

A study on usage of dna in forensic science

[Law](#), [Crime](#)



DNA, short for deoxyribonucleic acid is used in criminal investigation to directly identify any person(s) whom may have committed a crime. DNA itself is over 99% accurate, and is gaining ground in the United States, as it should be as evidence, which in turn results in it being more often being used to free, or convict criminals. The problems with using DNA are that it poses several problems such as everyone's DNA is not on record. Since the average person generally won't have their DNA on record, some attempts have been made to collect more DNA and preserve it. These attempts will hopefully help law enforcement catch the suspect and bring them to justice, but in the end it's the court's decision on whether, or not to accept DNA evidence. Also each States varies on what evidence they collect and preserve as evidence for a future date.

State DNA data base is the only second step in a " distributed database with three hierarchical levels - local, state and National" called CODIS (Combined DNA Index System), this is according to an article written by privacy international called The United States and the Development of DNA Data Banks. This CODIS program created by the FBI to " ensure consistency across the profiling and uploading DNA profiles employed by the individual state" and allow states to " effectively exchange information and search the database". The data base that they search is NDIS (National DNA Index System), which use to only provide information from " convicted offenders, from crime scenes, from victims of crime and for unidentified human remains". Now " at minimum this will constitute uploading profiles derived from serious sex, or violent offenders. With law enforcement being able to

search these expanded profiles, it helps aid in tracking where certain people, such as sex offenders, are currently located.

Though certain people can be identified and located within a certain area, the problem arises when a DNA profile isn't in any databases. As of January 2010, according to the Federal Bureau of investigation CODIS-NDIS statistics, there are currently 7, 833, 009 offender profiles in the United States, of those profiles only 302, 002 have forensic samples in the DNA data base . According to the U. S. census bureau POP Clock projection there are currently 308, 949, 620 people in the United States. This means if you divide the 7. 8 million profiles, by the current population of the U. S. then approximately two and a half percent of the U. S. population is an offender of some kind. This 2. 5% is a small number, thus we have a small chance identifying who may have committed the crime. Since hundreds of millions of crimes over the years have occurred only “ 105, 700 hits assisting in more than 103, 400 investigations” have aided investigators who have used the NDIS-CODIS program. With such a small amount of criminal investigators aided through NDIS more States should get moving on collecting more DNA samples.

In the United States of America as of February 2010, according to NCLS (National Conference of State Legislators article on state laws on DNA Banks qualifying offences, others who must provide a sample, “ all 50 states require that convicted sex offenders provide a DNA sample”, as of 2009. Though all states require sex offenders to give a DNA sample most state states have different views of who else should provide DNA samples. For

example, all states except Idaho, Kentucky, New Hampshire, Nebraska, and Pennsylvania make all felons give a DNA sample. Also in the states Arkansas, Connecticut, Florida, Hawaii, Iowa, New Jersey, North Carolina, Utah and Wisconsin require those convicted criminals “ not guilty of Mental Defect, or GBMI”(Guilty, but mentally ill) to give samples. In the states Arkansas, Delaware, Illinois, Iowa, Maine, Maryland, Minnesota, Nevada, New Jersey, New York , Ohio, South Carolina, Texas, Utah, Vermont , and Wisconsin some misdemeanors are considered reasonable for taking a DNA sample. Even juveniles, all states(except Alabama, Connecticut, Delaware, Indiana, Mississippi, Missouri, Nebraska, Nevada, New York, North Carolina, North Dakota, Oklahoma, Rhode Island, Vermont, and West Virginia) must give their DNA to the state DNA Database.

One way the United States is collecting more DNA is by 2012 the FBI, according to an article written in The New York Times by Solomon Moore, “ expects to accelerate its growth rate from 80, 000 new entries a year to 1. 2 million- a 15 fold increase”. With such a large increase in collecting DNA samples it will increase the backlogs of cases, “ which now stand at more than 500, 000”. Though backlogs will increase “ law enforcement officials say that expanding the DNA data banks to include legally innocent people will help solve more violent crimes”. These innocent people are the millions of “ people who have been arrested or detained but not yet convicted”. Also DNA will be taken from “ those awaiting trial and will collect DNA from detained immigrants”. This collecting of innocent people’s DNA will supposedly help law enforcement prove more mistakenly arrested people innocent of violent crimes.

As of right now according to the Innocence Project, 251 people have been exonerated from their supposed crimes due to DNA proving their innocence post conviction. Of the 251 freed post conviction; 151 were African Americans, 72 were Caucasians, 21 were Latinos, 2 were Asian American and 5 were of unknown race. These exonerees served an average length of thirteen years before being freed and seventeen even served time on death row. These 251 exonerated people is only a post conviction number. Those freed before conviction is in the tens of thousands. There are many reasons why DNA post conviction has freed them. Some examples include, “ False confessions and incrementing statements lead to wrongful convictions in approximately 25 percent of cases” , “ Eyewitness Misidentification Testimony was a factor in 74 percent of post convictions exoneration cases” , “ Unvalidated or Improper Forensic Science played a role in 50 percent of wrongful convictions”, and “ snitches contributed to wrongful convictions in 16 percent of the cases”. Despite many examples of convictions being overturned by DNA evidence, people still complain DNA evidence is infringing rights.

Even though DNA has helped a lot of people wrongly convicted and accused of crimes to be exonerated, people still complain about it. The three main arguments about it is that DNA evidence goes against the 4th amendment, it is cruel and unusual punishment, and it’s self incriminating. The fourth amendment says that we are protected against unreasonable searches and seizures. The people against it say goes against the 4th amendment because it is considered a “ bodily intrusion” and that its interpretation is controversial. The Supreme Court counters this argument by saying that “

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the physical intrusion required to obtain a sample is minimal. In fact, one of the most intrusive methods of obtaining a DNA sample is that of drawing blood and is permitted by the Supreme Court on the basis of its minimal intrusion". They also said " those criminals have a lesser expectation of privacy compared to free persons", meaning their right to not have a DNA profile is taken away. If criminals right to privacy is taken away some still argue taking a DNA Blood sample is cruel and unusual punishment. They argue this because criminals are assigned to " detention in administrative segregation until consent was provided to taking of a sample". The courts counter this argument by viewing " a refusal to consent a failure to comply with administrative order", thus officials are permitted to use force to get a DNA sample when " complying with a lawful order". Then when they get the DNA sample some people argue then that it is self incriminating, which we are protected against in the Fifth Amendment. They say this because the Fifth Amendment gives us " the right to remain silent encompassing both oral evidence and the production of private records and material". The courts on the other hand have interpreted that the Fifth Amendment " does not extend to include the taking of fingerprints, photographs or samples", and that it also doesn't extend to DNA. They say this because " DNA found in blood, or other samples is non-testimonial in nature and therefore the privilege against self-incrimination is not affected". Though DNA is considered as appeasable evidence it is often is not kept in as well conditions as it should be.

DNA, according to the Map on the following page, is not kept in twenty five of the fifty states because " the states lack requirements to preserve DNA

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evidence". They claim this because they are in "disagreement over how long and under what conditions to keep DNA". Also "storage space and extra costs are key issues" in preserving DNA, and according to Scott Story, the district attorney of Jefferson County, Colorado, "I don't know if there is enough room to keep all this evidence". Even if there is enough evidence he believes you must "have some common sense injected" when preserving DNA that may, or may not one day free a convicted felon. To make matters worse in Colorado they must "keep DNA evidence in murders, sexual assaults and other serious cases for the lifetime of the convicted defendants. It also calls for keeping evidence in less serious crimes" which one would assume are misdemeanors such as petty theft, disorderly conduct, and even DUI's. Another state with issues in keeping biological evidence is South Carolina. They have issues because South Carolina's Governor Mark Sanford vetoed a proposal that "would have mandated preservation of biological evidence". He vetoed it because "He supports giving the wrongly accused a chance to clear their names but could not endorse a provision requiring all suspects charged with felonies-but not yet convicted-to provide genetic profiles". Since South Carolina and twenty four other States have difficulties maintaining DNA evidence for various reasons we as a nation are divided in DNA preservation.

In comparison to the United States, Great Britain where they have "a population of 61 million- and 4.5 million DNA profiles their statistics show "about 8 percent of the people commit about 70 percent of the crimes. Why they have such a higher percent than the United States is that they have "fewer privacy protections than the United States and they have been taking DNA

upon arrest for years". Also in Britain " as of March 2008, 857, 000 people are in the British database, or about one fifth, have no current criminal record. Though Great Britain has such good statistics, the racial demographics of who is registered in the system is alarming to some. For " According to the House of commons report, 27 percent of black people and 42 percent of black males are genetically registered, compared with 6 percent of white people".

One way to solve these apparent racial disparities is to expand genetic sampling across the population to decrease any racial disparities. Disparities at which according to Mr. Greely ,” a Stanford University Law school professor who studies the intersection of genetics, policing and race”, estimates that “ African-Americans who are about 12 percent of the national population, make up 40 percent of the DNA profiles in the federal database, reflective of their prison population”. He also concluded that “ Latinos, who are about 13 percent of the population and committed 40 percent” of 2008’s “ federal offences-nearly half of them immigration crimes- to dominate the DNA database”. What all this means to law enforcement is that they don’t care for they “ contend that DNA is blind to race”. To them a profile only consists of DNA sequence, police agency and names are only kept by the investigators.

In conclusion DNA is used by law enforcement to help track down any previously convicted criminal who is in the NDIS database. Those who are in the database are, for sure, the sex offenders, but depending on where you are located, either by state, or country you may be still subject to give your

DNA based on the crime you have committed. The opposition who is dislikes the idea of giving out your DNA claims it infringes on your fourth amendment rights, and is cruel and unusual punishment, but the Supreme Court thinks otherwise. Either way you look at it you have to see how helpful DNA in freeing those wrongly accused of crimes, even if it comes the price of maintaining such valuable information.