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### **E60 The Utility of Forensic Evidence in Homicide Cases Tried in London Courts Between 2010 and 2014**

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After attending this presentation, attendees will understand the impact forensic evidence had in homicide cases involving sharp implements tried in London courts between 2010 and 2014.

This presentation will impact the forensic science community by demonstrating a method of determining the impact various types of evidence have in court through a mixed-methods approach. This presentation will also highlight how results and conclusions from this type of research can influence stakeholders at all levels of the forensic community: law enforcement, forensic researchers and practitioners, and policy makers.

To date, only limited attempts have been made to evaluate the role forensic science plays in criminal cases and to provide systematic and robust evidence as to its perceived utility. As underlined by the 2009 National Academy of Sciences (NAS) Report, *Strengthening Forensic Science in the United States: A Path Forward*, in the United States and the House of Commons Science and Technology Committee in the United Kingdom, forensic science research and development is not considered healthy, and calls have been made to develop a new national research budget for forensic science and make it a research priority.<sup>1-3</sup> In light of this, research which seeks to establish the impact forensic evidence has on the criminal justice system and criminal case outcomes is necessary.<sup>2-4</sup> It is key that understanding is developed of the role that forensic evidence plays in the judicial process. Recognizing the role that different types of evidence play in the trials of serious crimes, such as homicides, will potentially allow for evidence-based policy to be formulated as to the allocation of resources.

This study examined the impact of evidence in homicide cases involving sharp implements in London courts between 2010 and 2014. The study distinguished between various types of forensic evidence, such as human biological trace evidence, forensic anthropology and blood pattern analysis, and witness statements and real evidence, and differentiated between prosecution and defense evidence. By evaluating the evidence utilized in these cases and the variables of conviction and associated sentence length, the impact of each type of evidence could be determined.

A mixed-methods approach facilitated the extraction of information from 115 case files and further analysis with regard to verdict and sentence lengths. The study found that certain types of evidence were very prevalent in the homicide cases analyzed, such as testimony, Closed-Circuit Television (CCTV), and medical evidence, while other categories such as forensic chemical and geoforensic evidence were not used. In turn, medical evidence and CCTV were also found to be most significant in moving the mind of the tribunal and conviction of the defendant. Despite hypotheses to the contrary, the most statistically significant findings were in the relationship between types of evidence and sentence length of convicted defendants. Evidential value was established in a relative sense within the cases analyzed in this research, the findings suggesting that medical, CCTV, voice recognition, and defense witnesses had the greatest impact on the adjudication of homicide cases involving sharp implements within the representative sample. Other types of forensic evidence such as shoeprint and biometric evidence were marginally significant in influencing the judgement and sentencing of homicide cases in this research.

Establishing the relative probative value of various types of evidence has contributed to addressing the lack of literature and empirical evidence regarding the impact of forensic science.<sup>2,5</sup> The results of this research allow law enforcement, judiciary, and forensic scientists to identify which types of evidence have the most impact in the adjudication of homicide cases involving sharp implements. This research also provides an empirical foundation for future policy, superseding any current strategies that are grounded in assumptions regarding the utility of forensic evidence. Moreover, this research offers a framework for forensic researchers and policy makers to direct research and resources.



## General Section - 2016

### Reference(s):

1. National Academy of Sciences. *Strengthening Forensic Science in the United States: A Path Forward*. 2009, National Academies Press.
  2. House of Commons, Science and Technology Committee. 2011. *Forensic science service, Seventh Report of Session 2010-2012*. London: The Stationary Office Limited.
  3. House of Commons, Science and Technology Committee. 2013b. *Forensic Science, Second Report of Session 2013-14, HC 610*. London: The Stationary Office Limited
  4. Silverman B. *Research and development in forensic science: a review*. 2011. Crown Copyright. □
  5. Baskin D., Sommers I. The influence of forensic evidence on the case outcomes of homicide incidents. *J Crim Just* 2010a 38: 1141-1149
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### Forensic Evidence, Homicide, Evidential Value