Monitoring Changing Trends in Synthetic Cannabinoid Receptor Agonist (SCRA) Use in Scottish Prisons to Inform Strategies Aiming to Reduce Supply and Mitigate Harm.

Victoria Marland, Caitlyn Norman, Robert Reid, Craig McKenzie, Herve Menard, Anne Coxon, Niamh Nic Daeid

Leverhulme Research Centre for Forensic Science, University of Dundee, United Kingdom.

Project Background and Aims

Synthetic Cannabinoid Receptor Agonists (SCRAs) are one of the largest groups of New Psychoactive Substances (NPS) and they have been widely detected in toxicology casework and drug seizures. SCRAs have been routinely encountered in samples seized as part of the Scottish Prisons Non-Judicial Drug Seizure Monitoring Project, operating since 2019. Recent studies have highlighted increased levels of complex polydrug use within Scottish prisons particularly in relation to benzodiazepines, which have been detected alongside SCRAs infused into paper and card.

The aim of this on-going study is to build increased understanding of the changing drug market and the challenges of SCRA use to help inform strategies to reduce supply and mitigate harm to individuals within Scottish prisons. This includes the analysis of non-attributable samples seized by the Scottish Prison Service (SPS). Items are recovered during person or cell searches or following detection of the possible presence of a controlled substance during the screening of incoming items (mostly mail) by prison staff using Ion Mobility Spectrometry (IMS). All samples considered suitable for analysis are anonymized by SPS staff and transferred to the Home Office licensed drug testing laboratory at the Leverhulme Research Centre for Forensic Science (LRCFS) at the University of Dundee, Scotland for analysis.

How can we use science to inform policies that reduce drug supply and harms in Scottish Prisons?

Deliver training to prison staff, enabling them to respond appropriately to emergency drug-related incidents and ultimately aim to reduce the harm of these substances to individuals within prisons.

Continuous monitoring of drugs and smuggling methods in Scottish prisons, quickly identifying new smuggling routes and maintaining vigilance.

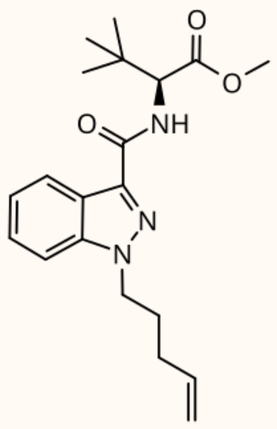
Update substance libraries for screening tools like IMS and train Scottish prison staff to ensure emerging compounds are routinely identified following first detection.

Guide policies designed to reduce drug harm in Scottish prisons, such as photocopying incoming letters to prevent mail-based drug smuggling.

Deliver crucial drug-related intelligence relating to evolving drug markets, for the Scottish prisons, enabling the effects of both international and local policy changes to be monitored and acted upon in near-real time.

Monitoring SCRA Prevalence in an Evolving Market

Continuous monitoring of SCRA prevalence in Scottish prisons ensures that this project can continue to provide data to Scottish prison staff, keeping substance libraries for screening methods up to date.



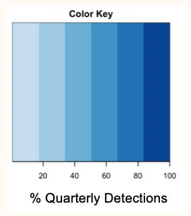


Figure 1: MDMB-4en-PINACA chemical structure.

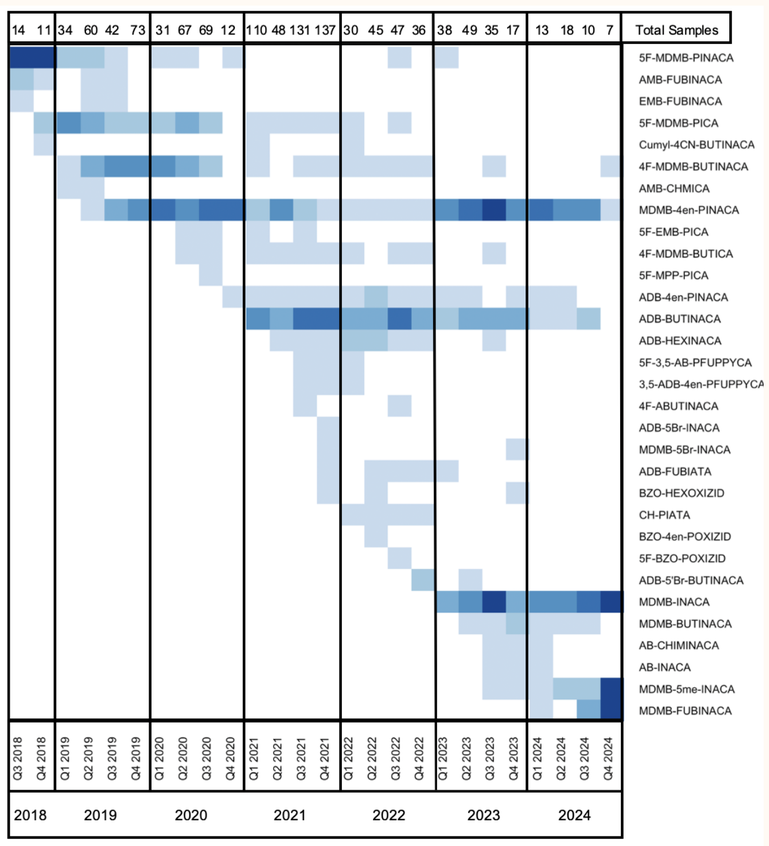


Figure 2: Evolution of SCRA detections in Scottish prisons, 2018-2024.

In total 4621 samples, from 3490 individual seizures, from 15 Scottish prisons have been analysed since 2019.

SCRAs have been the most commonly detected substance throughout the project, accounting for 27% of all received samples (1250 out of 4621) followed by benzodiazepines, opiates and steroids.

The prevalence of SCRAs in Scottish prisons is constantly evolving and responsive to legislative changes, particularly the 2021 Chinese analogue controls.

Despite the analogue controls introduced in 2021, **MDMB-4en-PINACA** and **ADB-BUTINACA** continue to be two of the most commonly detected SCRAs in this project. In 2024, **MDMB-FUBINACA** was detected for the first time in Scottish prisons, and detections have increased throughout the year.

Increased detections of precursor compounds since early 2023, such as **MDMB-INACA, MDMB-5me-INACA** and **AB-INACA,** provide evidence-based support that **"semi-finished synthesis kits"** are being purchased online and used to circumvent challenges surrounding importation of controlled SCRA compounds.

Evolving SCRA Formats and Polydrug Use

2019 to 2021

SCRAs detected almost entirely in infused paper and card.

Most items entered through the mail system.

December 2021

Based on evidence provided by this project, Scottish prisons introduce a policy to photocopy all incoming items of mail intended for inmates.

An increase in polydrug detections occurred from the end of 2021 and has continued to fluctuate. SCRAs have been detected alongside benzodiazepines, anabolic steroids, cathinones and novel synthetic opioids. Initially hypothesized to be related to the increase in vape pod seizures, however only 20% of the total polydrug detections occurred in vape pods and 59% in paper and card samples.

2024

Increased diversity in SCRA sample types. Most notably an increase in the numbers of powders and waxy materials.

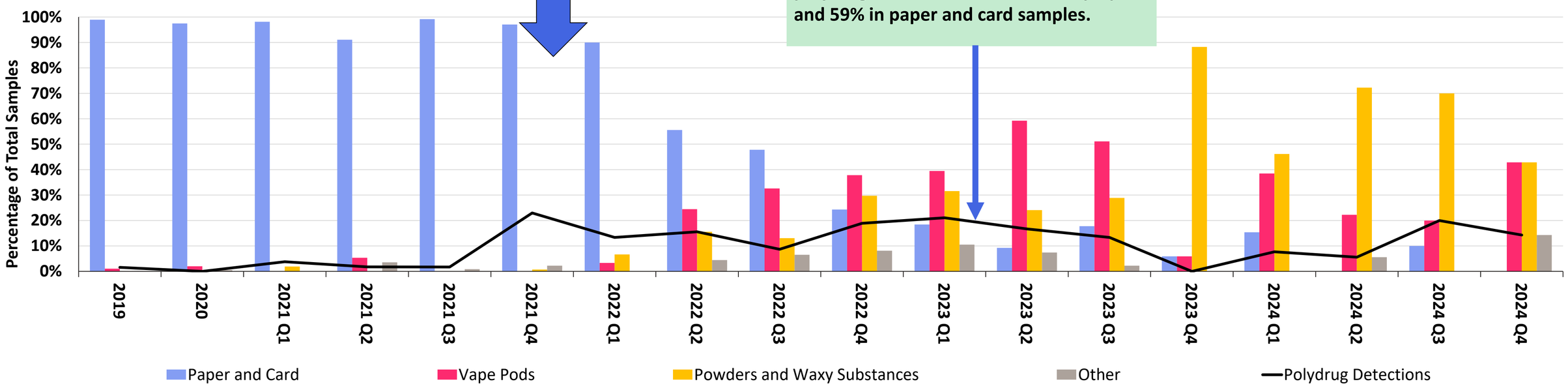


Figure 3: Number of detections of SCRAs in paper, card, vape pods and powders/waxy substances from 2019 to 2024. 'Other' includes formats such as herbal material and tablets. The black line denotes the number of polydrug detections across the same time period.