

Research Insight: The Role of Forensic Sciences and Technologies (FSTs) in Homicide Investigation in Britain

AN ETHNOGRAPHY OF HOMICIDE INVESTIGATION

Aim: The research sought to provide a detailed understanding of how forensic sciences and technologies (FSTs) contribute to the police investigation of homicide in Britain. We adopt the phrase 'forensic sciences and technologies' to reflect the broad array of science and technology used across homicide investigations including DNA profiling, fingerprint examination, ballistics interpretation, trace evidence analysis and digital evidence from mobile phones, computers and CCTV.

METHODS AND DATA:

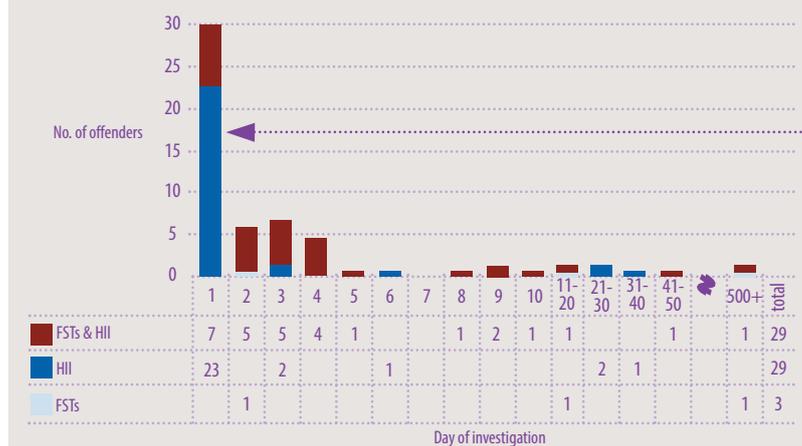


The 44 cases studied reflected a range of modus-operandi (sharp instrument, blunt instrument, strangulation/asphyxiation, shooting and poisoning) and victim-offender relationship (partner, child-parent, parent-child, friend/acquaintance and strangers). Our cases include those where suspects were identified very quickly through to complex, protracted investigations that were not resolved for many months or years.

WHEN AND TO WHAT EXTENT FSTs CONTRIBUTE TO HOMICIDE INVESTIGATIONS

Throughout the homicide investigation, detectives and other criminal justice actors use findings from a broad range of FSTs and human information and intelligence (HII) to inform their sense-making and decision-making. HII may include witness accounts, admissions by the offender, intelligence and circumstantial evidence. The data below reveal the different types of intelligence and/or evidence used within 44 homicide investigations to identify and charge offenders.

Chart 1: Number of offenders identified by day of investigation whether by FSTs and/or HII (n=61)

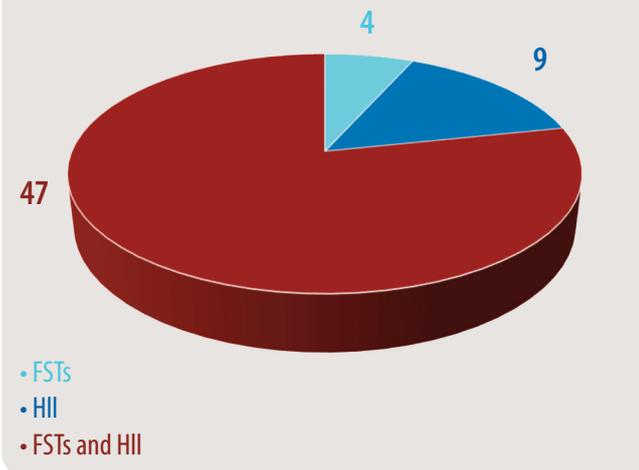


Within the first 24 hours of an investigation, HII (particularly witness accounts) play an important role in identifying offenders

Rarely are findings from FSTs used on their own; offenders are more likely to be both identified and charged when findings from FSTs are used in conjunction with HII

60% of offenders were charged within seven days and 80% were charged within 90 days. In only two cases were offenders charged within 24 hours of an incident and in one 'cold' case, the offender was charged more than 30 years after the murder

Chart 2: Number of offenders charged and whether by FSTs and/or HII (n=60)



WHICH FSTs CONTRIBUTE TO HOMICIDE INVESTIGATIONS

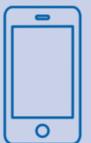
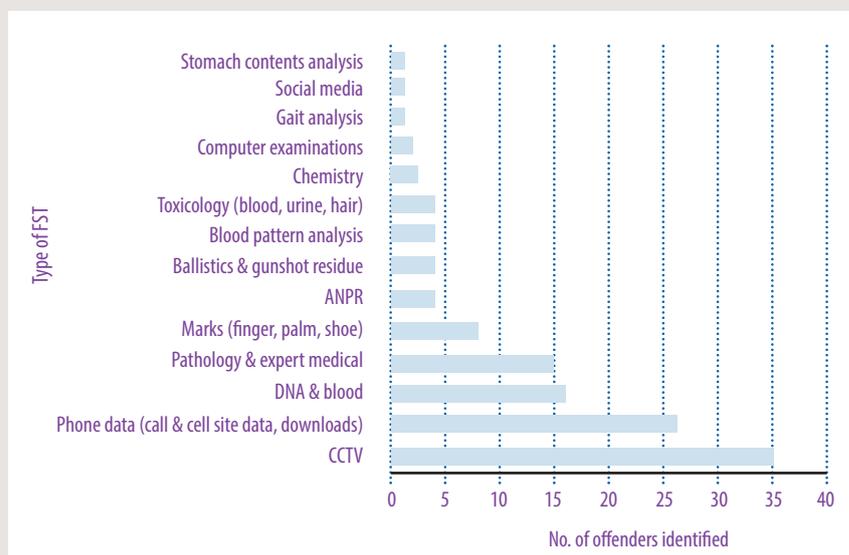
A broad range of FSTs were used to identify and charge offenders and in many instances these decisions relied on a combination of FSTs. Charts 3 and 4 below show in more detail which FSTs (whether used on their own or in conjunction with HII) were used to identify and charge offenders.

Of all the FSTs used to both identify and charge offenders, the most frequently used were data gathered from CCTV and mobile phones

Chart 3: Type of FST by number of offenders identified (n=32)



Chart 4: Type of FST by number of offenders charged (n=51)



INSIGHTS



- Homicide offenders are rarely identified or charged on the basis of FSTs alone. Rather, findings from FSTs are used in conjunction with findings from HII. Findings from FSTs are also used to test HII - for example, accounts from suspects or witnesses about their 'movements'.

- Our findings indicate that data from CCTV and mobile phones are used frequently to both identify and charge offenders. There are various possible reasons why digital findings appear to 'stand out' amongst FSTs at these stages of investigations. For example, investigators may routinely pursue these kinds of FSTs more often or the results from these enquiries may emerge more quickly than results from other FSTs (such as DNA interpretation, forensic pathology, toxicology or ballistics interpretation).



- How often particular FSTs are used to identify or charge offenders does not (necessarily) reflect their 'value' or usefulness. For example, some investigators cited findings from 'lesser used' FSTs as a decisive factor in identifying or charging an offender. Further analysis is required to examine the 'routine' and 'exceptional' use of FSTs and their contribution to homicide investigations.



- The 'information profiles' of different kinds of homicide afford different investigative opportunities from FSTs and HII.

- Future briefing papers will consider how investigators use findings from FSTs and HII to eliminate suspects from homicide investigations and how criminal justice actors consider and prioritise a range of FSTs in the post-charge phase.