Integrating a Universal Forensic DNA Database: Anticipated Deterrent Effects

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Abstract: Investigative genetic genealogy has attracted much interest in both the field of ethics and the public eye due to its global application in criminal cases. Arguments have been made regarding privacy and informed consent, especially with law enforcement using consumer genetic testing results to convict individuals. In the case of public interest, DNA databases have the strong potential to significantly reduce crime, which in turn leads to safer communities and better futures. With the advancement of genetic technologies, the integration of a universal forensic DNA database in violent crimes, crimes against children, and missing person cases is expected to deter crime while protecting one's privacy. Rather than collecting whole genomes from the whole population, STR profiles can be used to identify unrelated individuals without compromising personal information such as physical appearance, disease risk, and geographical origin, and additionally, reduce cost and storage space. STR DNA profiling is already used in the forensic science field and going a step further benefits several areas, including the reduction in recidivism, improved criminal court case turnaround time, and just punishment. Furthermore, adding individuals to the database as early as possible prevents young offenders and first-time offenders from participating in criminal activity. It is important to highlight that DNA databases should be inclusive and tightly governed, and the misconception on the use of DNA based on crime television series and other media sources should be addressed. Nonetheless, deterrent effects have been observed in countries like the US and Denmark with DNA databases that consist of serious violent offenders. Fewer crimes were reported, and fewer people were convicted of those crimes- a favorable outcome, not even the death penalty could provide. Currently, there is no better alternative than a universal forensic DNA database made up of STR profiles. It can open doors for investigative genetic genealogy and fostering better communities. Expanding the appropriate use of DNA databases is ethically acceptable and positively impacts the public.

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