**DNA Databases and Their Usage by Law Enforcement Agencies**

In this document, I will discuss two prevalent perspectives regarding the access and usage of DNA databases by law enforcement agencies. The databases contain collections of digitized profiles of DNA samples much like what a scanned fingerprint is to an actual fingerprint, and are of two broad types. There are the DNA databases which explicitly exist to identify criminals and then they are other databases that exist for genealogical purposes (and finding lost family) but will sometimes cooperate with law enforcement agencies even violating their own terms of service for what they perceive to be the greater good.

**How DNA Databases Deter Crime**

[**https://www.bloomberg.com/opinion/articles/2021-02-01/dna-databases-are-better-crime-deterrent-than-long-prison-time**](https://www.bloomberg.com/opinion/articles/2021-02-01/dna-databases-are-better-crime-deterrent-than-long-prison-time)

This first article by Professor Jennifer Doleac takes a positive view on the usage of DNA databases by law enforcement agencies. It is first suggested that the present scheme of mass incarceration in the US is ineffective for even as it places considerable fiscal burden on taxpayers, “[a]bout half of those released from prison return there within three years”. It is then argued that the usage of DNA databases is the “most effective way to deter crime” since it “increase[s] the probability of getting caught”. The rationale being that sentences are generally already long so increasing their length and severity will not be of much benefit as a deterrent. What is important that offenders must be made to understand that they will be definitely caught and that there will be no cold cases as investigation is made easier and more accurate through the use of DNA Databases which can place perpetrators at the scene of the crime directly if the offender’s DNA is in the database or indirectly if a relative of the offender’s is in the database who may be then interrogated to find the offender.

Though, I am forced to wonder why would anyone who having been caught once would entertain the illusion that one would not be caught again. Perhaps then it is not the absence of fear of getting caught that causes offenders to engage in criminal behavior but something else which would not be directly addressed through DNA databases, limiting Doleac’s argument. In any case, Doleac presents her research on Denmark wherein the introduction of a “DNA database [has] reduced the likelihood of another conviction [of the same offender] within the following year by a whopping 42%” as evidence for her argument.

Doleac then attempts to shoot down would be objections by stating that the Supreme Court has ruled that the addition of adding people charged with a crime (with or without a conviction) to DNA databases is constitutional and that other more prevalent law enforcement tools (such as mass-surveillance) are much more revealing.

My personal thoughts on the matter is that though the prevention of crime is invariably essential, there must be a reasonable means to as much – crime may be entirely eliminated if humanity may be all eliminated but this is not reasonable. And, I am uncertain whether the usage of DNA databases is reasonable ethically. My thoughts specifically are more inclined with the author of the alternate article that follows.

**When governments have access to DNA databases, you’re right to be scared**

<https://www.theguardian.com/commentisfree/2019/nov/09/when-governments-have-access-to-dna-databases-youre-right-to-be-scared#comment-135293814>

This second article by Professor John Naughton takes a pessimistic view on the usage of DNA databases by law enforcement agencies and the government at large. Naughton maintains that there is nothing more identifying and personal than one’s DNA profile. A reasonable statement if one entertains the not all too remote notion of cloning, for what am I but my DNA? Naughton, however, takes an alternate direction stating that DNA is most personal since it can reveal secrets that one does not know oneself “such as siblings (and sometimes parents) of whom you were unaware” and genetic predispositions to certain behaviors and ailments. Accordingly, this cannot be compared to other invasions of privacy done in the name of good for it is not only the government that may potentially know where I am at all times but I too know where I am!

Naughton, argues using historical precedent

Reducing crime without relying on mass incarceration is a worthwhile and admirable goal. Locking up criminals costs taxpayers a lot of money, can damage the communities of those sent away and is less than optimal as a deterrent: [About half](https://www.bjs.gov/content/pub/pdf/rprts05p0510.pdf) of those released from prison return there within three years.

Fortunately, it is possible to break this vicious cycle while also increasing public safety. The most effective way to deter crime, according to a growing body of research, is to increase the probability of getting caught, rather than the punishment received. That’s because most offenders are not particularly forward-looking, so adding years to an already-long possible prison sentence tends not to change their behavior.

Conventional wisdom has long been that the best way to increase the probability of getting caught is to hire more police officers. But technology — in particular, the use of DNA databases — is now providing options that are cheaper and, in many ways, less invasive.

DNA databases for criminal offenders are now used in every U.S. state and in many other countries. In the U.S., state databases are linked to form a [national network called CODIS](https://www.fbi.gov/services/laboratory/biometric-analysis/codis/ndis-statistics), which is maintained by the FBI. A separate database contains DNA profiles from unsolved crime scenes. Many people imagine that DNA analysis necessarily involves the exposure of sensitive health information, but this tool simply uses DNA to create an identifying string of numbers — like a high-tech, more accurate fingerprint.

The purpose of these databases is to provide new leads in crimes where law enforcement has not yet found the perpetrator. When DNA from a crime scene is uploaded to CODIS, it is compared with the DNA profiles in the offender database. Any matches are sent to local law enforcement and might lead them to a new suspect in what is otherwise a cold case.

What all of this means is that, once they are added to the DNA database, offenders who might have expected to get away with their crimes are now more likely to get caught. Does this deter them from committing new crimes? And if so, how much does it change their behavior?

In [new research](https://www.aeaweb.org/articles?id=10.1257/app.20190207&&from=f) with Anne Sofie Tegner Anker and Rasmus Landersø, I studied the effects of DNA databases on criminal behavior in Denmark (which has a similar system to the U.S., but much richer and more available data). The bottom line: Expanding government DNA databases to add more criminal offenders has a big deterrent effect, reducing the number of crimes committed.

How do we know? A natural experiment of sorts occurred in Denmark more than a decade ago. An expansion of the DNA database in 2005 added anyone charged with a serious offense (roughly equivalent to a felony in the U.S.). Those charged just after the expansion took effect were added to the database, but otherwise-similar people charged just before the expansion were not. So whether people were in the database depended on the precise timing of their charge — not on their criminal history or something else they could control.

It was then possible to compare people charged before and after the expansion date, to see if their behavior differed over time.

We found that adding people charged with a felony to Denmark’s DNA database reduced the likelihood of another conviction within the following year by a whopping 42%. The effects were driven by young adults, who also began enrolling in school at higher rates once their DNA was on file. We also found that first-time defendants changed their behavior more than those who had already cycled through the system. This suggests that intervening earlier in people’s criminal careers has bigger benefits.

These results are in line with [my previous research](https://www.aeaweb.org/articles?id=10.1257/app.20150043) showing that adding people convicted of felony offenses to DNA databases in the U.S. deterred crime. But the richer Danish data paint a more detailed picture of this technology’s effects, and also inform current policy discussions in the U.S.

The Supreme Court [ruled several years ago](https://www.supremecourt.gov/opinions/12pdf/12-207_d18e.pdf) that adding people charged with a crime (with or without a conviction) to DNA databases is constitutional, but this is not yet the law in many states. Our findings from Denmark suggest that expanding U.S. state databases to include this group could have big crime-reduction benefits. Adding people convicted of misdemeanors could also be effective, because this would similarly include people earlier in their criminal careers.

Yes, collecting and analyzing people’s DNA is costly in terms of privacy. But so is locking people up. DNA databases can help individuals and society avoid that cost. And many popular law enforcement tools, like cameras on every street corner, record far more information about their targets than DNA databases ever could.

In many ways, DNA databases are far less invasive than widely used alternatives. It makes sense to expand their use in the fight against crime.