supervised releasee, on balance the government's interests in retaining the CODIS profile outweighed Kriesel's privacy interests. The court did not specifically address the Rule 41(g) claim that is now before us.

B. *Kriesel II*

On appeal for the second time, Kriesel abandoned his Fourth Amendment argument for expungement of his DNA profile stored in CODIS. He argued only that he was entitled to the return of the blood sample as his property under Rule 41(g). *See Kriesel II*, 604 F.3d at 1124–25. We concluded that Kriesel's Rule 41(g) claim had been so subsumed within his now-abandoned Fourth Amendment argument, that the case should be remanded on an open record for the district court to specifically address and determine whether Kriesel

was entitled to the return of his blood sample under Rule 41(g). *Id.*

C. Proceedings in the District Court Underlying This Appeal

On remand from our decision in *Kriesel II*, the parties developed the evidentiary record pertaining to the blood samples. Declarations explained how DNA is extracted from blood samples, and how the samples are used. The district court considered this evidence, and after a hearing, it denied Kriesel's Rule 41(g) motion.

The record developed on remand described in detail the many steps involved in the process of collecting blood samples from known offenders, and generating profiles from the junk DNA for inclusion in CODIS. We describe only the general process the FDDU follows, for specifics may differ from lab to lab in state jurisdictions.

The first step is a government agent's collection of a blood sample from a known offender. The agent places several drops of blood on each of two halves of a special paper card used for storage. The agent marks the card with information identifying the offender who provided the sample. The agent submits the card to the FDDU with Form FD-936, "Request for National DNA Database Entry." That form contains the offender's fingerprints as well as information about the offender and the submitting agency. The paper card and the form are thus sent together to the FDDU for processing.

In the second step, the FDDU prepares the sample for analysis and eventual inclusion of the profile in CODIS. The

FDDU ensures the samples have not been contaminated during transit, then assigns the sample a unique "specimen identification number." This number allows the government to track the sample throughout the analysis process.

The FDDU processes the sample, after separating the halves of the paper card used for transport. One half is treated with chemicals that aid DNA analysis by breaking down blood cells and stabilizing the DNA molecules in a way that permits long term storage at room temperature. The other half of the card is not treated with chemicals, and contains unadulterated DNA molecules; this half must be kept and stored separately in a freezer. The lab keeps both sides of the card for DNA identification purposes.

The FDDU uses the treated side of the card to generate the DNA profile. The lab identifies molecular markers throughout the extracted junk DNA, and turns this information into a searchable database entry that is uploaded to the CODIS database. The database entry itself contains specimen identification information linking the profile to the stored blood sample, but not the subject's name or any other personally identifiable information. Personal identifying information such as the offender's name, social security number, and fingerprints are contained in the Form FD-936, which the FBI stores in a secure filing facility.

The primary value of CODIS is to link unidentified DNA samples collected from crime scenes to the DNA of known offenders in the system. *See Kriesel I*, 508 F.3d at 949. Investigators collect forensic samples from crime scenes and unidentified human remains, or from the relatives of missing persons who volunteer samples to aid the search. *See, e.g.*,

28 U.S.C. § 14132(a)(2)–(4) (authorizing generation of DNA profiles from these sources).

Forensic laboratories around the country analyze DNA from those samples to generate a profile that can be matched to known offenders' DNA. The process produces accurate identifications because it is extremely unlikely two people will have the same profile. *See Kincade*, 379 F.3d at 818–19. The goal of the CODIS system is to find what the government calls a "Candidate Match"—a putative match between an identified offender and unidentified crime scene DNA. When CODIS finds a Candidate Match, the FDDU receives a CODIS Match Report.

At this point the original blood sample is used for confirmation. Upon receiving a CODIS Match Report, the FDDU retrieves the original blood sample from storage to perform further analysis—what the federal government has called in this case the "Match Confirmation" step. The FDDU locates the retained blood sample in storage using the specimen identification number. The FDDU then takes the retained sample, re-extracts junk DNA from it, and runs a new analysis. If the newly generated profile is the same as the one in CODIS that formed a Candidate Match, the match is confirmed and the accuracy of the match between the CODIS profile and the identified offender is ensured. The confirmation of the CODIS match is thus achieved by comparing the profile generated from the retained sample with the Codis profile. Although CODIS has not yet encountered such a "mismatch" or "misidentification" error, in the event that the generated profile did not match the CODIS profile, the lab would then determine what caused the error and, presumably, prevent similar errors from occurring in the

future. The "Match Confirmation" is used to ensure the continued accuracy and integrity of the CODIS system. It is the government's primary justification for retaining the blood sample.

In deciding the Rule 41g issues, the district court first ruled that the blood sample was property within the meaning of the Rule, and that Kriesel, because of his concerns about the private information the sample's non-junk DNA in the sample could reveal, was sufficiently aggrieved to seek its return. The district court denied the Rule 41(g) motion, however, because the government had shown a sufficient reason for retaining the sample. It ruled that the use of the "Match Confirmation" process to ensure the accuracy of the system satisfied the government's burden to justify retention. The court observed that Kriesel's sample was an integral part of the database, and that Rule 41 should not be permitted to undermine it. The court recognized that if Kriesel and other offenders whose DNA profiles were included in CODIS were able to petition successfully for the return of their blood samples, then "offenders' identities would be released without Match Report confirmations" and "CODIS's integrity would erode." *United States v. Kriesel*, No. CR03-5258, at *11-12 (W.D. Wash. July 21, 2011).

The government offered a number of other justifications for retaining the blood sample, including a speculative interest in being able to utilize as yet undeveloped technology. The district court properly rejected these justifications, and they are not seriously at issue in this appeal.

Kriesel timely appeals. His primary argument is that the district court erred in concluding that retaining his blood

sample is reasonable. Although the district court did so because retention allows the government to ensure the accuracy of putative matches between offenders and unidentified DNA, Kriesel contends the "Match Confirmation" process is not a reasonable justification because it is not necessary to ensure the accuracy of Candidate Matches. He urges us to rule that those matches are sufficiently reliable without resort to the confirmation process, so as to eliminate any reason for retaining the sample. He also argues the federal government does not need to retain the sample if some states, such as Wisconsin, are not required to retain samples as a condition of participating in CODIS.

III. DISCUSSION

Rule 41(g) provides the textual basis for Kriesel's claim for return of his blood sample. The rule provides "[a] person aggrieved . . . by the deprivation of property may move for the property's return." We have held that a defendant's Rule 41(g) motion should presumptively be granted if the government "no longer needs the property for evidence." *United States v. Fitzen*, 80 F.3d 387, 388 (9th Cir. 1996) (citation omitted). The government can rebut that presumption, however, by showing a continued need for the property that is reasonable under all of the circumstances. *United States. v Ramsden*, 2 F.3d 322, 326 (9th Cir. 1993) (citing Fed. R. Crim. P. 41, Adv. Comm. Notes to 1989 Amendments).

The district court correctly held that Kriesel is seeking the return of "property." The Rule's definition of property includes "documents, books, papers, any other tangible objects, and information." Fed. R. Crim. P. 41(a)(2)(A). The

district court also properly concluded that the blood sample itself is a tangible object, and the genetic code contained within the blood sample is information. The applicability of Rule 41 to bodily fluids is supported by our circuit law. We have previously held that professional baseball players' urine samples, that the government seized from a laboratory, were "property" within the meaning of Rule 41(g). *United States v. Comprehensive Drug Testing*, 621 F.3d 1162, 1173 (9th Cir. 2010).

The district court in this case further concluded Kriesel was "aggrieved," within the meaning of the Rule, because the government has retained the sample from which private information can be extracted. We agree this is sufficient to allow him to bring a Rule 41(g) motion. We therefore reject the government's contention, raised for the first time on appeal, that he lacks standing.

The issue under Rule 41(g) is thus whether the government has shown a legitimate reason for retaining the property. This case turns on whether the government's continued retention of the blood sample is "reasonable[] under all of the circumstances." *Ramsden*, 2 F.3d at 326 (citation omitted). The district court found that the use of the blood samples to ensure the accuracy of DNA identification was a valid reason to retain the sample. The issue is one we review de novo. *See United States v. Kaczynski*, 416 F.3d 971, 974 (9th Cir. 2005).

The government explained to the district court how and why it uses the blood sample to ensure it has accurately determined the identity of the person associated with the DNA profile stored in CODIS. This "Match Confirmation" process

compares the database profile against a new profile generated from the offender's retained blood sample. This ensures that the system is working accurately. It also enables pre-arrest confirmation of a match. The dissent is incorrect in suggesting the same purpose is served by testing the subject after he has been hauled into custody.

The Match Confirmation process is also a method of long-term quality control. The government's quality assurance standards require periodic random testing every six months of previously analyzed samples. The FDDU therefore combines random samples processed in the intervening six months, together with any positive Match Confirmation samples, and generates new DNA profiles from these samples. This is done for at least 1% of the total number of samples processed in the intervening six month period. By comparing the new and old profiles, the lab can identify errors in the DNA analysis process. There remains a risk, however, that some of the untested remainder of samples (up to 99%) were analyzed erroneously. Retaining blood samples for the Match Confirmation process increases the chances the government will catch any such errors. If the Match Confirmation were to reveal an error in the DNA analysis process, the lab could review how the process might have malfunctioned. The statute reflects the Congressional concerns, as illustrated by Representative Hyde's remarks, in maintaining the accuracy of the system. The statute expressly requires the FBI to implement standards to maintain laboratory accuracy. 42 U.S.C. § 14131(a)(C)(2). The "Match Confirmation" process carries out that Congressional mandate.

Kriesel does not quibble with the government's argument that this confirmation process avoids generating false

identifications. He argues, rather, that as a procedural matter the government does not need such a rigorous means of quality assurance, since the record indicates the government has never found an erroneous match between a DNA profile and a blood sample. Kriesel thus contends that if the system has been flawless in the past, there is no need to retain the blood samples.

A strong record of quality assurance in the past, however, is not necessarily a reason to abandon protections that will ensure accuracy in the future. The argument is a bit like contending a driver should stop carrying a spare tire because the car has never had a flat. Moreover, as the district court correctly noted, the retention of the blood samples promotes the efficacy of the CODIS identification system and maintains the credibility of the system, should CODIS ever provide a false match. The double-check helps maintain the confidence of the public and law enforcement in CODIS as a means of recreating genetic profiles in the event that the CODIS profiles ever became compromised. We therefore agree with the district court that the government carried its burden of showing the samples were retained for a reasonable use.

Kriesel points out that some laboratories participate in the nationwide network of DNA databases without retaining the samples. He cites Wisconsin as an example, where state law requires the lab to "destroy specimens obtained . . . after analysis has been completed." Wis. Stat. § 165.77 (2012). Kriesel contends that because the federal government nevertheless permits Wisconsin to participate in CODIS, the FBI's retention of the sample must be unnecessary.

Federal sufferance of the Wisconsin law, however, does not serve to invalidate the federal retention policy. Federal statutes neither require nor forbid retention by the states of blood samples as part of the administration of CODIS. Federal law does require the federal government to implement quality control standards and thus authorizes the federal government to adopt more stringent measures than states participating in CODIS. 42 U.S.C. § 14131(a)(C)(2).

Because the government obtained Kriesel's sample as a condition of his supervised released from custody, the remaining question under Rule 41 is whether the government's justification for retention of the sample disappeared when Kriesel completed the term of supervised release. The question as originally framed by Judge Gould in his concurrence in *Kincade* was whether the record of a felon's DNA could be retained once those formerly on supervised release had "wholly cleared their debt to society." *Kincade* at 813 (Gould, J., concurring).

This query did not distinguish between the CODIS profile and the blood sample, but asked whether *any* DNA record need be retained after completion of a sentence. In this case, Kriesel's completion of his sentence did not eliminate the government's interest in retaining the DNA profile in CODIS, and Kriesel no longer argues that it did. The need to identify DNA found at a crime scene is critical and accuracy matters. *See Kriesel I*, 508 F.3d at 949–50. The retention of the blood samples further those goals by ensuring the accuracy of the CODIS profile match, which is the function served by the "Match Conformation."

Kriesel has abandoned his Fourth Amendment argument, so we do not separately address whether completion of the sentence implicates additional Fourth Amendment privacy concerns. This case does not raise the concerns that have been expressed about the government's taking of DNA from persons who have not been convicted of any crime. *See Maryland v. King*, 133 S. Ct. 1958, 1989 (2013) (Scalia, J., dissenting); *Haskell v. Harris*, 686 F.3d 1121 (9th Cir. 2012) (vacating panel opinion and ordering rehearing en banc); *Haskell*, No. 10-15152, Dkt. No. 111 (Nov. 13, 2012) (deferring submission to en banc court pending the Supreme Court's decision in *King*).

The dissent focuses on the sensitive personal information contained within DNA that can be obtained from a blood sample, echoing concerns of the dissenters in *Kincade*. There is no basis in this record, however, to conclude that the government will even try to obtain such information. The DNA Act, with certain limited exceptions not relevant here, proscribes the government from using a DNA sample for any purpose other than suspect identification. *See* 42 U.S.C. § 14132(b)(3). Any person who knowingly uses a DNA sample or result without authorization is subject to criminal penalties. *Id.* at § 14135e(c). There is nothing to suggest that the government will use Kriesel's blood sample for anything more than identification purposes, which of course it is permitted to do. We therefore decline to credit the speculative concerns he raises.

In dealing with speculative concerns about DNA, we have previously stressed that we must look only to the record on appeal and what it shows about the actual scope and uses of the DNA information. *See Kincade*, 379 F.3d at 838. Other

courts have similarly refused to speculate about the uses to which the government could conceivably put DNA information. *See, e.g.*, *United States v. Weikert*, 504 F.3d 1, 14 (1st Cir. 2007); *United States v. Amerson*, 483 F.3d 73, 87 (2d Cir. 2007); *United States v. Mitchell*, 652 F.3d 387, 408 (3d Cir. 2011). Indeed, only recently the Supreme Court has held that plaintiffs lacked standing to challenge the constitutionality of the FISA Amendments Act of 2008, 50 U.S.C. § 1881a. *Clapper v. Amnesty Int'l USA*, 133 S. Ct. 1138, 1150 (2013). The Court stated in *Clapper* that the plaintiffs' claims that they would be the target of illegal surveillance were speculative, and thus did not constitute an injury-in-fact. *Id.* at 1148–49. The court reasoned that the "injury" the plaintiffs complained of was predicated on speculation about what actions the government might take in the future and lacked support in the record. *Id.* A fortiori, if the plaintiffs in *Clapper* lacked standing to complain of injury that was only speculative, then Kriesel's demand for return of property lacks merit when founded upon similar speculative concerns about possible future government conduct.

We nevertheless recognize that we are dealing with a rapidly changing world in which risks of undue intrusions on privacy are also changing. We have previously stressed that if scientific discoveries make clear that junk DNA reveals more about individuals than we have previously understood, we should reconsider the government's DNA collection programs. *See, e.g.*, *Kriesel I*, 508 F.3d at 947 ("Should the uses to which junk DNA can be put be shown in the future to be significantly greater than the record before us today suggests, a reconsideration of the reasonableness balance struck would be necessary, even with respect to individuals in

Kriesel's position." (citation and internal quotation marks omitted)).

We affirm the district court's holding that the government's continued retention of Kriesel's blood sample is reasonable under the circumstances presented on this record.

The district court's denial of Kriesel's Rule 41(g) motion is **AFFIRMED**.

REINHARDT, Circuit Judge, dissenting.

The majority's opinion illustrates the failure of today's judiciary to stand up to clear abuse of governmental authority as well as its unwillingness to protect the fundamental right to privacy of all Americans. Judges have come to place their reliance on what the government tells them, rather than on what the Constitution requires. Courts have grown more and more lax in curtailing the excesses of law enforcement, and the judiciary's record in protecting privacy rights has become wholly unsatisfactory. No other case, however, reflects a greater surrender on the part of the courts of the citizens' right of privacy simply because it is told "Trust Your Government." As far as I am concerned, the Constitution demands far more.[1]

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[1] By these statements, I do not intend to express a view on the merits of any national security programs, some of which are presently before the courts. Nor do I mean to compare the violation in the present case to any violations that may have occurred in national security cases. My

Edward Kriesel once possessed methamphetamine; he has now paid his debt to society and is a free man. Nonetheless, the majority authorizes the government to maintain permanent custody and control over his DNA sample, a drop of his blood containing his entire genetic code, which will be kept indefinitely in a government-controlled refrigerator in a warehouse in Northern Virginia. Never before have we condoned so great an infringement on the privacy rights of so many Americans. The majority's decision does not affect Kriesel alone; it affects over ten million individuals who currently have blood samples on file with the federal government and the many tens of millions more average Americans who, as the seizure of DNA samples expands almost beyond limits, will have their entire genetic code maintained permanently in other government refrigerators.[2] The government already has all the information necessary for identification—a copy of the junk DNA sequence that identifies the individual—maintained indefinitely in the CODIS database. Thus, there is no reason to keep the individuals' blood samples, which contain their most intimate genetic data.

Federal law governs the collection of DNA samples but provides no guidance on whether these samples should be retained or destroyed after the individual's junk DNA profile is entered into the CODIS database.[3] The Federal Bureau of

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comments regarding the duty of courts to examine the issues carefully in light of the Constitution are, however, equally applicable to all cases, domestic or foreign.

[2] *See* discussion *infra* at pp. 51–55.

[3] The majority makes repeated reference to 42 U.S.C. § 14131, a statutory provision that directs the FBI to ensure the quality of the

Investigations has taken it upon itself to store the original blood samples taken from millions of individuals "[w]here possible" for the purpose of "retesting for quality assurance and sample confirmation." FBI, *Quality Assurance Standards for DNA Databasing Laboratories*, at 7.2. Because no statute authorizes the retention of blood samples, it is the government's burden to justify the retention of Kriesel's.

The purpose of CODIS is to permit local, state, and federal "forensics laboratories to exchange and compare DNA profiles electronically in an attempt to link evidence from crime scenes for which there are no suspects to DNA samples of convicted offenders on file in the system"—in other words, to facilitate the identification of criminal suspects.[4] H.R. Rep. No. 106–900(I), at 8 (2000). The retention of blood samples does not affect the ability of law enforcement to use the CODIS database to identify a suspect and investigate whether his DNA matches the DNA found at the crime scene. Instead, the government offers two rationales that the majority accepts

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CODIS system. Nothing in this section or anywhere else in the United States Code authorizes the FBI to permanently retain blood samples for quality assurance, however, purposes or for any reason whatsoever.

[4] As the majority points out, we have previously recognized only three legitimate law enforcement interests that support the government's collection of DNA samples: (1) "establishing a means of identification that can be used to link conditional releasees to crimes committed while they are at large;" (2) "reducing recidivism" by deterring future crime; and (3) solving past crimes. *United States v. Kriesel* ("*Kriesel I*"), 508 F.3d 941, 949 (9th Cir. 2007) (citing *United States v. Kincade*, 379 F.3d 813, 838 (9th Cir. 2004) (en banc) (plurality opinion)). None of these rationales applies here because the return of Kriesel's blood sample would not interfere with the government's use of his CODIS profile to serve the purposes we recognized.

as justifying retention of the blood samples: (1) its interest in confirming the accuracy of a CODIS-identification; and (2) its interest in maintaining the blood samples as a part of its quality assurance program. On this basis, the majority concludes that the retention of Kriesel's blood sample, rather than simply his CODIS profile, is "'reasonable[] under all of the circumstances.'" *Ramsden v. United States*, 2 F.3d 322, 326 (9th Cir. 1993) (quoting Fed. R. Crim. P. 41, advisory committee's notes).

I conclude the opposite. The retention of Kriesel's blood sample is far from reasonable. The government's rationales are flimsy, at best, and do not come close to outweighing the recognized interests of free individuals in keeping the entirety of their genetic code private. *See, e.g.*, *Norman-Bloodsaw v. Lawrence Berkeley Lab.*, 135 F.3d 1260, 1269 (9th Cir. 1998) ("One can think of few subject areas more personal and more likely to implicate privacy interests than that of one's health or genetic make-up.") (citations omitted). Prominent bioethicists consider the indefinite retention of DNA samples to be "the most significant privacy concern associated with DNA data banking" because the stored samples reveal an immense amount of private data. SHELDON KRIMSKY & TANIA SIMONCELLI, GENETIC JUSTICE, 235–36 (2011). Moreover, a majority of the public would prefer to keep their private genetic data beyond the reach of law enforcement. Fifty-four percent of Americans surveyed responded that they had little or no trust in law enforcement having access to the results of genetic testing. Johns Hopkins University Genetics and Public Policy Center, *U.S. Public Opinion on Uses of Genetic Information and Genetic Discrimination* 2 (2007). The majority's opinion does immense damage to the privacy

interests in genetic data that we have long recognized and that Congress has sought to protect.

Furthermore, the opinion finds no support in our precedent. Each of our prior decisions dealt with the legitimacy of the CODIS database, containing electronic data profiles that reveal only limited information, rather than the government's unchecked retention of individuals' blood samples that contain the full panoply of information revealed by our DNA, including family relationships, race and ancestry, and genetic propensity for certain diseases and mental illnesses. Our prior decisions approved of CODIS because the database is limited to the identification-only aspects of *junk* DNA. *Kriesel I*, 508 F.3d at 947 ("The DNA analyzed by the FBI consists primarily of 'junk DNA' . . . that were purposefully selected because they are not associated with any known physical or medical characteristics."); *Kincade*, 379 F.3d at 818, 837 ("[T]he Bureau analyzes the presence of various alleles located at 13 markers . . . found on so-called 'junk DNA' . . . [T]he DNA profile derived from the defendant's blood sample establishes only a record of the defendant's identity.").[5] We have never before ruled on the

[5] *Kincade* was limited to the diminished privacy expectations of prisoners and persons on conditional release. *Kincade*, 379 F.3d at 835, 839 (plurality opinion). In Judge Gould's controlling opinion, he made this point explicit, reasoning that the government's "special need" of deterring persons on parole and supervised release from committing crimes "[would be] gone" once that person had fulfilled his conditions and served his time. *Id.* at 841 (Gould, J., concurring). In *Kriesel I*, we specifically left open the question whether the government's interests in collecting DNA could overcome the privacy interests for those who "have wholly cleared their debt to society." 508 F.3d at 949 (quoting *Kincade*, 379 F.3d at 841 (Gould, J., concurring)).

validity of the government's retention of genetic material, such as a blood sample, that contains an individual's entire genetic code capable of revealing sensitive information about his health and family. Because this case deals not just with junk DNA or a CODIS profile derived from junk DNA, but the retention, for at least the remainder of an individual's lifetime, of his full genetic code, far more is at stake here than in any of our previous cases. For this reason, I strongly dissent.

I.

In his Rule 41(g) motion, Kriesel requests simple and limited relief. Now that he has served his time and completed all conditions of his release, he asks this court to order the return of the blood sample that contains all of his genetic information. He does not ask that his DNA profile, created by the use of junk DNA, which fully establishes his identity for purposes of criminal investigations, be eliminated from the CODIS database. He requests only the return of his property,[6] the blood sample that contains all of his genetic data, a motion that the majority recognizes should be *presumptively* granted when the government "no longer needs the property for evidence." Maj. Op. at 15 (citing *United States v. Fitzen*, 80 F.3d 387, 388 (9th Cir. 1996) (citation omitted)).

[6] I agree with the majority that the district court correctly determined that Kriesel's blood sample is property under Rule 41 because it is a "tangible object[]" and his genetic code is "information." Fed. R. Crim. P. 41(a)(2)(A); *see also United States v. Comprehensive Drug Testing, Inc.*, 621 F.3d 1162, 1173–74 (9th Cir. 2010) (affirming grant of a 41(g) motion for the return of urine samples).

The standard of review is not in dispute. Under Rule 41(g), "a person aggrieved . . . by the deprivation of property may move for the property's return." Fed. R. Crim. P. 41(g). In deciding the motion, the burden is on the government to show that "it has a 'legitimate reason to retain the property.'" *United States v. Kaczynski*, 416 F.3d 971, 974 (9th Cir. 2005) (internal citation omitted). We evaluate the government's proffered rationales under a test of "reasonableness under all of the circumstances." *Ramsden v. United States*, 2 F.3d 322, 326 (9th Cir. 1993) (quoting Fed. R. Crim. P. 41, advisory committee's notes). In making this reasonableness determination, this court has recognized that "if the United States' legitimate interests can be satisfied even if the property is returned, continued retention of the property would become unreasonable." *Kaczynski*, 416 F.3d at 975, n.6 (quoting Fed. R. Crim. P. 41, advisory committee's notes).

Of the several justifications offered by the government, the majority accepts two: it holds that the government met its burden to show that the retention of Kriesel's property is necessary because (1) the blood samples ensure that the CODIS identification of the suspect is accurate; and because (2) the blood samples further its goal of long-term quality control.[7] Yet, even a cursory review of the government's rationales proves that they are meritless. Neither proffered rationale establishes that the government "has a legitimate reason to retain" the entirety of Kriesel's genetic information.

[7] The government also asserts an interest in "ensur[ing] the FBI may take advantage of technological advancement in DNA identification." Because the majority holds that the district court properly rejected this purported interest, I do not address it, although I do agree with the majority on this point.

Kaczynski, 416 F.3d at 974 (internal quotation marks and citations omitted). First, use of the retained blood sample is in no way necessary to ensure that the CODIS profile has accurately identified the individual whose DNA is found at the scene of the crime—the only interest the government can have in confirming the accuracy of the CODIS profile. To the contrary, comparing the retained blood sample with the CODIS profile may, in fact, interfere with or delay law enforcement efforts to determine whether the CODIS-identified person's DNA matches the DNA found at the crime scene. Second, any additional benefit provided by the retention of blood samples to the quality control program is entirely theoretical and of highly dubious value at best. In any event, any such benefit would be overwhelmingly outweighed by the injury to the privacy interests of the over 10,000,000 Americans (and growing) whose blood samples are being retained without sufficient justification.

In sum, the totality of the interests that the government advances, when viewed in light of Kriesel's substantial privacy interests, does not come close to meeting the standard of "reasonableness under all of the circumstances." *Ramsden*, 2 F.3d at 326 (citation omitted). Thus, the government has failed to carry the burden imposed on it by Rule 41(g).

A.

As to its first rationale, the government contends that it needs to retain Kriesel's blood sample containing his entire genetic code indefinitely in order to assure that if his CODIS profile is ever identified as matching DNA found at a crime scene, the government can confirm that the DNA profile in CODIS matches the corresponding stored DNA sample before

seeking a new blood sample from him that will definitively establish whether he is the person whose DNA was found at the scene. This intermediate step, it asserts, is necessary "to protect against creating false investigatory leads that would otherwise infringe the liberty of the misidentified suspect, waste the resources of investigators and the courts, and undermine public trust in CODIS." It does not argue, significantly, that testing the CODIS results against the warehoused blood sample will aid in identifying a suspect; rather, it acknowledges that it is only one way of possibly eliminating an individual who may have been falsely identified (although clearly not the most definitive or expeditious way).

The government's argument is severely undercut by the fact that the CODIS database *has never led to a false identification of a suspect*, and the comparison with the blood drops contained in the government-controlled refrigerator has never proved to be of any utility.[8] Moreover, if by some remote chance, there was an unprecedented error in the CODIS system, that error would be swiftly discovered when the CODIS-identified suspect had a new blood sample drawn and the new sample was compared with the DNA found at the crime scene, as is the regular practice. For this reason alone, the government's rationale is wholly theoretical at best and, to put it bluntly, is entirely without merit.

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[8] The majority compares this reasoning to arguing that carrying a "spare tire" is unnecessary because the car has never suffered a flat. Maj. Op. at 18. The majority's choice of analogies, however, does not, among other things, account for the constitutional interest in privacy that must be forfeited in exchange for a means of comparison that is of little value and has never in its history found an error in CODIS. Contrary to the majority's apparent thesis, one could hardly say that electing to carry a spare tire causes substantial constitutional harm to anyone.

To understand the fallacy in the government's argument, it is necessary to first understand how the DNA identification system works. When investigators collect DNA evidence from a crime scene, a forensic laboratory analyzes the collected DNA to create a junk DNA profile and then searches the CODIS database to determine whether it corresponds with a profile already in the database. If it does, CODIS produces a "Match Report" that reveals the identity of the individual—now a suspect—on the basis of the DNA match. Based on the CODIS identification, law enforcement has probable cause to take a new sample of blood from the identified suspect. If the DNA in the new blood sample were to match the DNA sample found at the scene of the crime, the suspect's identification would be complete and his presence at the scene of the crime would be established. Instead of simply drawing the new blood sample from the suspect, however, the government takes an additional unnecessary step that serves little purpose and is made possible only by the imposition of constitutional injury on millions of individuals. The unnecessary step consists of comparing the CODIS profile with the stored blood sample, purportedly to confirm the accuracy of the CODIS identification. On this basis, the government justifies the retention of the blood samples.

The need for the comparison of the CODIS profile to the blood sample is self-evidently of little or no practical value and is greatly outweighed by the harm that the retention of the blood samples causes. First, any error in the CODIS profile would be swiftly revealed were the unnecessary step eliminated by simply drawing a sample of blood from the CODIS-identified suspect and comparing the new DNA sample to the DNA found at the crime scene. This step would definitively answer the question whether the suspect was

correctly identified and was present at the crime scene. No comparison between the CODIS profile and the warehoused blood sample answers that question. Thus, it is clear that the intermediate step of comparing the CODIS profile to the stored blood sample provides no investigatory benefit. The government would continue to ensure the accuracy of the CODIS identification if it returned the DNA samples by drawing a confirmation sample of blood from the suspect.

Second, the most that testing the CODIS profile against the stored blood samples could conceivably show is that there might be an error in *either* the CODIS profile or in the stored blood sample. Not only would the accuracy of the CODIS profile be shown earlier and more definitively, without the stored blood samples, by following the normal procedure—a procedure law enforcement has always used—of comparing the profile to a new blood sample drawn from the CODIS-identified suspect, but comparing the CODIS profile to the stored blood sample is a far less reliable method of detecting an error in the CODIS profile. In the remote possibility that a discrepancy was discovered between the stored blood sample and the CODIS profile, it would be at least as likely to have been caused by a mishandling of the blood sample as by an error in CODIS. Furthermore, testing the CODIS profile against the stored sample cannot reveal an error that exists in *both* the blood sample and the CODIS profile, for example, if an analyst erroneously misidentified both the sample and the profile. More troubling, matching the CODIS profile against the stored sample could even be harmful to the investigative process: if the stored sample did not match the CODIS profile, it could result in the termination of the investigation

or, at the very least, cast doubt on what might actually be an accurate CODIS profile.[9]

The government claims, nonetheless, that it can justify the retention of Kriesel's blood sample, and the ten million other blood samples, on the ground that the comparison of the CODIS profile with the warehoused blood sample may (in the rare instance it reveals an error) avoid the risk of CODIS producing a false lead that could (1) "infringe the liberty of the misidentified suspect"; (2) "waste the resources of investigators and the courts"; and (3) "undermine public trust in CODIS." None of these justifications pertains to the government's ability to identify or apprehend a suspect. Each one pertains to not taking a blood sample from the wrong person as a result of a CODIS misidentification. As a result, none of these three justifications, nor the combination of them all, can even begin to sustain the government's burden of showing that the retention of Kriesel's blood sample, and that of tens of millions of other Americans, is reasonable.

First, in the highly unlikely chance that a CODIS identification were erroneous, all that could occur would be that the falsely identified individual would have to unnecessarily provide another blood sample some time after he had provided the original and it would reveal the CODIS

[9] For purposes of this dissent, I take the government's word that if the results of the comparison between the stored blood and the CODIS profile showed a possible error of some kind, it would terminate the investigation. I find it hard to believe, however, that the government would actually forego the opportunity to draw an additional sample of blood from the CODIS-identified individual. Of course, in such a case the government's rationale of avoiding the unnecessary taking of a new blood sample based on a false lead is without merit.

misidentification. To be sure, this would be an unfortunate occurrence, but avoiding this wholly theoretical and comparatively minor infringement on the suspect's rights cannot, by any measure, justify the retention of the entirety of that individual's, and millions of others', private genetic information for the rest of their lives. In any event, in the unlikely case that CODIS were to produce a false identification, it would be with respect to an individual whose profile was already in CODIS and whose blood sample has been taken previously and used to enter data from his junk DNA into the system. That individual knows that the inclusion of his junk DNA profile in CODIS could mean that DNA evidence from a crime scene could lead law enforcement to confirm or eliminate the possibility that his DNA matches the crime scene DNA. As Kriesel himself attests, it is far preferable to face the possibility that he might someday have another blood sample drawn than to have his entire private genetic code indefinitely retained by the government without any guarantee that it will remain secure.

Next, contrary to the government's argument, it is not a burden on law enforcement that an investigator might have to expend a minimal amount of time to obtain a new DNA sample from a possibly misidentified suspect. A primary duty of law enforcement is to investigate leads, even if they sometimes turn out to be false. If the risk of a false lead truly were a burden, we would have abandoned the practice of basing investigations on fingerprints long ago. When a fingerprint taken from a crime scene matches a fingerprint in the database, no analyst obtains the original inked card and conducts a confirmatory analysis of the fingerprint. The minimal burden on CODIS-misidentified suspects, which is unlikely ever to occur, and the equally unlikely waste of

investigator's time, does not even begin to rival the injury to individuals, whose DNA samples containing their most private genetic information will be retained by the government indefinitely. Moreover, the waste of time and money, if any, that would result from a false identification— which has never occurred—cannot conceivably justify the tens if not hundreds of millions of dollars expended on maintaining a totally unnecessary and wholly pointless system of collecting and maintaining tens of millions of blood samples indefinitely in a national warehouse. Terminating that unproductive system would, in fact, result in the savings of more than sufficient funds to permit the hiring of numerous investigators who could go about the business of solving crimes and making this country a safer place in which to live.

Finally, the government has no support, whatsoever, for its assertion that a totally unnecessary comparison between a CODIS profile and a stored blood sample containing private genetic data would prevent the risk that an error in CODIS may "undermine the public trust in CODIS." First, we do not know that a flaw revealed by a failure of the stored blood sample to match the CODIS profile would reveal a flaw in the CODIS system rather than a mishandling or other error involving the blood sample. Second, the government's thesis depends on two assumptions without any supporting evidence: (1) that a CODIS error would be newsworthy enough that the entire public would learn of the mistake; and (2) that the public would lose confidence in CODIS because of a false identification that causes no harm at all and is corrected immediately when the wrongly suspected individual gives a blood sample that demonstrates that he was not at the scene. The majority's argument that the "credibility" of the system depends on this "double-check" suffers from the same flaws.

Maj. Op. at 18. Further, whatever the risk that the public perception of CODIS may be undermined by a false match, it cannot begin to rival the level of concern that the public would have if it learned that this court approved the government's maintenance of a library of millions of individuals' blood samples that contain highly private genetic information that could be made public as a result of a governmental failure to maintain proper security.

The government's fundamental interest in the CODIS database is in identifying the suspect who committed the particular crime. Using the stored blood sample to test the accuracy of the CODIS result does not aid in that identification whatsoever, but simply wastes millions of dollars in taxpayer funds and invades the basic rights of millions of Americans. The accuracy of the identification made by CODIS would be established more quickly and with more certainty if the government did not interject the entirely unnecessary and unhelpful comparison with the stored blood sample and instead proceeded directly to the taking of a new blood sample from the individual identified by CODIS. Only by taking a new blood sample from the suspect can law enforcement establish both identity and presence at the crime scene—the most important facts to the investigation. Further, the insubstantiality of the government's purported need for the potentially counter-productive matching of the CODIS profile to the warehoused blood sample is proven by the fact that the CODIS database system *has never resulted in a false identification* and, thus, has never required the "confirmation" provided by the secondary use of the stored sample. In sum, the government's interest in conducting a wholly unnecessary secondary test that has proven to be of no practical utility or benefit but serves only to delay or impede the criminal

investigation is not a "legitimate reason to retain the property." *Kaczynski*, 416 F.3d at 974 (citation omitted).

Because the property, the return of which Kriesel seeks, consists of blood samples containing intensely private genetic information of over ten million Americans, and because the government's purported reason for retaining that property to confirm the CODIS identification is almost, if not entirely, without merit, the majority should have rejected this justification out of hand. This rationale cannot possibly meet the standard of "reasonableness under all of the circumstances," *Ramsden*, 2 F.3d at 326 (citation omitted), in light of the harm to our individual right to privacy that results from the government's very possession of and access to this information and the possibility that in the future others may gain such access as well.

B.

The government's second justification for the retention of Kriesel's DNA sample is that it is necessary for its quality assurance check program. It conducts its quality assurance check by semi-annually "randomly re-testing 1% of samples that were received by the FBI laboratory in the previous six months." The usefulness of Kriesel's blood sample in this check is nil. The government does not use any blood sample that is older than six months. Nonetheless, it attempts to use the existence of the procedure to justify the retention of Kriesel's sample, which it obtained more than six months prior to the district court's decision.

Kriesel relinquished his DNA to his probation officer on June 30, 2008, and it was uploaded into CODIS on April 29,

2010. Kriesel's blood sample has been retained long past the six-month-period in which the government might have randomly selected it as a part of its quality assurance check. As the district court recognized in the order below, "[Kriesel's] sample is no longer in the pool of samples that might be used for quality control. Therefore, quality control is not a legitimate reason for the Government to retain Kriesel's [blood sample]."

Nevertheless, the government argues that the retention of Kriesel's blood sample is necessary because some day, if there is ever a false CODIS match, it would investigate whether the error was caused by a "flaw in administrative or laboratory procedure or performance," which may have affected the accuracy of other CODIS profiles as well. It adds that having all the DNA samples ever taken might prove helpful in this effort. This is, of course, a very remote possibility indeed, and a possibility that cannot justify the retention of the millions of blood samples with the highly private genetic information they contain. Certainly it is not sufficient for the government to carry its burden of showing that its retention of Kriesel's DNA is reasonable under all of the circumstances.

Not only is it extremely unlikely that a process that has been 100% accurate for the twenty-year history of the CODIS program will ever produce an erroneous identification, but it is even more unlikely that an error would be anything more than an isolated mistake. It is even more unlikely that, if it were more than an isolated mistake, the error could be discovered only through the retesting of blood samples taken long ago and kept for many years in a government-controlled refrigerator. Far more likely, the normal quality assurance check, which is designed precisely to make certain that no

systemic error occurs, or other methods that experts have developed or may develop for checking on systemic errors will effectively identify and help cure any such flaw in the system.

The government's retention of the blood samples is "unreasonable" if its "legitimate interests can be satisfied even if the property is returned." *United States v. Kaczynski*, 416 F.3d 971, 975, n.6 (9th Cir. 2005) (citation omitted). Notwithstanding its burden of justifying the retention of all of the blood samples it obtains, the government does nothing more than assert that conducting its quality assurance program would be "an impossible task if the samples were not retained." This assertion, however, is without support and contradicted by the government's own policies. Not only has the retention of blood samples contributed nothing to the current accuracy rate of 100% because CODIS has never misidentified a suspect, but the government makes no effort to explain why other methods of quality control would be less effective. Moreover, the quality assurance standards require the retention of blood samples only "[w]here possible." Fed. Bureau of Investigation, *Quality Assurance Standards for DNA Databasing Laboratories*, at 7.2. Evidently, without some samples the desired level of quality assurance *can* be attained. It is particularly significant that the government fails to explain why a system using representative samples could not be employed rather than retaining every single drop of blood ever obtained from former suspects or wrong-doers. In short, the government's mere assertions do not meet its burden of demonstrating that its interest in quality assurance cannot be met without the indefinite retention of all blood samples that it has ever taken.

For what it is worth, no other investigative tool that we currently use, whether it be voice identification, fingerprinting, handwriting analysis, or any other scientific or semi-scientific method, is perfect. None in fact has nearly as good a record as CODIS. Each tool is intended to aid in investigation, not to supplant it entirely. Our criminal justice system successfully deterred and punished crime for hundreds of years before the use of DNA evidence became standard practice. If CODIS identifies the wrong individual, it is no more likely that in the end a criminal will go free or, certainly not, that someone wrongly accused will be convicted. The taking of a new blood sample from an individual identified by CODIS is standard practice, and if CODIS erroneously identified someone, the DNA extracted from the new blood sample would not match the DNA taken from the crime scene and the error would be discovered immediately. Although, conceivably, investigators might temporarily have to go about investigations the old-fashioned way if a system-wide flaw developed, the government's assertion, without support, that the only way to correct that highly unlikely circumstance would be through the use of the old blood samples stored in a warehouse years ago is so remote as to fall short of justifying retention of the ten million or more blood samples in question. Certainly it is outweighed by the public's security in knowing that the government is not keeping the blood samples of millions of Americans containing intensely private and secret genetic information.

Again, the government has not met its burden of demonstrating that "it has a 'legitimate reason to retain the property,'" *Kaczynski*, 416 F.3d at 974 (citation omitted), based on the theoretical possibility that if it retains over 10,000,000 samples, there may some day be an error in the

system that could only be discovered and resolved if all of those samples are retained. The government's second rationale is unreasonable and entirely without merit. Certainly, when weighed against Kriesel's privacy interests, it is clear that the continued retention of his DNA is not reasonable "under all of the circumstances." *Ramsden v. United States*, 2 F.3d 322, 326 (9th Cir. 1993) (quoting Fed. R. Crim. P. 41, advisory committee's notes).

C.

Finally, combining the two justifications, as the majority seems to do, still falls far short of meeting the "reasonableness under all of the circumstances" standard. *Ramsden v. United States*, 2 F.3d 322, 326 (9th Cir. 1993) (citation omitted). Neither justification that the majority endorses has any true merit,[10] and the totality of the circumstances includes Kriesel's substantial interest in the return of his blood sample to maintain his right to privacy in, not the identifying data entered into CODIS, but the remaining 99.9999% of Kriesel's genetic code.

The majority dismisses any privacy concerns because (1) Kriesel no longer presses a Fourth Amendment claim as an independent reason for return of his DNA sample, (2) scientific discoveries have not yet made clear that junk DNA contains sensitive genetic data, (3) the record on appeal does

[10] It is clear that retention of DNA samples is not necessary to a trustworthy DNA database because Germany, among other countries, explicitly requires the destruction of blood or other DNA samples after analysts have created the database profile. KRIMSKY & SIMONCELLI, GENETIC JUSTICE at 210.

not reflect an expansion of the government's DNA collection and analysis program, and (4) Kriesel's privacy concerns are too speculative to give them considerable weight. None of these reasons is correct.

First, Kriesel's privacy interests—interests protected by the Fourth Amendment regardless of whether Kriesel maintains a separate Fourth Amendment claim—are an important consideration in evaluating a Rule 41(g) motion. Indeed, interests such as Kriesel's are precisely why we have a procedure by which aggrieved individuals can seek the return of their property. "Rule 41(g) is concerned with those whose property or *privacy interests* are impaired by the seizure." *United States v. Comprehensive Drug Testing, Inc.*, 621 F.3d 1162, 1173 (9th Cir. 2010) (emphasis added). The rule makes Kriesel's privacy interests central to the question of reasonableness. Kriesel may have dropped his separate Fourth Amendment claim, but he did not abandon his argument that the retention of his blood sample violated his right to privacy.

Second, much more than junk DNA is at issue because the government has retained the entirety of Kriesel's genetic material, not just his junk DNA. The majority permits that "if scientific discoveries make clear that junk DNA reveals more about individuals than we have previously understood, we should reconsider the government's DNA collection programs." Maj. Op. at 21 (citing *Kriesel I*, 508 F.3d 941, 948 n.10 (9th Cir. 2007)). Again, this misses the point because the government is not only retaining the junk DNA, but *all of the DNA*. We do not need scientists to discover anything new to know that a full specimen of an individual's DNA reveals private information about that individual's

predisposition for certain diseases and disorders, paternity and other familial relationships, and racial ancestry.

Third, the majority's assurance that the record does not reveal an expansion or intent to expand the government's DNA program is incorrect and negated by the government's brief, which contains an entire section titled: "*Accommodating advancements in DNA identification technology is a legitimate reason for retaining Kriesel's blood sample.*" Currently, the CODIS database compares junk DNA profiles based on 13 core STR loci, but it is about to expand. The FBI, through its CODIS Core Loci Working Group, has already announced its proposed expansion of the current CODIS system to include additional loci and has moved into the "validation and then implementation phases of the project."[11] Expanding CODIS does not require legislative approval. All the FBI needs to do is provide Congress with written notice 180 days before implementing the new technology. The Justice for All Act, Pub. L. 108-405, § 203(f), 118 Stat. 2260, 2271 (2004). Clearly the government does intend to expand its use of the stored DNA as technology advances. In any event, expansion or no expansion, we have never before decided whether the government's interests in the CODIS database justify the indefinite retention of all of the blood samples it has ever collected, which contain all the private genetic data of those individuals. We must decide that question now.

[11] FBI, *Planned Process and Timeline for Implementation of Additional CODIS Core Loci*, *available at* <http://www.fbi.gov/about-us/lab/biometric-analysis/codis/planned-process-and-timeline-for-implementation-of-additional-codis-core-loci>.

Finally, the majority cites a recent Supreme Court case on standing for the proposition that Kriesel's "speculative" concerns about possible future uses of his DNA cannot justify his request for the return of his blood sample. Maj. Op. at 21 (citing *Clapper v. Amnesty Int'l USA*, 133 S. Ct. 1138 (2013)). The case that the majority cites is inapposite. *Amnesty International* addresses the requirements for standing, but, as the majority concedes, Kriesel is an "aggrieved person" under Rule 41(g) and, thus, has standing. Moreover, Kriesel's circumstances bear no resemblance to those of the complaining individuals in *Amnesty International* who could not provide any evidence whatsoever that the government's foreign surveillance program had intercepted any of their communications with clients and associates abroad who may have been targeted for surveillance. In contrast, Kriesel knows, we know, and the government admits that it has and will not return his genetic material.

Kriesel's privacy interest is not mere speculation about future *uses* of his most intimate genetic data, but rather is the fact that the government *has possession and control over* Kriesel's private information. *See United States v. Mitchell*, 652 F.3d 387, 424 (3d Cir. 2011) (en banc) (Rendell, J., dissenting) (explaining that an individual's privacy interest is in the government's seizure of private data, not whether it "can only use the subset of that information that serve to identify you"). It is the government's possession and control of Kriesel's most intimate genetic information that invades his right to privacy. Thus, Kriesel's concerns are real and legitimate, not speculation or mere conjecture.

An assessment of the totality of the circumstances makes clear that the government has not met its burden of showing

that "it has a 'legitimate reason to retain the property.'" *Kaczynski*, 416 F.3d at 974 (citation omitted). Because the retention of that property is not reasonable under all of the circumstances, this court is required to reverse. Although I believe that it should be obvious why Kriesel has an important protectable interest in keeping his entire genetic profile private, I will explain, in Section II, for the benefit of those who are not yet persuaded, the extent of that interest and the harm caused by the government's retention of his blood sample.

II.

A.

Kriesel's privacy interests in the retained blood sample are nothing short of overwhelming. "DNA stores and reveals massive amounts of personal, private data about the individual," *United States v. Kincade*, 379 F.3d 813, 842, n.3 (9th Cir. 2004) (en banc) (Gould, J., concurring), including information regarding current health, predisposition to certain diseases including mental illness and alcoholism, behavioral traits such as propensity for violence or criminal behavior,[12] sex and sexual orientation, ethnic background, and familial relationships. *See, e.g.*, SHELDON KRIMSKY & TANIA SIMONCELLI, GENETIC JUSTICE 229, 231–32 (2011). The government's storage of millions of individuals' blood samples presents a salient risk to individuals' privacy because,

[12] A more intimate example: researchers have linked a gene found in men to the heightened potential for cheating, marital discord, and divorce. Shankar Vedantam, *Study Links Gene Variant in Men to Marital Discord*, WASHINGTON POST, Sept. 2, 2008, at A2.

regardless of current technological capabilities, "the advance of science promises to make stored DNA only more revealing in time." *Kincade*, 379 F.3d at 842 n.3 (Gould, J., concurring).

The government explicitly stated its intention to pursue technological advancements which would enable it to expand CODIS. The government is currently in the process of validating and implementing new STR loci for inclusion in the CODIS database.[13] *See* FBI Website *supra* note 11. Thus, Kriesel's concern for the future of his DNA sample cannot be assuaged by the majority's belief that the government will not expand its current use of those samples.[14] In the process of including additional STR loci in the CODIS database, the government will reanalyze the DNA taken from Kriesel as well as that of all other Americans who have DNA samples on file with the federal government.

The only limit on the government's use of advancements in technology to enhance the CODIS database is contained in a note to the Justice for All Act, which provides that:

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[13] The government argues that the addition of these STR loci would increase the likelihood of obtaining a match with degraded DNA samples obtained from crime scenes, and facilitate matches with DNA databases that are used internationally and that rely on a different set of STR loci.

[14] In the Fourth Amendment context, the Supreme Court recognized that advancements in technology cannot be ignored, explaining that its analysis "must take account of more sophisticated systems that are already in use or in development." *Kyllo v. United States*, 533 U.S. 27, 36 (2001). Nonetheless, the majority fails to account for the mountains of evidence suggesting advancement in technology will lead directly to expansions of the government's use of the blood samples it stores.

> [i]f the Department of Justice plans to modify or supplement the core genetic markers needed for compatibility with the CODIS system, it shall *notify* the Judiciary Committee of the Senate and the Judiciary Committee of the House of Representatives in writing not later than 180 days before any change is made and explain the reasons for such change.

Pub. L. No. 108-405, § 203(f) (2004) (emphasis added). This notice provision is the only apparent limitation on the expansion of DNA profiles included within CODIS. In short, nothing is stopping the government from expanding CODIS. To put it in terms of Kriesel's right to privacy, if he cannot retrieve his retained blood sample (which the majority opinion prevents him and others in his circumstances from doing), the government is going to reanalyze his DNA to code the genetic data revealed by the new STR loci in the near future.

The government has statutory authority to use its indefinite access to stored blood samples in any capacity justified by "law enforcement identification purposes." 42 U.S.C. § 14132(b)(3)(A). However, "law enforcement identification purposes" have not been specifically defined or circumscribed by Congress or the courts. Whatever limitation envisioned by restricting use of blood samples to only those used for "law enforcement identification purposes," it does not prevent the reanalysis or testing of stored blood samples for certain genetic traits or for familial relationships.[15] Moreover,

[15] Several states conduct familial searching, whereby CODIS identifies profiles that closely match the DNA taken from the crime scene (also known as "partial matches"), suggesting that the CODIS-identified

as we recognized in *Kriesel I*, regardless of the statutory limitations, concerns that the government may use DNA samples "beyond identification purposes are real and legitimate." 508 F.3d 941, 948 (9th Cir. 2007).

"[L]aw enforcement identification purposes" could include retesting for certain behavior traits. For example, behavior geneticists have been researching a purported "crime gene" that could lead to the use of genetic material for "preventive detentions or other means of social control for those identified as genetically predisposed to criminality." Elizabeth E. Joh, *Reclaiming "Abandoned" DNA: The Fourth Amendment and Genetic Privacy*, 100 NW. U. L. REV. 857, 876-77 (2006); *see also* Ewen Callaway, *"Gangsta Gene" Identified in US Teens*, NEW SCIENTIST, June 19, 2009 (describing findings that a certain expression of this gene resulted in individuals who were twice as likely to join a gang). As amicus points

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individuals may be close biological relatives of the perpetrator. Natalie Ram, *Fortuity and Forensic Familial Identification*, 63 STAN. L. REV. 751, 771–72 & n.99 (2011). The primary problem with familial searching is that CODIS cannot say for certain if the individual identified is a family member or not. Thus, investigators must do additional analysis of the DNA to narrow the list of partial matches to those actually corresponding to family members. Under California's familial searching protocol, for example, DNA laboratories use the stored blood samples to conduct Y-chromosome analysis which can confirm male biological links because the Y-chromosome is inherited from the father. Information Bulletin from Edmund G. Brown, Jr., Attorney General, DNA Partial Match (Crime Scene DNA Profile to Offender) Policy No. 2008-BFS-01 (2008). This Y-chromosome analysis could reveal intimate secrets of familial relationships such as the identities of biological parents in a closed adoption, a sperm or egg donor's identity, or misattributed paternity. Erin Murphy, *Relative Doubt: Familial Searches of DNA Databases*, 109 MICH. L. REV. 291, 315 (2010).

out, "[i]t is not hard to imagine the government arguing that 'law enforcement identification purposes' includes identification of a roster of people who should be subjected to heightened surveillance because their DNA includes the 'violence gene.'"

A belief that the government will not attempt to make further use of the genetic information it stores is belied not only by CODIS's path of expansion, but by our nation's history of crediting the insidious tenets of the eugenics and criminal anthropology movements, which, in their heyday, justified the forced sterilization of the mentally disabled. *See Cleburne v. Cleburne Living Ctr.*, 473 U.S. 432, 463 (1985) (Marshall, J., concurring in the judgment) ("[Twenty-nine] States enacted compulsory eugenic sterilization laws between 1907 and 1931." (citing J. Landman, Human Sterilization 302-303 (1932)). Justice Holmes went so far to write:

> It is better for all the world, if instead of waiting to execute degenerate offspring for crime, or to let them starve for their imbecility, society can prevent those who are manifestly unfit from continuing their kind. . . . Three generations of imbeciles are enough.

Buck v. Bell, 274 U.S. 200, 207 (1927).

Although we have come a long way, our nation's history is a not so distant memory. Our history of using genetic information against its own citizens motivated the passing of the Genetic Information Nondiscrimination Act of 2008. The Congressional findings state:

> (2) The early science of genetics became the basis of State laws that provided for the sterilization of persons having presumed genetic ''defects'' such as mental retardation, mental disease, epilepsy, blindness, and hearing loss, among other conditions. The first sterilization law was enacted in the State of Indiana in 1907. By 1981, a majority of States adopted sterilization laws to ''correct'' apparent genetic traits or tendencies. Many of these State laws have since been repealed, and many have been modified to include essential constitutional requirements of due process and equal protection. *However, the current explosion in the science of genetics, and the history of sterilization laws by the States based on early genetic science, compels Congressional action in this area.*

Genetic Information Nondiscrimination Act of 2008, Pub. L. No. 110–233, § 2, 122 Stat. 881 (emphasis added). The only sure way to avoid such a risk is to give individuals, rather than the government, the ultimate say regarding whether their genetic material will reside permanently in a government-controlled refrigerator.

The majority believes that the statutory penalties for unauthorized uses of stored blood samples resolve any concerns about the misuse of genetic data. *See* 42 U.S.C. § 14135e. But no one can assure the over ten million Americans whose blood samples are currently held by the government, or the untold millions to come, that their samples will never be misused. The quick pace of technological

advancement has led to the risk of privacy violations that we could never have imagined a short while ago. As some researchers have noted, "[S]o long as the samples are retained, there exists the possibility that they could be disclosed to or accessed by third parties or used in ways that result in the disclosure of highly confidential information or for malicious or oppressive purposes." KRIMSKY & SIMONCELLI, GENETIC JUSTICE at 237. The solace Kriesel seeks through his 41(g) motion is to know with certainty that he is the keeper, and the only keeper, of his genetic material containing all the private data about his heredity and health that the genetic code reveals. His only alternative is "Trust Your Government," an alternative that historically has proven in many instances to be no alternative at all.

B.

The majority's opinion has far-reaching and devastating implications for each of our interests in keeping the most intimate details of our health and family life private. As the government's DNA collection practices expand, which they inevitably will, it will be able to take and keep genetic material from almost everyone. *See Kincade*, 379 F.3d at 872 (Kozinski, J., dissenting) ("If collecting DNA fingerprints can be justified on the basis of the plurality's multi-factor, gestalt high-wire act, then it's hard to see how we can keep the database from expanding to include everybody.").

For years now, we have permitted DNA collection from individuals convicted of dozens of relatively non-serious offenses. *See Kincade*, 379 F.3d at 847 (Reinhardt, J., dissenting) (detailing a non-exhaustive list of offenses for which the government collects DNA samples). Just recently,

the Supreme Court endorsed the collection of DNA samples from those individuals merely arrested for a qualifying offense. *Maryland v. King*, 133 S. Ct. 1958 (2013). The Supreme Court's decision has dramatically increased the category of individuals who may have their DNA seized by government officials. Estimates suggest that 52 percent of men are arrested at some point in their lifetime. Carl Bialik, *Data on Arrest Records Aren't Always by the Book*, WALL ST. J., Nov. 18, 2009. Another study found that between 30.2 and 41.4 percent of young adults are arrested for a non-traffic offense by the age of 23. Brame, Turner, Paternoster, & Bushway, *Cumulative Prevalence of Arrest From Ages 8 to 23 in a National Sample*, 129 PEDIATRICS 21 (2011). Although the majority in *Maryland v. King* emphasizes that its decision applies to only persons arrested for "serious offenses," 133 S. Ct. at 1978, the reality, as correctly noted by Justice Scalia, is that no limiting principle prevents the collection of DNA from every arrestee and "your DNA can be taken and entered into a national DNA database if you are ever arrested, rightly or wrongly, and for whatever reason," 133 S. Ct. 1989 (Scalia, J., dissenting). Recent regulations have enabled DNA collection from persons arrested or detained by federal agencies,[16] including the national park service, for the most minor of infractions committed on federal land, such as: cleaning or washing any personal property, fish, animal, or bathing at a faucet not provided for that purpose (36 C.F.R.

[16] The regulations providing for DNA collection by federal agencies are authorized by 42 U.S.C. § 14135a(a)(1)(A). The regulations are codified in 28 C.F.R. § 28.12(b), which provides that "[a]ny agency of the United States that arrests or detains individuals or supervises individuals facing charges shall collect DNA samples from individuals who are arrested, facing charges, or convicted," and 28 C.F.R. § 28.12(f)(2), which provides for the inclusion of collected samples in CODIS.

§ 261.16(c)); water skiing in an area where prohibited by order (36 C.F.R. § 261.58(o)); allowing a pet dog off its leash (36 C.F.R. § 261.16(j)); distributing handbills without permission (38 C.F.R. § 1.218(a)(9)); and parking illegally (38 C.F.R. 1.218(a)(12)). Now, none of these people may seek the return of their DNA sample.

The FBI also has statutory authority to keep the blood samples for "other persons whose DNA samples are collected under applicable legal authorities." 42 U.S.C. § 14132(a)(1)(C). This is an expanding category, which currently includes every blood sample taken pursuant to state law,[17] but in the future could include additional groups of people, such as blood samples submitted to prove familial relationships for immigration purposes[18].

[17] In states that generally permit the collection of DNA, local authorities have started to "devise their own policies" and, as a result, are taking DNA samples "from people on the mere suspicion of a crime, long before arrest, and holding on to it regardless of the outcome." Joseph Goldstein, *Police Agencies Are Assembling Records of DNA*, N.Y. TIMES, June 13, 2013 at A1.

[18] The Citizenship and Immigration Services ("CIS") Ombudsman has recommended that United States Citizenship and Immigration Services ("USCIS") move toward using DNA analysis to confirm familial relationships. Recommendation from Ombudsman Prakash Khatri, CIS, to Director Emilio T. Gonzalez, USCIS (Apr. 12, 2006). Although not mandatory yet, a Senior Policy Counsel report prepared more recently for USCIS urges further expansion, including mandatory DNA collection from all immigration applicants. USCIS Senior Policy Council, Options Paper, *Expanding DNA Testing in the Immigration Process* (undated) at 1–3.

What is perhaps worse, the government retains blood samples given voluntarily to help solve crimes or find missing persons and DNA evidence seized from the scene of a crime. 42 U.S.C. § 14132(a). Several communities have already engaged in "sweeps" in which police ask everyone in a community to surrender a DNA sample in order to solve a particular crime. In the small town of Truro, Massachusetts, police sought DNA samples from all 790 male residents, "pay[ing] close attention to those who refuse to provide DNA" in their hunt for a suspect in an unsolved rape and murder case. Pam Belluck, *To Try to Net a Killer, Police Ask a Small Town's Men for DNA*, N.Y. TIMES, Jan. 10, 2005, at A1. This circumstance poses a serious problem for anyone who objects to having his DNA sample taken and included in the CODIS database and stored indefinitely. By refusing to give a sample, that individual then becomes a suspect in the crime based on his suspicious refusal to give a blood sample. Rosemary Roberts, *Open Your Mouth for a DNA Swab*, NEWS AND RECORD, Jan. 14, 2005. By giving the sample, he surrenders his most fundamental privacy interest in not having his basic genetic information fall permanently into the hands of a government that is not always sensitive to the importance of the constitutional right to privacy.

More alarming is that unless the courts stand up to protect the fundamental right to privacy of all Americans, seemingly small steps to expand the government's DNA collection program will over time result in a national DNA database that includes every person and every person's full genetic code. This is not merely speculative. Politicians and academics have advanced serious proposals for expanding CODIS to include the entire population. *See, e.g.*, Declan McCullagh, *What to Do With DNA Data?*, WIRED NEWS, Nov. 18, 1999 (reporting

that New York City Mayor Rudolph Giuliani proposed collecting DNA samples from every newborn); D.H. Kaye & Michael E. Smith, *DNA Identification Databases: Legality, Legitimacy, and the Case for Population-Wide Coverage*, 2003 WIS. L. REV. 413, 450–59 (2003) (recommending a population-wide DNA database). And today's decision permits the government to retain, not only the identifying information contained in CODIS profiles, but also the private genetic information contained in each of our blood samples.

As we approach a society in which we all have blood samples retained by the government in a warehouse in Northern Virginia (or in some other warehouse) and each of our blood samples contains the most private genetic information, capable of revealing intimate details of our family, health, and ancestry, today's decision will, in retrospect, be viewed as a major step toward the elimination of our fundamental privacy rights. We would do well to reconsider what the majority has done today. Otherwise, we will surely come to regret this unfortunate, unprecedented, and misguided decision.

I respectfully dissent.