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Support of Familial DNA Testing in Illinois Criminal Investigation

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Support of Familial DNA Testing in Illinois Criminal Investigation

ALEXANDRA AHERNE¹

Currently, the use of familial DNA searches in the United States ranges from outlawed to unregulated. Without clear and meaningful legislation for utilizing this powerful law enforcement tool, States risk missing the opportunity to generate positive leads in investigations, or infringing on the rights of their citizens. In Illinois, through the implementation of a thoughtful policy, familial DNA testing should be approved for use in certain prescribed situations. This paper details the scientific background of DNA testing, the usefulness in investigations, and the implication of violating privacy rights. This paper concludes with a proposal for an Illinois rule that outlines a viable implementation.

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INTRODUCTION

Scientific breakthroughs in genetic research (since the mid-1980s)² grant experts the ability to sequence the human genome, access the genetic

1. Sincere thanks to Katherine Headley and the entire NIU Law Review.
2. JOHN M. BUTLER, FORENSIC DNA TYPING: BIOLOGY, TECHNOLOGY, AND GENETICS OF STR MARKERS 2 (2d ed. 2005).

information provided therein, and advance efforts in several disciplines.³ One discipline is law enforcement and its use of genetic information from deoxyribonucleic acid (DNA) samples as evidence to convict, or conversely to exonerate, individuals who either are or are not the perpetrators of crimes.⁴ Using DNA evidence to exonerate wrongfully convicted people is perceived as a determinative method in carrying out justice.⁵ And using DNA samples to identify the correct suspects for prosecution is parallel to exoneration.⁶ Broadly speaking, if police can use DNA evidence to exculpate a suspect, they should in turn be able to inculcate a suspect from the same type of evidence.⁷

DNA evidence is a valuable component in potentially identifying a suspect in a criminal investigation, but it is not the definitive tool that law enforcement has at its disposal for positive identification of a suspect.⁸ A DNA sample is analyzed for a narrow set of biological markers, that set suggests potential matches, but does not always provide just one determinative match.⁹ The biological information collected from a sample is a relatively small section of a DNA sequence, compared to the entire genome,¹⁰ and that small amount is not a resolutely unique identifier of a sole human being.¹¹

A genetic sample from blood, hair, skin, or other biological material can be recovered from a crime scene¹² because the perpetrator deposited it there during the commission of a crime. Once police have recovered that sample, tested it for matches in the database, and identified the perpetrator because the collected sample matches a profile that is already in the database,¹³ that type of search is hypothetically a fair search mechanism by police that does

3. *The Human Genome Project Completion: Frequently Asked Questions*, NAT'L HUM. GENOME RES. INST. (Oct. 30, 2010), <https://www.genome.gov/11006943/human-genome-project-completion-frequently-asked-questions/> [<https://perma.cc/R9QJ-QXK2>] (including advancements in medical treatment, ancestral mapping, and personal health and wellness applications in addition to law enforcement).

4. *E.g.* Erin E. Murphy, *The Art in the Science of DNA: A Layperson's Guide to the Subjectivity Inherent in Forensic DNA Typing*, 58 EMORY L. J. 489, 490 (2008).

5. *Id.*

6. *Id.* at 493.

7. *Contra id.* at 492-93 (arguing that using DNA typing to inculcate a person is different from using it to exculpate a person).

8. *See generally* Michael Chamberlain, *Familial DNA Searching: A Proponent's Perspective*, CRIM. JUST., Spring 2012, at 18, 25.

9. *See id.*

10. Murphy, *supra* note 4, at 494.

11. *Id.*

12. JOHN M. BUTLER, FUNDAMENTALS OF FORENSIC DNA TYPING 20 (2009). The sample needed to conduct a DNA test is exceedingly small. If one cell (with one nucleus) is recovered, the DNA sample within that nucleus will provide the entire DNA sequence of that individual. *Id.*

13. Murphy, *supra* note 4, at 494.

not implicate anyone besides the person who committed the offense. In such a case, police investigators are using evidence left by the perpetrator, which matches a prior sample submitted to the database by that same criminal offender.¹⁴

A scenario of that sort results in a positive identification due to diligent investigation and police work that located the sample and a justified search of the stored DNA samples in the system, which have come from previous offenders to make the match.¹⁵ It is the contention of this Comment that such a DNA sample, despite failing to return a direct match, can still fairly—and legally—locate the criminal perpetrator through a familial match of a close relative.

The focus of this Comment is to advocate in favor of codifying into the Illinois Administrative Code¹⁶ a familial DNA search regulation. To understand why the argument for implementation is being made, in Part I a cursory explanation of the scientific process of DNA typing will be given. Next, in Part II, this Comment will examine the current use and maintenance of the federal Combined DNA Index System (CODIS) and the Illinois forensic database in Part III. The process for developing a family DNA search provision will be detailed in Part IV. The following Part V will provide statistical information on familial DNA searching, which supports the premise that a narrow application of this technique can be instrumental in solving crimes. Additionally, Part V will examine the way that the metro Chicago area affects the crime of the entire state, and how familial DNA testing could be a powerful, additional tool for solving egregious and public-safety threatening crimes such as homicide, at a time when the murder clearance rate of Chicago is at a record low.¹⁷ Part VI of this Comment uses case studies from California and Colorado to demonstrate current legislation enacted elsewhere in the United States. Part VII will address the extent of privacy invasion that comes along with familial DNA testing. Lastly, in Part VIII, this Comment will provide an ethical examination into the gathering of DNA information, either voluntarily¹⁸ or surreptitiously,¹⁹ and how the racial demographics of the United States' prison and jail systems, which disproportionately incarcerate

14. See generally Chamberlain, *supra* note 8.

15. *Id.*

16. ILL. ADMIN. CODE, tit. 1, § 1 (2018).

17. Chip Mitchell & Michael Lansu, *Chicago's Murder-Clearance Rate Falls to Historic Low*, WBEZ NEWS (Jan. 26, 2017), <https://www.wbez.org/shows/wbez-news/chicagos-murderclearance-rate-falls-to-historic-low/fecb9e20-595d-405b-8dd8-331a83f09e1d> [<https://perma.cc/ZXD5-XATJ>].

18. Murphy, *supra* note 4, at 509. Through so-called DNA “dragnets” where people in a certain geographic area voluntarily deposit a DNA sample to rule themselves out of further investigation. *Id.*

19. Through police surveillance and investigation as seen in the “Grim Sleeper” case discussed in Part VI.

minorities in relation to the general population,²⁰ may inherently discriminate against marginalized and minority communities.

I. THE DNA TYPING PROCESS

The DNA testing referenced throughout this Comment refers to the “nuclear” DNA that is found in the nucleus of cells,²¹ as opposed to mitochondrial²² DNA. The process of extracting the strands of DNA and examining them is known as DNA typing.²³ The first use of DNA typing took place in England and was referred to as DNA “fingerprinting” based on the extraction of the individually unique information garnered from the DNA samples.²⁴ The explanation of the extraction and identification of DNA components is a complicated and nuanced process, however, in an attempt to provide a holistic perspective of the scientific aspect, it will be cursorily addressed below.

The DNA of every human is found within twenty-three pairs of chromosomes; twenty-two of these pairs are classified as autosomal, and the remaining pair of chromosomes is classified sex-determinative – that is, what determines a person’s sex.²⁵ Autosomal chromosomes are examined, as opposed to the sex chromosomes, to ascertain human identity.²⁶

Genetic information is coded within the body in six layers of increasing specificity.²⁷ John M. Butler, a National Institute of Standards and Technology (NIST) Fellow²⁸ and Special Assistant to the Director of Forensic Science, who holds a doctorate from the University of Virginia in DNA typing, and has written five textbooks on the subject,²⁹ uses the following helpful analogy by pairing each type of genetic information with printed information one could find in a library:³⁰ if the human body is the “library”, then each subpart in the body corresponds to a smaller piece of information related to a book, as seen in the chart that follows.

Printed Information	Genetic Information ³¹
---------------------	-----------------------------------

20. See graphs, *infra* note 185-88.

21. Murphy, *supra* note 4, at 493.

22. Joyce Kim et al., *Policy Implications for Familial Searching*, 2 INVESTIGATIVE GENETICS 22 (Nov. 1, 2011), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3253037/#B4> [<https://perma.cc/EP5H-UUQ8>]. “Analysis of mitochondrial DNA (mtDNA) serves a similar function to YSTR analysis in reducing coincidental partial matches and narrowing the pool of true relatives by implicating maternal lineage. However, sequencing of mtDNA presents a greater technical challenge and expense than YSTR analysis, so routine mtDNA testing may be impractical.” (citations omitted). *Id.*

23. *Id.*

24. BUTLER, *supra* note 2, at 2.

25. BUTLER, *supra* note 2, at 20.

26. *Id.*

27. BUTLER, *supra* note 12, at 20.

31. *Id.*

Library	Body
Book	Cell
Chapter	Nucleus
Page	Chromosome
Paragraph	Locus or Gene
Word	Short DNA Sequence
Letter	DNA Nucleotide

The forensic testing discussed within this Comment is that which analyzes information at the locus or gene layer. The locus is the location of the gene, or other DNA marker, on the chromosome.³² The information that is examined does not code for any actual traits,³³ and is sometimes referred to as “junk”³⁴ DNA.³⁵ However it can be argued that what may be considered junk DNA because it did not tell scientists any specific information about the subject’s genes, is now used to render sensitive identification information.³⁶ The information is interpreted by noting the order and number of times the nucleobases³⁷ of adenine (A), thymine (T), cytosine (C), and guanine (G), are repeated at a certain locus.³⁸ This is the information that is examined in a forensic DNA test.³⁹

29. John Butler, NAT’L INST. STANDARDS & TECH. (Apr. 4, 2017), https://www.nist.gov/people/john-butler#profile-staff_profile [<https://perma.cc/KU2Z-C7D4>].

30. BUTLER, *supra* note 12, at 20.

31. *Id.*

32. *Id.* at 25.

33. *Id.*

34. *Id.* “Junk” being the term used because this DNA does not code for a measurable trait such as eye or hair color. Erin E. Murphy, *Familial DNA Searches, The Opposing Viewpoint*, CRIM. JUST., Spring 2012, 19.

35. Erin E. Murphy, *Familial DNA Searches, The Opposing Viewpoint*, CRIM. JUST., Spring 2012, 19.

36. *Id.* at 4.

37. BUTLER, *supra* note 12, at 20. A nucleobase is the “base” component, one of three parts that make up nucleic acids including DNA. *Id.*

38. *Id.*

39. *Id.* at 26. Butler explains using the following analogy:

To help understand these concepts better, consider a simple analogy. Suppose you are in a room with a group of people and are conducting a study of twins. You instruct each member of the group to line up matched with his or her twin (homologue). You notice that there are 22 sets of identical twins (autosomes) and one fraternal set consisting of one boy and one girl (sex chromosomes). You have the twin pairs rearrange their line by average height from tallest pair of twins to the shortest with the fraternal twins at the end and number the pairs 1 through 23 beginning with the tallest. Now choose a location on one twin, say the right forearm (locus). Compare that to the right forearm of the other twin. What is different (allele)? Perhaps one has a mole, freckles, more hair. There are several possibilities

When determining a match, there must be the same markers at a certain number of loci to be considered significant.⁴⁰ The Federal CODIS now examines twenty “core” loci when testing for a match – an increase implemented January 1, 2017 – compared to the prior thirteen loci⁴¹ required to be considered a match.⁴² As technology advances, the search parameters evolve to be more defined, and the results increasingly more precise.

One caveat of DNA sequencing is that although each person has his or her own unique genetic code, the sheer volume of composite chromosomal subparts allows for the chance occurrence of matching loci at a significant number of alleles, even between nonrelated persons.⁴³ Nevertheless, matching sequences may be a positive indicator of familial relation because relatives are more likely than strangers to have similar DNA sequences based on the “principles of inheritance.”⁴⁴ This is because at each locus there are two alleles, and the components of each allele are inherited one from each parent.⁴⁵ The reason siblings share more of the same characteristics than two random strangers⁴⁶ is because there is a greater likelihood that they will inherit the same combination of alleles from their shared parents.⁴⁷ When comparing all twenty loci, the more common matches at each locus, the more likely the two samples are related.

When two samples are being compared there are three distinct levels of positive matching that determine how closely related the two samples are.⁴⁸ When two samples are compared for a direct hit,⁴⁹ the program is searching

that could make them different (heterozygous) or perhaps they both look exactly the same (homozygous).

Id.

40. See generally *Frequently Asked Questions on CODIS and NDIS*, FED. BUREAU OF INVESTIGATION, <https://www.fbi.gov/services/laboratory/biometric-analysis/codis/codis-and-ndis-fact-sheet> [<https://perma.cc/K5N3-CFL4>].

41. *Id.* at #19.

42. *Id.*

43. Chamberlain, *supra* note 8, at 26.

44. *Id.*

45. *Id.*

46. *Id.*

47. BUTLER *supra* note 2, at 27 (indicating that identical twins will not just have some matching alleles but will have entirely shared allele matches resulting in their identical appearance).

48. Eva Steinberger & Gary Sims, *Finding Criminals Through the DNA of Their Relatives—Familial Searching of the California Offender DNA Database*, PROSECUTOR’S BRIEF, Winter 2009, at 29, 30.

49. *Id.* at 28 (understanding a “full” match to be when the offender DNA directly matches a database sample, as opposed to a “partial” match which does not indicate one specific individual).

for matches at all examined loci.⁵⁰ Running again for a partial match (which might return a relative) looks for fewer matches at each locus. The third search provides results that includes even fewer matching components.⁵¹ Respectively, these are known as high,⁵² moderate, and low-stringency searches.⁵³ A familial search may be considered a “low-stringency” type of search⁵⁴ depending on the number of shared alleles that must be present to determine a match.

The nucleobases of A, T, C, and G are the components that can be examined at the loci.⁵⁵ Scientists have developed a method to analyze small regions of repeating sequence of those letters, referred to as short tandem repeat (STR) regions.⁵⁶ This STR typing is the standard that is used for forensic testing at the state and national levels across the United States.⁵⁷

An additional element of the DNA typing that helps narrow the field of matches has to do with the presence of the Y (male) chromosome.⁵⁸ Since a Y chromosome is only present in males, and is only passed on to males, a male offspring will inherit the STR sequence from his father, will pass it on to his male children, and will share it with his male siblings.⁵⁹ Any time “Y-STR” typing is specified, the testing will only relate to searches of males.⁶⁰ Due to the composition of the prison system being majority male,⁶¹ this search mechanism described in this Comment is focused solely on males.

II. COMBINED DNA INDEX SYSTEM

In 1990, the Federal Bureau of Investigation (FBI) began a pilot program to store DNA samples in a national database, which is still in use today.⁶² This database is known as the Combined DNA Index System (CODIS)

50. Erin E. Murphy, *Relative Doubt: Familial Searches of DNA Databases*, 109 MICH. L. REV. 291, 297 (2010).

51. *Id.*

52. Steinberger & Sims, *supra* note 48, at 30. “High stringency matches require all alleles to match, with the same number of alleles in each sample.” *Id.*

53. *Frequently Asked Questions on CODIS and NDIS*, *supra* note 40, at #28-32.

54. Murphy, *supra* note 4, at 510.

55. *See generally* BUTLER, *supra* note 2, at 20.

56. *See generally* BUTLER, *supra* note 2, at 5.

57. Steinberger & Sims, *supra* note 48, at 29.

58. *Id.*

59. *Id.*

60. *Id.*

61. *Inmate Gender*, FED. BUREAU PRISONS (Feb. 24, 2018), https://www.bop.gov/about/statistics/statistics_inmate_gender.jsp [<https://perma.cc/3KL8-QC4T>] (93.2% Male and 6.8% Female).

62. *Combined DNA Index System (CODIS)*, FED. BUREAU INVESTIGATION, <https://www.fbi.gov/services/laboratory/biometric-analysis/codis> [<https://perma.cc/RJ27-W72N>].

and is maintained by the FBI.⁶³ Similarly, Illinois operates a state index referred to as the DNA Indexing Laboratory which conducts analysis of DNA samples that can then be compared against the CODIS database for potential matches.⁶⁴ CODIS is both the name for the database itself and the computer program that runs the forensic information to search for matches.⁶⁵

Since 2009, CODIS has housed the DNA samples collected by the Bureau of Prisons for persons convicted of a Federal offense, or a qualifying District of Columbia offense.⁶⁶ In addition, it also contains collections made by, “[a]ny agency of the United States that arrests or detains individuals or supervises individuals facing charges . . . who are arrested, facing charges, or convicted, and from non-United States persons who are detained under the authority of the United States.”⁶⁷

Once these samples are obtained, they remain in the database and can be utilized by investigators of crimes throughout the country who are working with DNA samples as evidence.⁶⁸ The most desirable outcome is when the crime scene sample and the profile of a known convicted offender (or potentially a known arrestee)⁶⁹ in the CODIS database result in a full match.⁷⁰

However, when this ideal scenario does not transpire, another search can be conducted where the computer program is not seeking a complete match, but only a substantial partial match.⁷¹ This is the point where familial searches could be utilized. A different search would be conducted with the computer software to identify profiles in the system that do *not* provide direct allele matches at each locus.⁷² This search would instead look for a predetermined number of matches at a statistically significant number of loci, not a complete match. This second scenario could narrow the field of suspects to relatives of a person already in the system by identifying profiles with a significant number of matching alleles to the sample.⁷³ This would allow law enforcement officers to continue the investigation of the crime where the

63. *Id.*

64. *Specialties*, ILL. ST. POLICE, <http://www.isp.state.il.us/Forensics/html/Specializations.html> [<https://perma.cc/V2VN-NWTA>].

65. *Federal DNA Database*, FED. BUREAU INVESTIGATION, <https://www.fbi.gov/services/laboratory/biometric-analysis/federal-dna-database> [<https://perma.cc/N7V2-E58R>].

66. 28 C.F.R. § 28.12 (2017).

67. *Id.*

68. *See generally Combined DNA Index System (CODIS)*, *supra* note 62.

69. *Id.* (noting that some states collect information from arrestees as well as offenders).

70. Chamberlain, *supra* note 8, at 24.

71. *Id.*

72. Steinberger & Sims, *supra* note 48, at 30. Because this would be taking place after a search for a direct match was made and returned no hits. The second time around the stringency requirements would look for matches at a lesser number of loci. *Id.*

73. *Id.*

sample originated. Low-stringency searches are problematic because there may be some matching alleles, but the volume of low-stringency matches dilutes the field and makes it hard to identify any meaningful leads.⁷⁴

Within the FBI there is a unit called the Federal DNA Database Unit (FDDU), which aids forensic investigations nationwide by collecting samples of genetic material, conducting the analysis to develop a profile, and searching matches within CODIS.⁷⁵ The tasks of this unit demonstrate a privacy safeguard⁷⁶ that is built in to the search process.⁷⁷ Only after the FDDU has confirmed that a sample profile has matched with a database profile will the subject's personal information be relayed back to the laboratory that is facilitating the search.⁷⁸ At that point the lab can pass on the information to the investigating agency.⁷⁹

In the first decade and a half of its existence, the FDDU uploaded one million sample profiles to the National DNA Index System (NDIS).⁸⁰ This number demonstrates the magnitude of data that is already collected and available for use in ongoing investigations. As the processing time for cataloging samples decreases and becomes more efficient and less costly, it is likely that the number of samples will continue to increase.⁸¹ Opponents of familial testing will be pushing back against a mounting arsenal of potentially critical data in facilitating crime-solving operations.⁸²

The process of analyzing two separate sample profiles to determine the matching number of alleles involves calculating the "likelihood ratio" (sometimes referred to as a kinship index) that the shared information between the samples indicates a probable familial relationship.⁸³

Calculating a likelihood ratio takes into account all 13 markers typed in a CODIS profile, the allele frequencies of the 26 detected alleles and potential mutation events at each marker. The likelihood ratio can vary based on the frequency of each marker across the population, the number of loci

74. *Id.* at 31.

75. *Federal DNA Database, supra* note 65.

76. *Id.* The FDDU is another agency that creates a shield of anonymity between the lab identifying names of potential familial matches and the original agency that sent in the sample profile. *Id.*

77. *Federal DNA Database, supra* note 65.

78. *Id.*

79. *Id.*

80. *Id.*

81. *See generally Combined DNA Index System (CODIS), supra* note 62, at section "The Future."

82. It may be harder to support opposition to familial DNA testing on privacy grounds if a large enough percent of the general population is included in the database.

83. Kim et. al, *supra* note 22.

compared in the profiles and the prior odds of the alleged relationship. The likelihood ratio calculation allows investigators to rank the individuals within the pool of candidates according to the probability that the evidence profile is related to the CODIS profile.⁸⁴

The above information is meant to provide an explanation of the actual amount of physical DNA material that must be matching in each sample (however as of 2018, the standard number of markers to test for is twenty loci, as opposed to thirteen in 2011).⁸⁵ For reference, according to some estimates, “siblings on average share roughly 16.7 alleles in common.”⁸⁶

On a final note pertaining to the CODIS database, samples that are mandatory to be submitted, or submitted voluntarily, are not necessarily kept there for eternity without the ability to have them removed, when appropriate.⁸⁷ DNA records may be expunged from the NDIS database for qualifying convictions that have been overturned, or arrests that resulted in the charges being dismissed, acquitted, or not filed.⁸⁸ Under 42 U.S.C. §

84. *Id.*

85. *Frequently Asked Questions on CODIS and NDIS*, *supra* note 40.

86. Murphy, *supra* note 50, at 295 (citing Henry T. Greely et al., *Family Ties: The Use of DNA Offender Databases to Catch Offenders' Kin*, 34 J. L. MED. & ETHICS 248, 253 (2006)).

87. *Frequently Asked Questions on CODIS and NDIS*, *supra* note 40, at section “DNA Fingerprint Act of 2005, Expungement Policy.”

88. *Id.*

14132(d)(1)(A),⁸⁹ a request for expungement can be presented to the FBI,⁹⁰ and if granted, the DNA profile will be completely removed and destroyed.⁹¹

III. THE ILLINOIS DATABASE

The Illinois DNA Database Law of 2011⁹² allows the Illinois State Police to obtain samples of biological material from those in custody.⁹³ The act requires submission for:

- (i) valid law enforcement identification purposes and as required by the Federal Bureau of Investigation for participation in the National DNA database, (ii) technology validation purposes, (iii) a population statistics database, (iv) quality assurance purposes if personally identifying information is removed, (v) assisting in the defense of the criminally accused pursuant to Section 116-5 of the Code of Criminal Procedure of 1963, or (vi) identifying and assisting in the

89. 42 U.S.C. §14132(d)(1)(A) (2016) (current version at 34 U.S.C. § 12592).
Index to facilitate law enforcement exchange of DNA identification information.

(d) Expungement of records

(1) By Director

(A) The Director of the Federal Bureau of Investigation shall promptly expunge from the index described in subsection (a) the DNA analysis of a person included in the index--

(i) on the basis of conviction for a qualifying Federal offense or a qualifying District of Columbia offense (as determined under sections 40702 and 40703 of this title, respectively), if the Director receives, for each conviction of the person of a qualifying offense, a certified copy of a final court order establishing that such conviction has been overturned; or

(ii) on the basis of an arrest under the authority of the United States, if the Attorney General receives, for each charge against the person on the basis of which the analysis was or could have been included in the index, a certified copy of a final court order establishing that such charge has been dismissed or has resulted in an acquittal or that no charge was filed within the applicable time period.

(B) For purposes of subparagraph (A), the term "qualifying offense" means any of the following offenses:

- (i) A qualifying Federal offense, as determined under section 40702 of this title.
- (ii) A qualifying District of Columbia offense, as determined under section 40703 of this title.
- (iii) A qualifying military offense, as determined under section 1565 of Title 10.

90. However, it should be noted that removal from a state database is not a binding procedure on the federal database.

91. *Frequently Asked Questions on CODIS and NDIS*, *supra* note 40, at #24.

92. 730 ILL. COMP. STAT. ANN. 5/5-4-3 (West, Westlaw through P.A. 100-585 of the 2018 Reg. Sess.) (providing all scenarios for submission of biological material for state or national collection database).

93. *Id.*

prosecution of a person who is suspected of committing a sexual assault as defined in Section 1a of the Sexual Assault Survivors Emergency Treatment Act.⁹⁴

Based on this section, the Illinois State Police are permitted to gather DNA samples for reasons related to criminal investigation and adjudication; however, not enumerated within this section of the law is gathering a sample for use in identifying biologically similar or related matches to evidence samples. It would be possible to include a provision for familial DNA testing under this section provided that the Illinois State Police suggest an amendment through the Illinois Administrative Procedure Act.⁹⁵

The Illinois database is different from the federal CODIS. The federal CODIS refers to both the database of information and the software used to search for potential matches.⁹⁶ The subsection of the CODIS database which houses the profiles from DNA samples on the national level is the National DNA Index System.⁹⁷ The NDIS⁹⁸ includes profiles from federal, state, and local forensic laboratories.⁹⁹

IV. THE PROCESS FOR DEVELOPING A FAMILIAL DNA SEARCH PROVISION FOR ILLINOIS LAW ENFORCEMENT

The Illinois Administrative Procedure Act (IAPA)¹⁰⁰ grants state agencies the ability to enact new rules.¹⁰¹ To expand the current scope of the Administrative Code section that relates to DNA sampling and indexing for

94. *Id.*

95. 5 ILL. COMP. STAT. ANN. 100/1-1 (West, Westlaw through P.A. 100-585 of the 2018 Reg. Sess.).

96. *Frequently Asked Questions on CODIS and NDIS*, *supra* note 40.

97. *Id.*

98. *Id.*

99. See generally Stephen Mercer & Jessica Gabel, *Shadow Dwellers: The Under-regulated World of State and Local DNA Databases*, 69 N.Y.U. ANN. SURV. AM. L. 639 (2014) (referencing state and local databases which are not as regulated as the federal CODIS database).

100. 5 ILL. COMP. STAT. ANN. 100/1-1 (West, Westlaw through P.A. 100-585 of the 2018 Reg. Sess.).

101. 5 ILL. COMP. STAT. ANN. 100/5-6 (West, Westlaw through P.A. 100-585 of the 2018 Reg. Sess.).

Rulemaking conditions. All rulemaking authority exercised on or after the effective date of this amendatory Act of the 96th General Assembly is conditioned on the rules being adopted in accordance with all provisions of this Act and all rules and procedures of the Joint Committee on Administrative Rules (JCAR); any purported rule not so adopted, for whatever reason, including without limitation a decision of a court of competent

criminal investigation under the authority of the Illinois DNA Database Law of 2011,¹⁰² the Illinois State Police would need to propose a change in the legislation pursuant to the IAPA.¹⁰³ Under title 5, section 100/5-40 of the Illinois Compiled Statutes,¹⁰⁴ the provision for general rulemaking, several steps are required in order to enact a new rule. In brief, this process may include public notice, public hearing, and submission of a proposal to the Joint Commission on Administrative Rules (JCAR).¹⁰⁵

The first step is for the Illinois State Police to draft a new rule¹⁰⁶ or to determine where an amendment to a standing rule could be made in the current Administrative Code.¹⁰⁷ The relevant sections that pertain to this subject¹⁰⁸ are Title 20: Corrections, Criminal Justice, and Law Enforcement, Chapter II: Department of State Police, Part 1285: Sample Collection for Genetic Marker Indexing, Section: 1285.10-.20 (Subpart A: Promulgation) and Section 1285.30-.90 (Subpart B: Operations).¹⁰⁹ The pertinent language explaining the purpose is as follows:

- a) The purpose of this Part is to provide procedures and define responsibilities for the collection of body fluid samples from offenders or other individuals eligible per statute for collection and databasing. These samples are required by

jurisdiction holding any part of this Act or the rules or procedures of JCAR invalid, is unauthorized.

Id.

102. 730 ILL. COMP. STAT. ANN. 5/5-4-3(p) (West, Westlaw through P.A. 100-585 of the 2018 Reg. Sess.).

103. 5 ILL. COMP. STAT. ANN. 100/1-1 (West, Westlaw through P.A. 100-585 of the 2018 Reg. Sess.).

104. *Id.*

105. 5 ILL. COMP. STAT. ANN. 100/5-40 (West, Westlaw through P.A. 100-585 of the 2018 Reg. Sess.).

106. *See infra* Appendix A.

107. *Id.*

108. ILL. ADMIN. CODE tit. 20, § 1285.10 (2018).

109. The following are all the current sections with their headings:

ILL. ADMIN. CODE tit. 20, § 1285.10 (2018). Purpose.

ILL. ADMIN. CODE tit. 20, § 1285.20 (2018). Definitions.

ILL. ADMIN. CODE tit. 20, § 1285.30 (2018). Responsibilities.

ILL. ADMIN. CODE tit. 20, § 1285.40 (2018). Voluntary Samples.

ILL. ADMIN. CODE tit. 20, § 1285.50 (2018). Procedures for Collection.

ILL. ADMIN. CODE tit. 20, § 1285.60 (2018). Privacy Protection.

ILL. ADMIN. CODE tit. 20, § 1285.70 (2018). Expungement of Records.

ILL. ADMIN. CODE tit. 20, § 1285.80 (2018). Non-participation.

ILL. ADMIN. CODE tit. 20, § 1285.90 (2018). Maintenance of Genetic Marker Groupings.

law to be collected to enable genetic marker grouping analysis and indexing. The results shall be available for future criminal investigations and other forensic analysis purposes. Genetic marker grouping analysis and indexing may include, but is not limited to, those procedures known as DNA profiling, DNA indexing, and other processes used to identify distinctive genetic characteristics. b) A match between casework evidence DNA samples from a criminal investigation and DNA samples from a state or federal offender DNA database may be used only to sustain probable cause for the issuance of a warrant to obtain a separate DNA sample for confirmation.

c) If it is determined that a sample was not eligible for the database after the sample was matched during a search, the laboratory will proceed as if the sample was in fact eligible. The profile will be removed from CODIS, and the sample will be retained until such time an expungement order is received.¹¹⁰

This Comment proposes that a new section under Subpart B should be added which addresses using collected samples explicitly for familial DNA searches.¹¹¹ JCAR currently has a rule pertaining to the collection of DNA samples for indexing¹¹² and maintenance so that “[t]he results shall be available for future criminal investigations and other forensic analysis purposes.”¹¹³ The Illinois State Police have the authority to collect this information from offenders, and search for matches from samples from open cases. But, according to Section 1285.10(b), samples “may be used only to sustain probable cause for the issuance of a warrant to obtain a separate DNA sample for confirmation.”¹¹⁴ The samples in this type of scenario would identify matches between offender profiles in the database and an evidence sample from a crime scene, but they would not apply to partial matches that would open up the investigation to a larger suspect pool.

What is needed is a new section that specifically addresses using collected samples for aiding investigations by identifying partial matches (that may be familial matches) that are already in NDIS and may develop into a hit of a relative’s profile. This would expand the purpose of this section, but

110. ILL. ADMIN. CODE tit. 20, § 1285.10 (2018) (Purpose).

111. *Id.*

112. *Id.*

113. *Id.* at § 1285.10(a).

114. ILL. ADMIN. CODE tit. 20, § 1285.10(b) (2018).

it would remain in line with the principle of furthering criminal investigation and forensic analysis.¹¹⁵

This would be the proper method to implement this legislative change because the Illinois State Police is an agency of the state of Illinois, and an agency is authorized to propose a change pursuant to the Illinois Administrative Procedure Act.¹¹⁶

V. FAMILIAL DNA SEARCHES: STATISTICAL INFORMATION

The following information, provided by the FBI, details the use of the NDIS by the state of Illinois. The following statistics represent the role of the NDIS in aiding Illinois as of September 2017.¹¹⁷

Offender Profiles	586,201
Arrestee Profiles	422
Forensic Profiles	40,731
NDIS Participating Labs	9
Investigations Aided	22,059

Including the population of the city of Chicago, nearly half of the state resides in Cook County; the July 2016 census information lists the population of Cook County at 5,203,499 people.¹¹⁸ The population of the entire state of Illinois is 12,801,539.¹¹⁹ These numbers, in conjunction with the decline in Chicago’s murder clearance rate¹²⁰ aim to impart the potential that familial DNA testing has for reversing the decades long decline in Chicago.¹²¹

115. *Id.* at § 1285.10(a).

116. 5 ILL. COMP. STAT. ANN. § 100/1-20 (West, Westlaw through P.A. 100-585 of the 2018 Reg. Sess.).

117. *CODIS-NDIS Statistics*, FBI SERVS., <https://www.fbi.gov/services/laboratory/biometric-analysis/codis/ndis-statistics> [<https://perma.cc/UP6W-JP63>].

118. *QuickFacts, Cook County, Illinois*, U.S. CENSUS BUREAU, <https://www.census.gov/quickfacts/fact/table/cookcountyillinois/PST045216#viewtop> [<https://perma.cc/MN6R-NW68>].

119. *Id.*

120. Mitchell & Lansu, *supra* note 17.

121. Because the majority of the state population is concentrated in Cook County, the crime in Chicago affects the greatest number of Illinoisans. This group stands to benefit the most from implication of any novel criminal investigation tool.

With over half a million profiles, it behooves the law enforcement of Illinois to utilize the bank of biological data to search for direct and indirect matches, which creates a broader pool of potential suspects in each investigation.

VI. OTHER STATE CASE STUDIES

As of 2018, there are currently eleven states that have familial DNA searching policies.¹²² Each state emphasizes the use of familial DNA searches as the final effort to identify suspects in a criminal investigation, when all other leads have been exhausted. The protocol for each state is different,¹²³ but they all pay deference to the sensitivity of these particular searches in implicating potentially uninvolved parties in a criminal investigation based on similar DNA profiles.

As this forensic technique becomes more prevalent in criminal investigation,¹²⁴ mainstream media can further awareness by providing some of the most compelling arguments for familial testing through reporting investigations that have benefitted directly from its use or by raising awareness to the types of cases where it could be implemented. Examples include violent crimes “presenting significant public safety issues,”¹²⁵ as well as cold cases that may benefit from new DNA evidence that has been uncovered in the years since the original case went cold. Ultimately, the Illinois State Police can promulgate an additional rule to the Administrative Code, but if it does not receive public approval through the comment and hearing period, a new rule may fail to be implemented, so it is useful to be forthright with the public about the possible use of familial testing, following the lead of the following states.

122. *Frequently Asked Questions on CODIS and NDIS*, *supra* note 40, at #34. Arkansas, California, Colorado, Florida, Michigan, Texas, Utah, Virginia, Wisconsin and Wyoming. Additionally, Ohio, also has enacted a pilot program as of 2016. *See Familial Search Policy and Procedures*, OHIO BCI CRIME LABORATORY (Nov. 9, 2016), <http://www.ohioattorneygeneral.gov/Files/Briefing-Room/News-Releases/BCI/Familial-Search-Policy-and-Procedures.aspx> [<https://perma.cc/N4UA-PJ5K>].

123. *See infra* Appendix B.

124. *Frequently Asked Questions on CODIS and NDIS*, *supra* note 40 (inferring that as more states adopt policies enabling familial DNA searching, it is becoming more prevalent in criminal investigations nationwide).

125. Chamberlain, *supra* note 8, at 26.

*California*¹²⁶

Of the eleven¹²⁷ states that have implemented some form of familial DNA testing, California was the first to enact legislation to use this search technique.¹²⁸ The parameters that surround a familial search create a limited amount of scenarios where it would be appropriate to conduct a familial test and pursue the investigation of a potential family member of the offender profile.¹²⁹ In response to the argument that familial DNA testing will unduly harm innocent family members of those in the CODIS system, California provides detailed safeguards against that from happening.¹³⁰ Foremost, the types of crimes that familial testing is eligible to be used for are limited to egregious crimes against society.¹³¹ This essentially limits the types of crimes to violent felonies.

126. George B. Anderson, Dir., Div. of Law Enf't for Edmund G. Brown, Jr., Attorney Gen., Cal. Dep't of Justice, to All Cal. Law Enf't Agencies & Dist. Attorneys Offices, Information Bulletin Subject: DNA Partial Match (Crime Scene DNA Profile to Offender) Policy (Apr. 24, 2008), <http://www.dnaresource.com/documents/CAfamilialpolicy.pdf> [<https://perma.cc/T7Z8-SLNU>].

- 1) The crime scene DNA profile is a single-source profile.
- 2) The case is unsolved and all investigative leads have been exhausted.
- 3) A commitment is made by the agency and the prosecutor to further investigate the case if the name of the potentially related offender is eventually released.
- 4) Y-STR typing of the same crime scene evidence that yielded the submitted forensic unknown profile is completed by the submitting agency and is concordant with the offender's Y-STR type obtained by DOJ.
- 5) If the Y-STR profiles have been determined to be consistent, DOJ will review non-forensic information in order to identify additional evidence bearing on relatedness, if available.
- 6) A DOJ committee will discuss the case with the local law enforcement agency, the local laboratory, and the prosecutor's office. After reviewing all of the available information, the offender's name will be released unless there is a reason not to release it.
- 7) If the committee cannot reach consensus, the decision to release the name to the investigating agency will be made by the Attorney General or his designee.

Id.

127. *See infra* Appendix A.

128. *Memorandum of Understanding Familial Searching Protocol*, ST. CAL. DEP'T JUST. (June 14, 2011), <https://oag.ca.gov/sites/all/files/agweb/pdfs/bfs/fsc-mou-06142011.pdf>? [<https://perma.cc/2RAZ-B92G>] (enacting the policy April 24, 2008).

129. *Id.*

130. *Id.*

131. Kamala D. Harris, Attorney Gen., Cal. Dep't of Just., Information Bulletin Subject: DNA Familial Search Policy (Sept. 1, 2011) ("When a law enforcement agency is investigating an unsolved case that has critical public safety implications.").

A prerequisite to initiating a familial search starts with the completion of a “Memo of Understanding” (MOU) that must be signed by representatives from the investigating agency, the prosecuting agency, and the California Department of Justice.¹³² The investigating agency must meet certain criteria before conducting the search, including: the crime must currently be unsolved, be deemed serious, could critically impact public safety, and all other viable leads need to have been exhausted up until that point.¹³³ Furthermore, the investigating agency and the prosecuting agency must agree at this stage that a familial DNA test is the next course of action.¹³⁴ The last factor that must be addressed before continuing with this search is that the sample DNA from the crime scene must be from a single-source, as identified by initial analysis of the sample.¹³⁵ Obtaining a single-source sample can be difficult, especially in instances of violent crime where there is greater potential for blood, or other fluids, of both the perpetrator and the victim mixing.¹³⁶ The requirement for a single-source sample is a way that a search policy narrows the criteria for when a familial search will be approved.¹³⁷

Once it has been agreed upon and the above preliminary factors have been met,¹³⁸ then there are guidelines pertaining to the search itself. One guideline is how to proceed whether there is a “hit” between the sample and a known offender. Another is that both the investigating and prosecuting agencies must meet with the California Department of Justice before releasing the name of the convicted offender.¹³⁹ The MOU then sets forth the standard search procedures that the California Department of Justice must use, and the strict parameters for disclosing identifying information of people implicated in the search process.¹⁴⁰

A famous case out of California that was solved because of the use of familial DNA match is that of a serial killer in California known as the “Grim Sleeper”,¹⁴¹ who was active in the mid-1980s and resurfaced again in the

132. ST. CAL. DEP’T JUST., *supra* note 128.

133. *Id.*

134. *Id.*

135. *Id.*

136. Murphy, *supra* note 4, at 497.

137. BUTLER, *supra* note 2, at 42-50.

138. ST. CAL. DEP’T JUST., *supra* note 128, at #4 (including the prosecutor agreeing to prosecute the case).

139. *Id.* at #2.

140. *Id.* at #3.

141. Suzanne Zuppello, ‘Grim Sleeper’ Serial Killer: Everything You Need to Know, ROLLING STONE (Aug. 18, 2016), <https://www.rollingstone.com/culture/features/grim-sleeper-serial-killer-everything-you-need-to-know-w434604> (So-called because the killer “slept” the many years that went by without a known killing).

early 2000s.¹⁴² Police were able to use DNA samples that had been left at crime scenes and search the California offender database.¹⁴³ No direct matches were located, but then California Attorney General Jerry Brown authorized a search of the felon database for partial matches.¹⁴⁴ This led investigators to the identity of the killer's son, and through that name they were able to identify Ronnie David Franklin, Jr. – the man who was later convicted of the murder of 10 women.¹⁴⁵ Investigators used surveillance techniques and followed Franklin as the next step in the investigation once this new suspect had been identified.¹⁴⁶ The police obtained a DNA sample from Franklin by surreptitiously acquiring a discarded slice of pizza and utensils on which he left his DNA.¹⁴⁷ Without the authorization to search for partial matches, Franklin's DNA samples from the crime scenes would have resulted in dead ends. It is easy to see why this case is often cited in support of familial DNA testing, it is a textbook example of applying this technique with the outcome resulting in the arrest and conviction of a horrific murderer who had been terrorizing a community for decades.

Colorado

Another early adopter of legislation is Colorado, which enacted a policy in October 2009.¹⁴⁸ Colorado's policy has many of the same initial precautionary steps as California. These include: limiting the use of this method for unsolved crimes that may be critically dangerous to the public, requiring the crime scene sample to be from a single source, and determining that the sample is a single source through the initial testing.¹⁴⁹ This primary requirement of the policies demonstrates the importance that legislators and law enforcement give to the use of this search method, creates a standard for implementation that thoroughly attempts to narrow the possibility of mismatches, and permits searches only in the desperate and unique situations where this can be one final investigatory tactic. The following is from the final section of the policy memo:

142. See Suzanne Zuppello, 'Grim Sleeper' Serial Killer: Everything You Need to Know, *ROLLING STONE* (Aug. 18, 2016), <https://www.rollingstone.com/culture/features/grim-sleeper-serial-killer-everything-you-need-to-know-w434604>.

143. *Id.*

144. *Id.*

145. *Id.*

146. *Id.*

147. Marisa Gerber & James Queally, *The 'Grim Sleeper' is Sentenced to Death for String of Murders*, *L.A. TIMES* (Aug. 10, 2016, 3:35 PM), <http://www.latimes.com/local/lanow/la-me-grim-sleeper-sentencing-20160810-snap-story.html>.

148. Ronald C. Sloan, CBI Dir., Colo. Bureau of Investigation, *DNA Familial Search Policy* (Oct. 22, 2009).

149. *Id.*

Absent exigent circumstances, family members and relatives should only be contacted after initial investigative steps have been taken during the investigative process, to include first obtaining information from public and law enforcement authorized databases. Care should be taken to insure consideration of potential family issues before contacting family members. Potential issues constituting reasons for delaying contact with family members include:

- i. The possibility that a father is not aware of the existence of an offspring (the “unknown child” issue).
- ii. The possibility that a family might have assumed a child’s father is someone else (the “misbelieved paternity”).
- iii. The existence of other possible family privacy concerns.¹⁵⁰

This section is included to highlight the way Colorado codified into the policy the deference to privacy rights and the intention of keeping unwelcomed and potentially damaging information from coming to light absent proven necessity.¹⁵¹

The District Attorney of Denver, Colorado, in October 2009, Mitch Morrissey, led the charge to implement familial DNA testing in Colorado, specifically to further the investigation in a few high-profile cases.¹⁵² Morrissey pushed the FBI to grant him the ability to use the federal database to search for partial matches across state lines and to follow-up with those leads.¹⁵³ Morrissey changed the landscape and brought awareness and support to familial DNA testing in the mid-2000s, even if his efforts in those cases did not result in resolutions.¹⁵⁴

150. *Id.* at 4.

151. *Id.*

152. Murphy, *supra* note 50, at 293.

153. *Id.*

154. *Id.*

VII. CONSTITUTIONAL PRIVACY RIGHTS

Opponents of this position invoke murky constitutional violations in asserting that a lawful search of the DNA database and the utilization of public records to locate a relative of a match crosses constitutional rights.¹⁵⁵

In response to critics,¹⁵⁶ a near majority of the reservations asserted are predicated on the idea that law enforcement will use this technology without accountability or regulation.¹⁵⁷ This proposed legislation in Illinois could be modeled after California's.¹⁵⁸ The rules in California, as well as other states, include language that all prior investigation must have occurred before this type of testing can be undertaken as a last resort.¹⁵⁹ The invasion of privacy concerns implemented in familial DNA searches are cited as violating the Fourth Amendment.¹⁶⁰ In order to understand these concerns and to ultimately demonstrate that they are unfounded, a look at the purpose of the Fourth Amendment including cases involving interpretation of the provisions of the Fourth Amendment and application to the emerging field of familial DNA searching will be expounded upon here.

First, the Fourth Amendment provides the fundamental right of protection against the government unreasonably searching one's property or person without probable cause.¹⁶¹ The "unreasonable" provision, in absence of a hard and fast definition that applies in all situations, is meant to be a balancing test. "Unfortunately, there can be no ready test for determining reasonableness other than by balancing the need to search against the invasion, which the search entails."¹⁶² Depending on the facts of each case, certain searches may be considered unreasonable in one instance and reasonable in another.

The Fourth Amendment protects a person's privacy, that is his or her "right to be secure."¹⁶³ The expectation of privacy is not latent; as asserted by the Court, "[a] person [must] have exhibited an actual (subjective) expect-

155. See generally Henry T. Greely et al., *Family Ties: The Use of DNA Offender Databases to Catch Offenders' Kin*, 34 J. L. MED. & ETHICS 248, 257 (2006).

156. Murphy, *supra* note 4; Murphy, *supra* note 35; Murphy, *supra* note 50.

157. Murphy, *supra* note 50.

158. See generally ST. CAL. DEP'T JUST., *supra* note 128.

159. See *infra* Appendix B.

160. U.S. CONST. amend. IV ("The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.").

161. *Id.*

162. *Camara v. Mun. Court of S.F.*, 387 U.S. 523, 536-37 (1967).

163. U.S. CONST. amend. IV.

tation of privacy and, second, that the expectation be one that society is prepared to recognize as ‘reasonable’.”¹⁶⁴ Once an offender is compelled to submit a sample, and knows that sample will be in a database that is accessed by state or federal law enforcement agencies, it is without merit to argue that such an offender has a reasonable expectation that his or her biological sample is kept private.

In familial searches, the family member is not being subjected to any DNA collection without an escalation in the investigation, which, presumably supported by probable cause, may require a voluntary or court ordered DNA sample to be submitted for testing.¹⁶⁵ There is a distinction between requiring (or surreptitiously acquiring) a DNA sample from a suspect, and utilizing the already sanctioned and stored sample to conduct a search against a crime scene profile for partially matching biological information.¹⁶⁶ The assertion in this Comment is not that law enforcement should be able to collect DNA samples from people who are not suspected of crimes, but rather should utilize the genetic information provided by offenders in furthering investigative measures through partial DNA matches.

Understanding the Fourth Amendment’s protections provides useful framework for interpreting the lawfulness of using the DNA of one person to ultimately locate another.¹⁶⁷ Regardless, if the search mechanism is found to be constitutional, there is also a strong argument that there is no unreasonable “search” (minimally invasive procedures for acquiring samples, or voluntarily discarded samples) or “seizure” in conducting a DNA test on an evidence sample.¹⁶⁸ Particularly because biological information (through involuntary transfer of cells or bodily fluids) is often left in public places just by virtue of bodies traveling about the world, collection of those samples does not constitute a search or seizure through this method at all.¹⁶⁹

Once the subject of discussion becomes criminal offenders, society concedes that those people have relinquished some of their rights by violating the public trust in committing crime.¹⁷⁰ The DNA databases that are maintained by CODIS, or at the state levels, are comprised of samples from such offenders (Illinois statutorily defines what offenses require an offender to

164. Jules Epstein, *"Genetic Surveillance" – The Bogeyman Response to Familial DNA Investigations*, 2009 U. ILL. J. L. TECH. & POL'Y 141, 150 (2009) citing *Katz v. United States*, 389 U.S. 347, 361 (1967).

165. *See generally id.*

166. *Id.*

167. *Id.*

168. *Id.*

169. Jules Epstein, *"Genetic Surveillance" – The Bogeyman Response to Familial DNA Investigations*, 2009 U. ILL. J. L. TECH. & POL'Y 141, 150 (2009).

170. Consider depriving felons of the right to vote.

submit a sample).¹⁷¹ In Illinois, the offenses include first degree murder, home invasion, predatory criminal sexual assault of a child, aggravated criminal sexual assault, or criminal sexual assault.¹⁷² Once the sample is surrendered to law enforcement, the expectation that the DNA remains private is not being violated because offenders have lost the expectation of keeping that information private.¹⁷³

In sum, on its face, the Fourth Amendment seems to apply based on the invasion of privacy of relatives who may be implicated in a crime or at least an investigation of a crime based solely on their genetic relationship to another person. But upon examination, this argument fails because found DNA profiles are being tested against previously databased samples of criminal offenders who have relinquished their expectation of privacy with regard to that biological submission.

VIII. ETHICAL EXAMINATION

The ethical examination of this topic forces us to think not *can* we constitutionally implement familial DNA testing state or country-wide, but *should* we?¹⁷⁴ Do we as a society feel comfortable not only allowing people to be divided into two groups, namely those who have relatives in the system and those who do not,¹⁷⁵ and then codifying into law ways to manipulate one of those groups for use by law enforcement?¹⁷⁶ It is easy to posit at this juncture that yes, the benefits of using the forensic database system as it is already functioning outweighs the negative perception of, at best inconveniencing, and at worst wrongfully subjecting to inquiry, an innocent relative of a criminal offender who is actively being sought.¹⁷⁷

To extrapolate, if we allow searching of profiles for partial matches so that people who have not committed crimes, and are not otherwise implicated in the database, can be found, why not demand that everyone contribute a preemptive biological sample?¹⁷⁸ If a universal database existed, there would

171. See generally 730 ILL. COMP. STAT. ANN. § 5/5-4-3 (West, Westlaw through P.A. 100-585 of the 2018 Reg. Sess.).

172. 730 ILL. COMP. STAT. ANN. § 5/5-4-3(a-3.2)(A-E) (West, Westlaw through P.A. 100-585 of the 2018 Reg. Sess.).

173. (CODIS) – NDIS Statistics, *supra* note 117. Some states require DNA samples to be submitted from arrestees, before any final disposition of the case, which may conjure some different arguments regarding constitutionality. *Id.*

174. Personally, this subpart in particular has raised concerns that I have grappled with the most in forming the arguments for the implementation of this technique and is not a question I posit lightly.

175. Murphy, *supra* note 50, at 305.

176. *Id.*

177. *Id.*

178. *Id.* at 308.

no need to run moderate or low-stringency searches because, ostensibly, every search would return a direct match.¹⁷⁹ But there is no universal database for biological samples. For the inexplicable reasoning that stems from human ethical sensibility, society believes that people who have not committed crimes, or otherwise eroded the public's trust, should enjoy a level of privacy and autonomy over their body.¹⁸⁰ If this is the case, why then are we so quick to dismiss that right when it comes to a person who has not themselves surrendered it, but has a brother or father¹⁸¹ who has surrendered it through a previously committed crime?¹⁸² This query is at the heart of the discussion behind allowing for familial testing in *theory*: when it is not directly affecting someone we ourselves know and voluntarily taking affirmative action to subject ourselves to that same level of scrutiny.¹⁸³

Another main point that is used in criticism of familial testing is that the composition of the prisons and jails in the United States disproportionately represent minority populations, and, by instituting familial searches of those in custody or previous offenders, the resulting matches will further affect those same minority populations in a disparate way.¹⁸⁴

The Bureau of Prisons provides relevant data to demonstrate this claim. Below is the most recent update as of January 27, 2018. The four racial categories and their corresponding percentages represented in the federal prison population are as follows:¹⁸⁵

Race	# of Inmates	% of Inmates
Asian	2,698	1.5%
Black	69,363	37.9%
Native American	4,058	2.2%
White	106,805	58.4%

179. *Id.* at 328.

180. Erin E. Murphy, *Relative Doubt: Familial Searches of DNA Databases*, 109 MICH. L. REV. 291, 313 (2010).

181. See BUTLER, *supra* note 2, at 256 (explaining the Y-STR data comes from the male and the mtDNA from the female). Technically, another relative like a sister, mother, or female relative, could also be implicated but that search is not the focus of procedure using Y-STR typing as outlined in this Note.

182. *Id.*

183. Murphy, *supra* note 50, at 329. To extrapolate on Murphy's argument about universal databases: I think it is easy to favor the use of familial DNA in concept, but hard to consider surrendering one's own biological information to further the cause.

184. *Id.* at 304-5.

185. *Inmate Race*, FED. BUREAU PRISONS (Apr. 28, 2018), https://www.bop.gov/about/statistics/statistics_inmate_race.jsp [https://perma.cc/LQM8-KV5A].

countries of citizenship:¹⁸⁶

Country	# of Inmates	% of Inmates
Colombia	1,681	0.9%
Cuba	1,201	0.7%
Dominican Republic	1,447	0.8%
Mexico	23,751	13.0%
Other/Unknown	9,049	4.9%
United States	145,795	79.7%

and ethnicity:¹⁸⁷

Ethnicity	# of Inmates	% of Inmates
Hispanic	60,113	32.9%
Non-Hispanic	122,811	67.1%

The 2016 Census data for comparison is:¹⁸⁸

Race and Hispanic Origin	%
White alone	76.9%
Black or African American alone	13.3%
Am. Indian and Alaska Native alone	1.3%
Asian alone	5.7%
Native Hawaiian and Other Pacific Islander alone	0.2%
Two or More Races	2.6%
Hispanic or Latino	17.8%
White alone, not Hispanic or Latino	61.3%

From this high-level statistical information, Blacks comprise approximately forty percent of the prison population, but just over thirteen percent of the general population.¹⁸⁹ Those in the data that identify as Hispanic make up almost thirty-three percent of the prison population but just under eighteen percent of the general population.¹⁹⁰ This fact makes it impossible to dispute

186. *Inmate Citizenship*, FED. BUREAU PRISONS (Apr. 28, 2018), https://www.bop.gov/about/statistics/statistics_inmate_citizenship.jsp [https://perma.cc/SBZ7-SANX].

187. *Inmate Ethnicity*, FED. BUREAU PRISONS (Apr. 28, 2018), https://www.bop.gov/about/statistics/statistics_inmate_ethnicity.jsp [https://perma.cc/DZ7T-JQEX].

188. *QuickFacts, United States*, U.S. CENSUS BUREAU, <https://www.census.gov/quickfacts/fact/table/US/PST045217#qf-headnote-a> [https://perma.cc/CKC4-AMLX].

189. *Inmate Race*, *supra* note 185.

190. *Inmate Ethnicity*, *supra* note 187.

the fact that minorities are over-represented in prisons, but the commentary on that issue will not be examined in this Comment.

As explained by Greely, et. al,

Assume first that family structures are the same for African-Americans and for non-Hispanic U.S. Caucasians in the CODIS Offender Index. Assume further that the average person in the database has five living first degree relatives. (Data on this point has, thus far, proven impossible to find, certainly for offenders but even for adult males, either by race or in general). Under these assumptions, the 1.1 million African-Americans in the Offender Index will have 5.5 million first degree relatives, leading to a total of 6.6 million African-Americans “findable” through the database -- the offenders and their relatives. That constitutes about seventeen percent of all African-Americans. U.S. Caucasians (including non-African-American Hispanics) make up about sixty percent of the Offender Index or currently about 1.65 million people. They would have 8.25 million first degree relatives, for total coverage of 9.9 million people “findable” through the database. U.S. Caucasians, including non-African-American Hispanics, constitute about eighty-three percent of the American population or about 247 million people. The 9.9 million U.S. Caucasians who would be either in the Offender Index, or a first degree relative of someone in the Index would make up just four percent of the white population. Thus, more than four times as much of the African-American population as the U.S. Caucasian population would be “under surveillance” as a result of family forensic DNA and the vast majority of those people would be relatives of offenders, not offenders themselves. (If non-African-American Hispanics were analyzed separately from non-Hispanic U.S. Caucasians, the disproportion between African-Americans and U.S. Caucasians would be even greater).¹⁹¹

The above excerpt shows how the racial disparity in prisons translates directly to a disparate impact of familial searches on Black and Hispanic offenders.

In addition to the objective data that supports the premise that minority populations will be adversely impacted by familial DNA searches, there is

191. Greely et al., *supra* note 155, at 259.

also an increased possibility of subjective exploitation and abuse of the DNA databases,¹⁹² which will similarly have a negative impact on those same minority populations.¹⁹³ An argument against familial searches asserts the possibility that among communities of color the possibility of unwittingly implementing family members in any criminal investigation by reporting crime may be a deterrent to reporting crimes at all.¹⁹⁴ Perhaps a plausible consequence, but without data to examine, it is impossible to accept as an actuality. To rebut the suggestion that because of the composition of the prison population law enforcement should refrain from using familial DNA testing, the argument is that a discriminatory effect due to external factors does not make the method itself discriminatory or unconstitutional.¹⁹⁵

The American Civil Liberties Union (ACLU) of Illinois¹⁹⁶ opposes familial DNA testing as of 2011.¹⁹⁷ This position is supported by its stance that “[a]ll forensic DNA databases raise serious privacy and civil rights concerns”¹⁹⁸ In the event that a familial DNA provision is eventually adopted however, the ACLU suggests some protections that mirror many other states’ safeguards.¹⁹⁹ Borrowing from established legislation in California, such protocol should include a case that is unsolved, has “critical public safety implications”, and all other leads have been exhausted.²⁰⁰ The investigation would then have to follow a protocol for requesting a modified DNA typing search for a return of partial matches that may be indicative of family relationships.²⁰¹ Any names returned after that search would then have to be investigated until further evidence could associate it with the crime, and only after a committee has reviewed the matched information would the investigating agency be granted permission to have access to the actual names of the people who have been returned through the DNA searches.²⁰² Law enforcement

192. Stephen Mercer & Jessica Gabel, *Shadow Dwellers: The Underregulated World of State and Local DNA Databases*, 69 N.Y.U. ANN. SURV. AM. L. 639 (2014) (referencing state and local databases which are not as regulated as the federal CODIS database).

193. *Id.* at 686-90.

194. *Id.* at 687.

195. See generally Greely, *supra* note 155, at 259.

196. *Familial DNA Testing Raises Privacy and Civil Rights Concerns*, ACLU ILL. (Mar. 17, 2011), <https://www.aclu-il.org/en/news/familial-dna-testing-raises-privacy-and-civil-rights-concerns> [<https://perma.cc/38U3-Y98Q>] (noting that personally, being on the opposite side of the ACLU gave me pause. I reconcile this with the assertion that a well thought out and fairly implemented search policy that safeguards against those concerns will provide a necessary tool for Illinois Law Enforcement).

197. *Id.*

198. *Id.* (listing invasion of medical privacy, violation of bodily integrity, and disparate impact against racial and ethnic minorities).

199. See *supra* Part VI, at “California.”

200. See George B. Anderson, *supra* note 126.

201. *Id.*

202. *Id.*

agencies in Illinois should include a similar last resort protocol for utilizing familial searches in order to best protect the rights of the population of data-based offenders who stand to be affected by such searches.

CONCLUSION

The growing collection of genetic information, both for public and private reasons, may lead to de facto banks of DNA information. For the purposes of this example, a database that is compiled of convicted offenders would be a public database, but the banks of genetic information being compiled by ancestral search companies and DNA testing companies for private use would be considered private. The corporations collecting this information have arguably done their due diligence to safeguard their collection methods through transparent opt-in policies to use a service or application, as such some people are willingly depositing their DNA samples for personal reasons, and are not being compelled to give a sample based on criminal activity.²⁰³ As these private companies are becoming increasingly common and their testing affordable,²⁰⁴ the bank of sensitive DNA information is also growing. Once this material is collected and maintained, there is a possibility that it will eventually be used for reasons outside the original understanding of the consumer, or even sold, potentially in direct opposition to the consumer's wishes.²⁰⁵

As more members of society begin voluntarily surrendering submissions of their biological material, perhaps there is a logical possibility of institutions not only having access to samples from criminal offenders, but also from the general population. This leads to the controversial idea of a de facto universal genetic database existing, and whether or not such a database aligns with the goals of our society.²⁰⁶

Illinois's criminal justice system will benefit from the implementation of a familial DNA search policy as an added investigational tool. Because DNA samples are sensitive in nature and provide private genetic information, safeguards should be enacted that will protect individuals who currently have samples in state and federal databases from disclosing any unnecessary family information.²⁰⁷

203. See generally 23ANDME: DNA GENETIC TESTING & ANALYSIS, <https://www.23andme.com/> [<https://perma.cc/5S8A-B4WU>].

204. 23ANDME: DNA GENETIC TESTING & ANALYSIS, <https://www.23andme.com/> [<https://perma.cc/5S8A-B4WU>] (costing from \$99-\$199 depending on the package).

205. Maggie Fox, *What You're Giving Away with Those Home DNA Tests*, NBC NEWS (Nov. 30, 2017, 8:46 AM), <https://www.nbcnews.com/health/health-news/what-you-re-giving-away-those-home-dna-tests-n824776> [<https://perma.cc/9ALR-KGQS>].

206. See generally Murphy, *supra* note 50.

207. See generally BUTLER *supra* note 2; BUTLER *supra* note 12.

For the foregoing arguments, the benefits of a thoughtful and safeguarded DNA search policy outweigh the perceived negative effects. Through the Illinois Administrative Procedure Act, the Illinois State Police should propose a new rule pursuant to 730 ILCS 5/5-4-3.

APPENDIX A

100. ILLUSTRATION A²⁰⁸

Notice of Proposed Rules

Currentness

For detailed information on this Notice, please refer to Section 100.410.

ILLINOIS REGISTER

(AGENCY NAME) – Illinois State Police

NOTICE OF PROPOSED RULES

1) Heading of the Part: Part 1285: Sample Collection for Genetic Marker Indexing

2) Code Citation: ILL. ADMIN. CODE tit. 20 § 1285 (2012).

3) Section Numbers: 1285.10-1285.90 **Proposed Action:** Add new Section Number: 1285.101²⁰⁹

4) Statutory Authority: Implementing and authorized by 5-4-3 of the Unified Code of Corrections [730 ILCS 5/5-4-3] and authorized by Section 2605-15 of the Civil Administrative Code of Illinois [20 ILCS 2605/2605-15].

5) A Complete Description of the Subjects and Issues Involved:

6) Published studies or reports, and sources of underlying data, used to compose this rulemaking: N/A

208. 29 Ill. Reg. 13224 (Aug. 26, 2005). The content listed on the form is differentiated in bold from the proposed language. This is a form provided for use in creating a notice of proposed rule.

209. Simply adding this additional Section number immediately following the current Sections.

7) Will this proposed rule replace an emergency rule currently in effect? No.

**8) Does this rulemaking contain an automatic repeal date? __ Yes X
No**

If “yes,” please specify the date:

9) Does this proposed rule (amendment, repealer) contain incorporations by reference? No

**10) Are there any other proposed amendments pending on this Part? No
Section Numbers: N/A**

Proposed Action: N/A

Illinois Register Citation: N/A

11) Statement of Statewide Policy Objectives:

Policy objectives of this proposal are to amend the Sample Collection for Genetic Marker Indexing to include a section specifically designed to allow for familial DNA searches in police investigations.

12) Time, Place, and Manner in which interested persons may comment on this proposed rulemaking:

A public hearing and notice period will take place for 60 days from June 1-July 31, 2018.

13) Initial Regulatory Flexibility Analysis:

A) Types of small businesses, small municipalities and not for profit corporations affected:

B) Reporting, bookkeeping or other procedures required for compliance:

C) Types of professional skills necessary for compliance:

14) Regulatory Agenda on which this rulemaking was summarized:

Jan. 20 ____ July 20 ____ OR

This rule was not included on either of the 2 most recent agendas because:

The full text of the Proposed Rules begins on the next page:

AGENCY NOTE: The solid line shall be exactly one inch from the top of the page. Also, if the proposal is a new Part, use the type of action statement as shown in this illustration; if the proposal is an amendment to a Part (new Sections being added, existing Sections being amended or repealed), the action shall state NOTICE OF PROPOSED AMENDMENTS; If the proposal is a repealer of an entire Part, the action shall state NOTICE OF PROPOSED REPEALER.

Credits

(Source: Amended at 29 Ill. Reg. 13224, effective August 12, 2005)

Current through rules published in the Illinois Register Volume 42, Issue 2, January 12, 2018.

1 ILAC § 100 App. A, Illus. A, 1 IL ADC 100 App. A, Illus. A

APPENDIX B²¹⁰

Links to State Familial DNA Policies

- Arkansas
 - http://www.crimelab.arkansas.gov/Web-sites/arcrimelab/images/QM/1754r15_CODIS_QM.pdf
- California
 - <https://oag.ca.gov/sites/all/files/agweb/pdfs/bfs/fsc-mou-06142011.pdf?>
- Michigan (search request form)
 - https://www.michigan.gov/documents/msp/2012-08-22_V2_fsd-053_437115_7.pdf
- New York
 - <http://www.criminaljustice.ny.gov/forensic/forms/Familial-Search-Process-Overview-10-18-17.pdf>

210. Provided for ease of access to parallel state rules where accessible.

- Ohio
 - <http://www.ohioattorneygeneral.gov/Files/Briefing-Room/News-Releases/BCI/Familial-Search-Policy-and-Procedures.aspx>
- Texas
 - <https://txdpslabs.qualtraxcloud.com/ShowDocument.aspx?ID=43050>
- Virginia
 - <http://www.dnaresource.com/documents/VirginiaPolicy.pdf>
- Wisconsin
 - https://www.doj.state.wi.us/sites/default/files/dles/clab-forms/2015-03_Familial%20Search.pdf
- Wyoming