Improving the sustainability of forensic consumables

Investigating crime scene evidence recovery procedures to identify which produce excess and unnecessary waste to reduce the amount of waste produced and improve sustainability.

Key details

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Police region	South East
Collaboration and partnership	• Sussex Police • Forensic Capability Network
Level of research	PhD
Project start date	October 2023
Date due for completion	October 2025

Research context

The environmental impact of single use consumables and PPE has been researched in the medical, veterinarian and dentistry industries. Despite the regular use of similar equipment in the field of forensics, particularly at crime scene examination level, the generation of crime scene waste and the overall sustainability of single use consumables has not been investigated.

In a drive to improve standards, competency and public confidence in the industry, UK police forces are striving to obtain ISO 17020 and ISO 17025 accreditation. Stringent anti-contamination

procedures are being introduced to reduce potential DNA contamination. Though the guidelines concerning the use of consumables are not overly prescriptive, the ramifications of moving away from reusable equipment in favour of single use equipment must be researched to understand the extent of the issue.

Aims and objectives

- To examine the workflow processes and consumption of packaging in crime scene investigation, and the generation of single use plastic (SUP) waste, to improve sustainability.
- To gather information using surveys, focus groups and contextual inquiry to identify ways in which waste can be reduced during crime scene investigation related activities.
- To ascertain whether there is a perception among users of forensic consumables of excess waste generation at crime scenes, to identify if there has been a perceived increase in waste over time, and whether any efforts are made by examiners to try and reduce the generation of waste.
- To identify reasons or catalysts for any perceived increase in waste generation in order to focus further investigation.
- To compare domestic waste reduction habits with work reduction habits.
- To examine current consumable design and work processes to identify whether they can be modified to improve workflow, while reducing crime scene waste.

Research methodology

In order for change at policy level, it first needs to be deduced if there is a perception of excessive and unnecessary waste generation among those frontline forensic practitioners who are primarily responsible for crime scene evidence collection. A survey, using the Likert Scale, has been disseminated nationally to obtain opinion on waste generation, which will help identify the processes responsible for unnecessary waste and allow identification of where savings can be made. Results will be quantitatively analysed using NVIVO.

From the resulting pool of survey respondents three to four focus groups (with five volunteers each) will take place, targeting principal areas where waste can be reduced, sustainability improved and reductions in the costs associated with waste disposal made, without affecting the risks of contamination and overall quality assurance.

Contextual Inquiry will be arranged with staff from co-operating police forces to provide deeper insight and commentary into the working practices of forensic practitioners in the field, identifying areas of friction in the workflow and revealing unnecessary wasteful practices and equipment.

Focus groups and contextual data will be analysed using qualitative methods, including task analysis, heat and affinity mapping and text analysis.

Ultimately, a more streamlined approach will result in financial savings for police forces, while maintaining cross-contamination control and reducing the impact crime scene examination has on the environment.

Tags

- Forensics