DNA forensic analysis soon will be 'vastly more powerful'—good for crime fighting, problematic for privacy

Genetic sleuthing techniques that led to the arrest of a suspect in the infamous Golden State Killer case this year are set to become vastly more powerful, suggest two papers published [October 11].

The studies conclude that it could soon be possible to search crime-scene DNA for links to nearly all Americans of European descent, massively expanding the potential reach of an existing forensic genetic database. The results also raise urgent privacy issues.

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To study the potential of these searches, [Yaniv] Erlich's team analysed private, anonymized DNA profiles from 1.28 million MyHeritage customers. Like other consumer genetics firms, the company allows customers to search for relatives who share DNA segments inherited from a common ancestor, such as a great-great-grandparent.

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[Noah] Rosenberg's team developed a computational method to cross-match [genetic FBI] profiles with a close relative's SNP profile (the test used by most consumer genetics companies and available for searching on GEDmatch).

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The lack of regulation surrounding such searches is striking, says Rori Rohlfs, a statistical geneticist at San Francisco State University in California who has written about the ethics of familial searching. She can imagine policymakers limiting when and how law-enforcement agencies can use public databases such as GEDmatch.

Some such restrictions already exist. In California, for example, law-enforcement forensic databases can be used to find family members only in serious crimes where there is a risk to public safety.

Read full, original post: Supercharged crime-scene DNA analysis sparks privacy concerns