

Meeting	Policing Performance Committee
Date	8 June 2021
Location	SPA Boardroom, Pacific Quay Glasgow G51 1DZ via TC
Title of Paper	Forensic Services Assessment of Performance Report 2020/21
Presented By	Tom Nelson
Recommendation to Members	For consultation
Appendix Attached	Annual Business Performance Report

PURPOSE

To present Forensic Services Annual Performance Report for 2020/21 for Committee consideration.

This paper is presented in line with;

- The Scottish Police Authority Scheme of Delegation

This paper is for consultation.

1. BACKGROUND

- 1.1 The Forensic Services Annual Performance Report is presented for 2020/21.
- 1.2 This report captures activity across SPA Forensic Services during the course of the 12 months to 31 March 2021. This performance evidence is to support the SPA Annual Report and Accounts process for 2020/21.
- 1.3 The report demonstrates SPA Forensic Services delivery over the last year through the following components:
 - Qualitative performance data;
 - Evidence of service initiatives and improvements; and
 - Value opportunities through the development of forensic data.

2 FINANCIAL IMPLICATIONS

- 2.1 There are no direct financial implications noted in the report.

3 PERSONNEL IMPLICATIONS

- 3.1 There are no direct personnel implications associated with this paper.

4 LEGAL IMPLICATIONS

- 4.1 There are no direct legal implications associated with this paper.

5 REPUTATIONAL IMPLICATIONS

- 5.1 There are no direct reputational implications associated with this paper.

6 SOCIAL IMPLICATIONS

- 6.1 There are no direct social implications associated with this paper.

7 COMMUNITY IMPACT

- 7.1 There are no direct community impact implications associated with this paper.

8 EQUALITIES IMPLICATIONS

- 8.1 There are no direct equality implications associated with this paper.

9 ENVIRONMENT IMPLICATIONS

9.1 There are no direct environmental implications associated with this paper.

Recommendations

Members are asked to note the content of the 2020/21 Forensic Services Performance Report.

Forensic Services Annual Performance Report

1. Executive Summary

This past year has been one of the most challenging for Scotland, and for Forensic Services, with Covid-19 dominating all our lives. During the cycles of the numerous lockdowns the health, safety, and wellbeing of Forensic Services staff, and those people our staff work with, have been the priority whilst we continue to progress casework.

The Director of Forensic Services, Senior Managers, Police Scotland and COPFS have worked very closely together to ensure we met service expectations and those of our public whilst seeking opportunities to improve our way of working during the pandemic.

Forensic Services reacted quickly to improve lines of communication between all levels of managers and staff by instigating Gold, Silver and Bronze working groups. Managers created communication networks to include every member of staff so their personal safety, health, and wellbeing needs were understood. Initially, these working groups met every few days to assess how best to maintain services, review and collate new risk assessments for all of our processes and procedures so we could secure and provide the correct level of PPE for staff to work safely. We rapidly identified which roles could perform their duties from home and those which needed staff to be onsite.

Some staff, with the assistance of Operation Talla and ICT's deployment of large numbers of laptops and handheld mobile devices, were able to maintain levels of work using a blended pattern of home and scene/office/laboratory working. The establishment of new physical distance arrangements also led to a reduction of footfall at all of our sites.

While Phase 1 of the Covid pandemic had a significant impact on operational output by moving to blended working - with the introduction of voluntary work patterns and reassigning meeting rooms into office areas - led Forensic Services operational output returned to near normal through Q2 to Q4. Departments with decreased demand allowed for resource redeployment to areas of increased workload. This allowed training and development opportunities to some of our staff.

We have made significant progress in operational data management and analysis by developing performance data further which has improved the workload visibility to our Managers. This information data has shown that the demand for services has been strong throughout the year, although the submissions to Forensic Services had been less smooth than previous years. Due to the Covid pandemic, and the effects of lockdown, some business areas have seen significant increases in demand while others saw a change in offence type profiles. This was all achieved thanks to Forensic Services staff adaptability and working flexibly during this time.

In Quarter 2, the Aberdeen site was hit by significant flooding and our well-established business continuity plans were instigated. The damage to ceilings and instrumentation compelled work to be diverted to other sites, which were already running at full stretch. Fortunately, the site was quickly repaired and, to the credit of staff and the excellent partnership working with PS ICT and Estates, the laboratory was back to full running capacity within four weeks. During this time, the other sites supported colleagues in Aberdeen and ensured that service delivery was maintained.

There has been significant progress with transformational change led by the FS 2026 Programme Team in spite of the challenges presented by the pandemic. A further round of staff engagement sessions was undertaken in October and November to update on the development of the Full Business Case for the Operating Model Project. This Full Business Case was presented to the Forensic Services Committee in February and the Access to Lab and Deployment of Scene Examination projects in the programme have also progressed to Full Business Case. Throughout the year there continued to be to engagement with all key stakeholders including Police Scotland, COPFS and trades union representatives. All work on the FS 2026 Strategy is on track and within agreed timeframes.

Delivery of the plan to refresh the Forensic 2026 Strategy – being undertaken in conjunction with Police Scotland and other key stakeholders, - was started during the past year and is progressing well. The refreshed strategy is on schedule to be delivered during the next year.

2. Business Plan Delivery

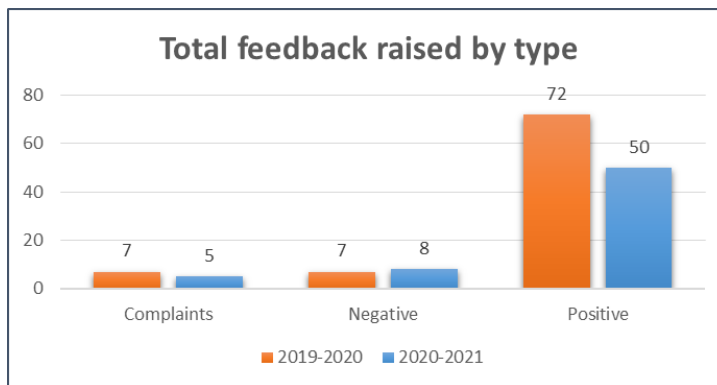
The table below highlights the progress against the business plan 2020/21.

2020/21 Business Plan	Continuous Improvement	Forensic 2026 Strategic Change
<p><u>HMICS:</u></p> <ul style="list-style-type: none"> • Recommendations progressed • Linked to 2026 programme <p><u>Managing Laboratory Capacity:</u></p> <ul style="list-style-type: none"> • Covid related Physical distancing planned and implemented • Additional appropriate PPE in place for all staff <p><u>Infrastructure Investment:</u></p> <ul style="list-style-type: none"> • Mobile interface developed for core operating system • Management skills growth programme commenced • Corporate Service support strengthened <p><u>Maintaining Accreditation:</u></p> <ul style="list-style-type: none"> • UKAS confirmed successful reaccreditation <p><u>Management Reporting:</u></p> <ul style="list-style-type: none"> • New dashboards created designed to help increase laboratory capacity <p><u>Drug Driving:</u></p> <ul style="list-style-type: none"> • Drug Driving service development plan completed to address growing demand. 	<p><u>Continuous improvement work:</u></p> <ul style="list-style-type: none"> • Operating system performance improvements • Business as usual investment activity ongoing as part of the asset replacement strategy • Process improvement and compliance projects progressing as planned • Work supporting Strategic Change Programme progressed in respect of Improvements to Management Reporting, and organisational readiness for change work programme • Scene examination quality system improvement work progressed and readiness for ISO 17020 assessment • Validation of new drugs testing instrumentation completed in Glasgow and in Dundee. 	<p><u>Strategy Development:</u></p> <ul style="list-style-type: none"> • Team structure developed, and resourced supporting new operating model core operating system development • New operating model Full Business Case completed, model review ongoing • New core operating system Initial Business Case completed • Engagement with PSoS Corporate Services to supporting strategic development • Budget for change programme being assessed which will deliver future benefits • Staff change readiness work commenced and linked to strategic development programme.



3. Quality

- 3.1. Forensic Services continue to maintain a comprehensive and effective Management System meeting the requirements of the international standard ISO 17025. Following UKAS annual accreditation assessment programme, Forensic Services successfully transitioned to the revised 2017 version of the standard on 26 March 2020.
- 3.2. The COVID-19 pandemic caused significant changes to the UKAS assessment programme in 2020 with an increase in remote assessment time as opposed to in lab assessment which worked well. UKAS assessor availability changed during the assessment period, often at short notice, due to Covid related issues, however Forensic Services were able to support the assessment team with successful maintenance of accreditation for the 23rd consecutive year. Formal communication of this is expected soon.
- 3.3. The ISO 17025 standard requires accredited testing organisations to proactively seek both positive and negative feedback from our Partners and customers. The table below shows the feedback provided to Forensic Services. Feedback has been consistent with previous years, which is encouraging when delivery of service has been so challenged through the pandemic.



Trend analysis from such small numbers of complaints and negative feedback is difficult to interpret with any clarity, however, all actions raised in the Management System, including complaints and negative feedback, are recorded on the software application Q-Pulse.

All actions recorded have corrective and preventive action or improvements to the Management System documented and reviewed before closure. These will subsequently be reviewed for effectiveness through the internal audit process.

All actions will be reviewed for trends across Functions and at organisational level at Management System Review meetings where any trends will be discussed and action taken.

OFFICIAL

As well as this direct feedback, Forensic Services performs a survey of its customers every 12 – 18 months. The response from this Survey is discussed by Senior Management, an action plan documented and this in turn will feed directly into the Forensic Services Business planning process.

3.4. Extensions to Scope

The centralisation of DNA Reference Sample processing to a single site has been a significant project which began in 2020. An assessment was carried out during August and September 2020 and accreditation was awarded after successful close out of actions on the 16 April 2021.

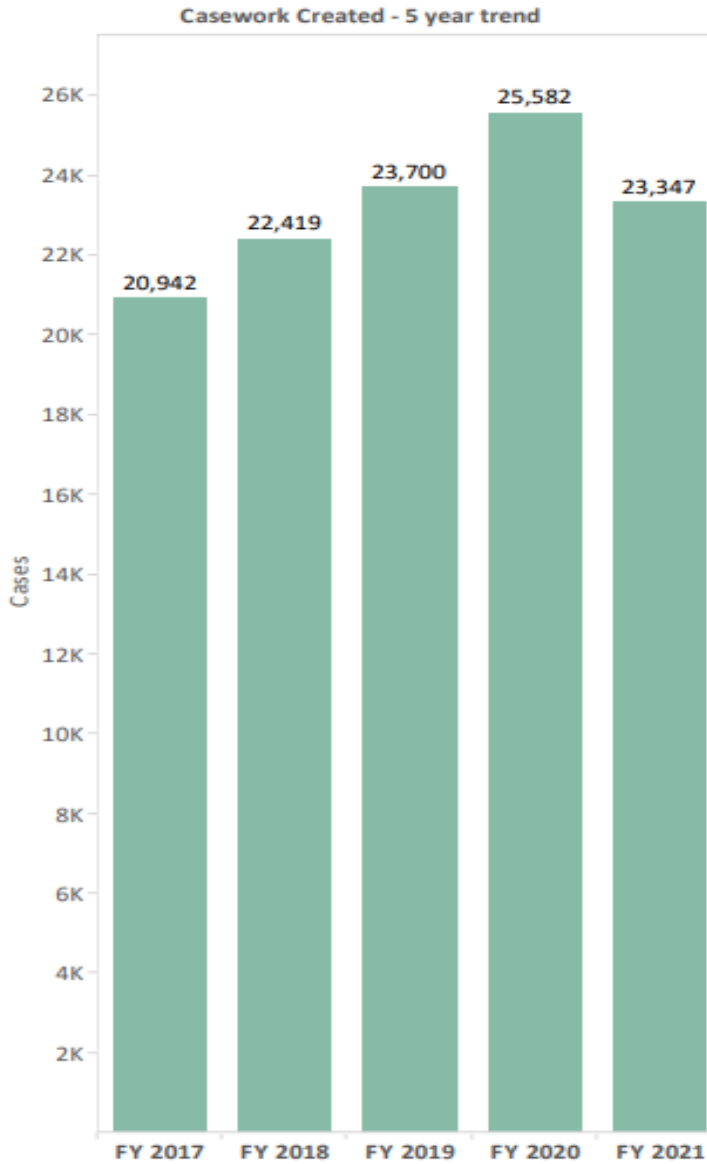
Work is ongoing for the accreditation of Scene Examination activity to ISO 17020. An assessment visit in April 2021 raised valuable findings which will allow Forensic Services to further develop processes and procedures in this difficult to accredit area.

4. Performance Review

[Note: Given 2020/21 was a year of the Covid Pandemic, this data is visible but has not been used in any data analysis trending in the following explanations.]

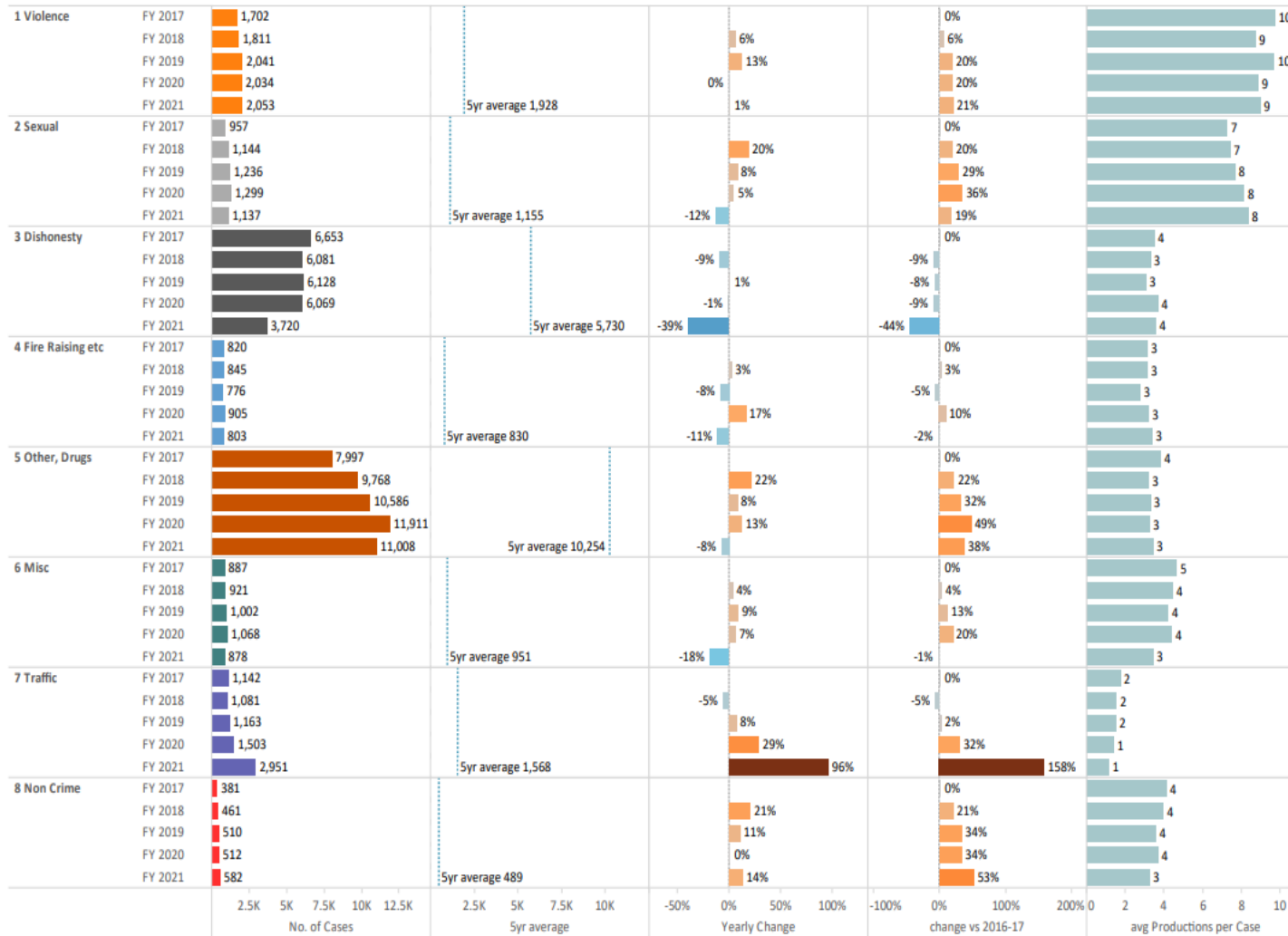
Changes were made to the way data was reported in July 2020 and some small data discrepancies maybe due to compliance to the new format.

4.1 Forensic Services Case Demand



FS Case demand increased by 18% from 2016/17 to 2019/20. This was a year on year increase of ~6%.

5 year Casework demand trend vs Crime Categories



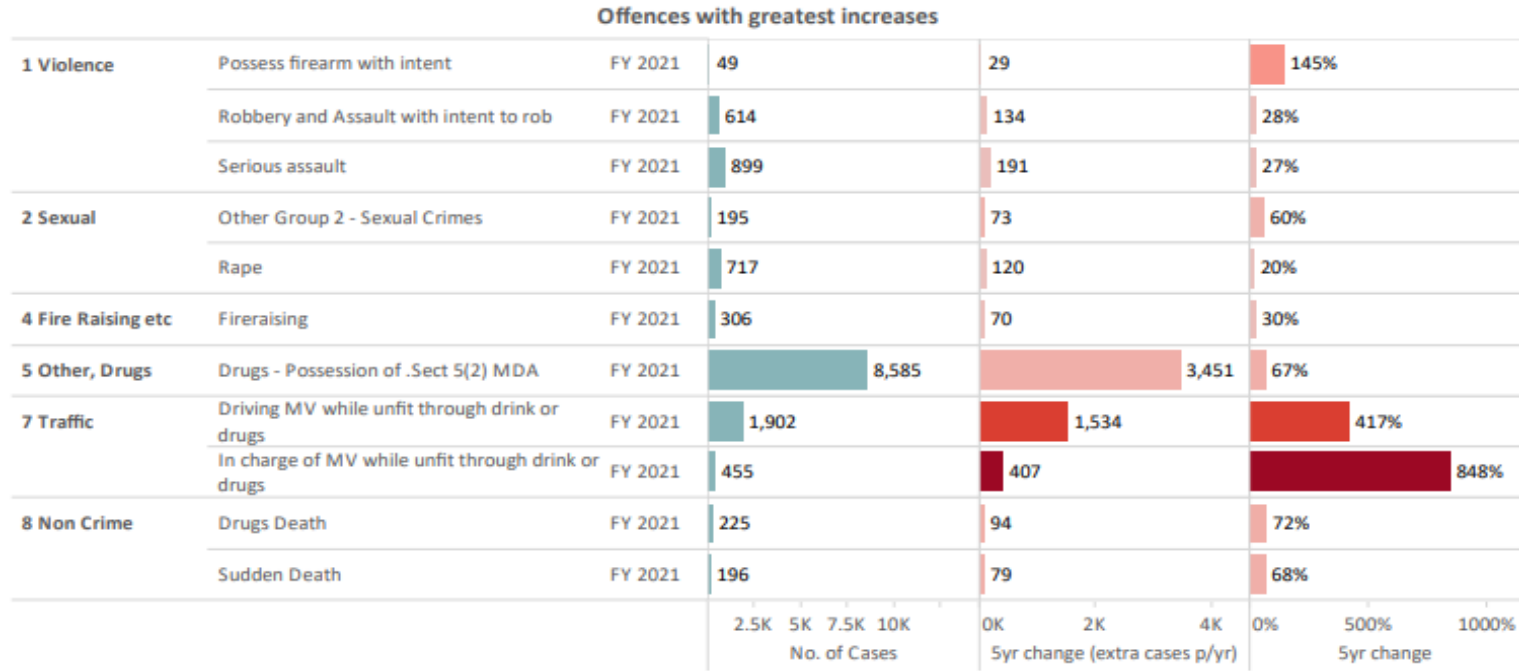
↔ Cat 3 and 4
↑ Cat 1, 2, 5, 6, 7, 8

Covid effected;

- Cat 3, with an increased proportion of people working from home.
- Cat 7, with a decrease of traffic volumes on the roads lead to increased crime detection.

Average productions per case is a measure. To be monitored as this effects the resourcing and capacity of Forensic Services.

Crime categories with the greatest demand increases



2020/21 saw ~ 23,500 new laboratory cases opened across forensic services. This is a decrease on the previous year by 10.6% and related to a significant reduction in crimes of dishonesty. As lockdown eases it is anticipated that crime levels in this category will increase to nearer normal levels.

Biology saw an increase in demand for serious crime cases of around 10%. The initial reduction in laboratory capacity owing to 2m social distancing measures resulted in a temporary reduction in capacity until planning work was completed and appropriate ICT support put in place.

Biology output was partially constrained during the year due to the uncertainty in supply of some consumables used in the human identification process. This was the result of the technology used for robotic DNA profiling being the same as that for Covid-19 testing.

Actions were taken to ensure key supplies of DNA consumables were made available and additional buffer stocks purchased to smooth supply.

The change in buffer stock levels, from 4 weeks to 8-12 weeks, ensured that where supply delivery dates were intermittent it allowed confidence that we could fulfill demand.

On one occasion it was necessary to invoke a BCP plan and suspend DNA processing of samples in non-serious crime (Volume Crime Unit) for a number of weeks. This managed any potential risk to serious crime service delivery. Business as usual demand, and therefore output, for VCU fluctuates due to dynamic changes in crime levels and this is not an unusual occurrence. The unit is high volume and fast throughput, once the issues were rectified the team recovered their position and normal timely service resumed. Our Partners were kept informed at all times.

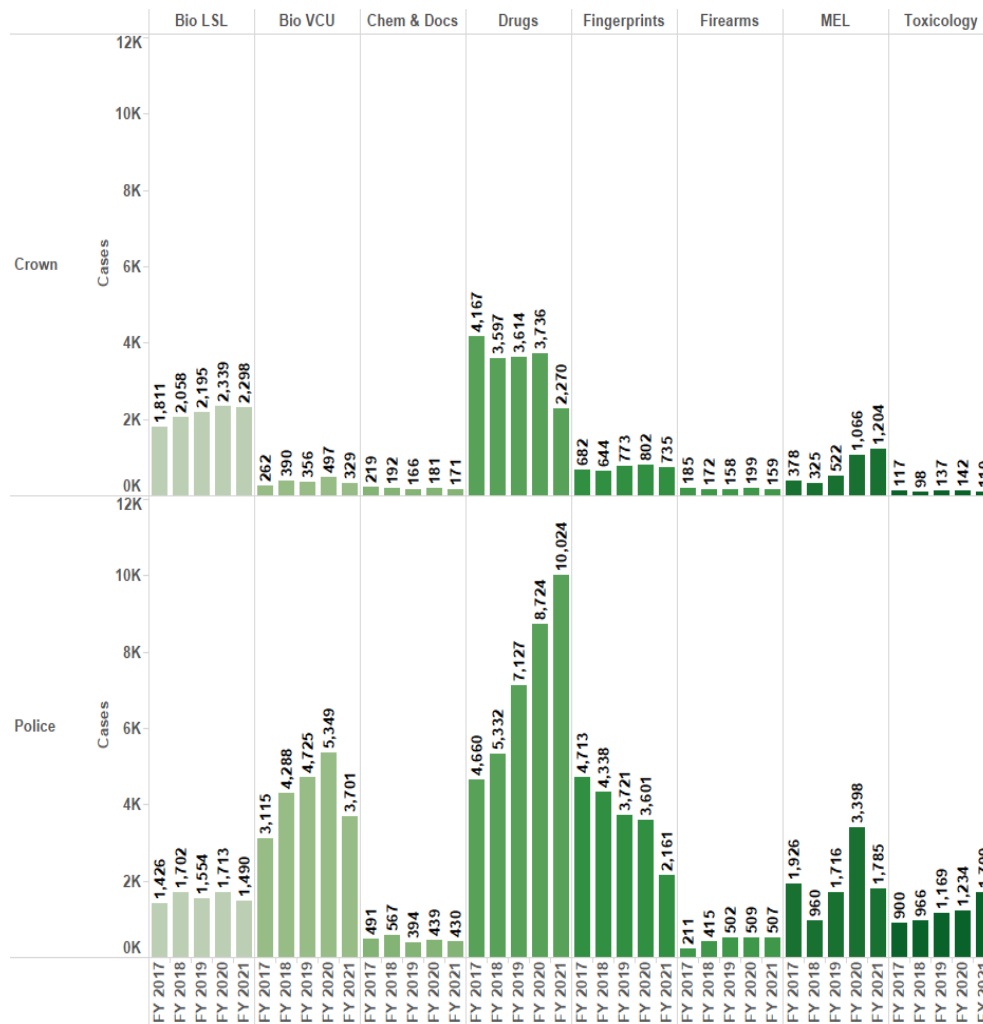
In addition, supplies of PPE for laboratory and scene staff were intermittent however, there was no issue in keeping our staff safe at all times whilst wearing the appropriate level of protective barrier.

Furthermore Forensic Services benefited from establishing a dedicated stock management team to monitor stock, supply delivery dates and improve relationships with Key suppliers of a critical nature. This function is now embedded within the organisation and has a holistic view at all times.

See section 4.2.1 for further information on 'Other drugs' and 'Traffic' crime categories.

4.2 Forensic Services Case Output (5 Year trend)

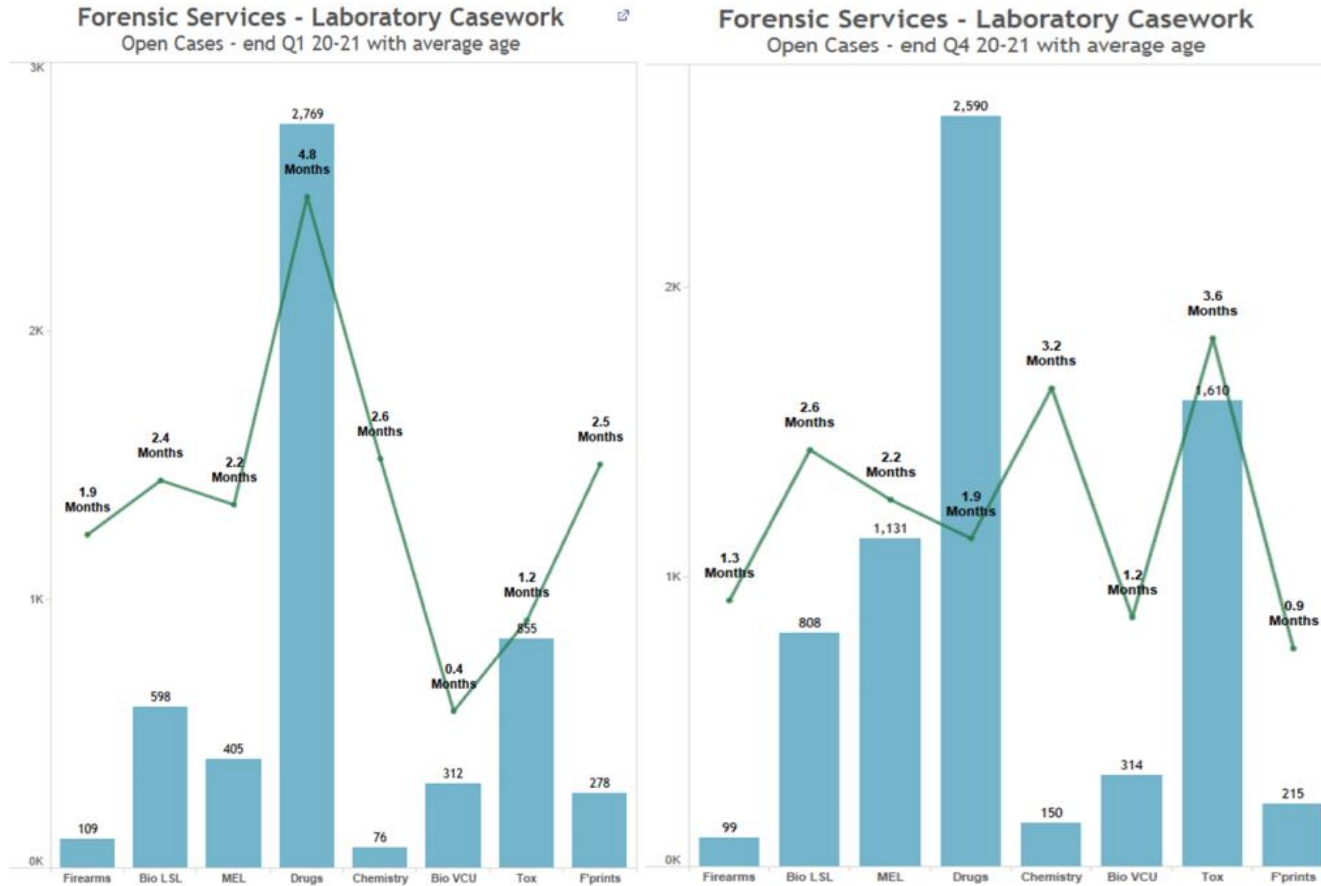
Split into Crown and Police:



Laboratory output from 2019/20 to 2020/21 has been affected by reduced footfall on site and a significant increase in cleaning of office, laboratory areas and fleet vehicles used by FS staff.

The current data collation and subsequent configuration was altered in July 2020 and therefore the data is not sufficient to provide any accurate trend analysis.

Case ageing:



In the majority of departments, despite Covid, there has been an improvement in timeliness and case ageing.

The most significant change from Q1 to Q4 can be seen in drugs where the number of cases has decreased but the age of cases has significantly decreased from 4.8 months old to 1.9 months old.

FS staff were seconded during the year from other departments and cross trained to reduce the risk of cases being time barred. A slight increase in ageing occurred in Biology LSL and Chemistry as a result.

Toxicology saw a substantial increase in case numbers and case ageing. (See dept. section for further information)

A 64% increase in Mark Enhancement (MEL) work over the year was primarily drugs related crime requiring chemical treatments of productions for Fingerprints (FP). This introduced a delay in FP work allowing them to clear their case load. Staff were then seconded into MEL to assist in the increase in casework. Once the backlog reduction clears the staff will return to FP to complete their work.

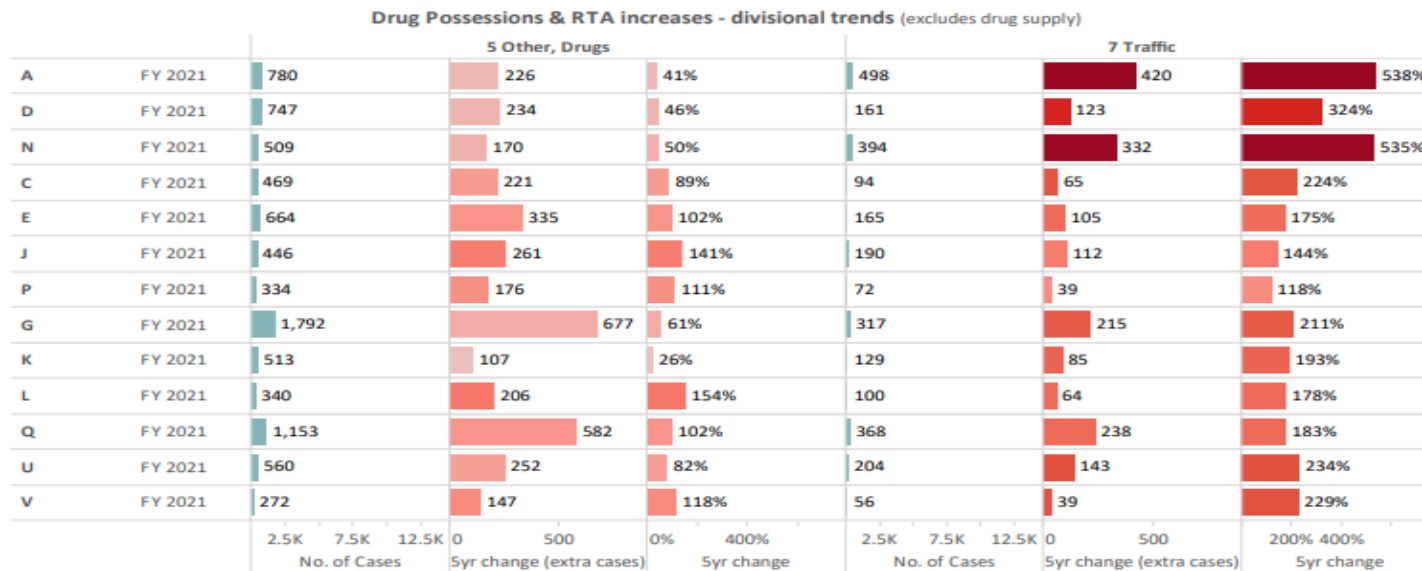
Memorandum of Understanding (MoU)

A project group, chaired by Fiona Douglas, and actively attended by Gary Cunningham (Det Ch Supt) and Kenny Donnelly (COPFS), is chiefly looking to update the MoU signed between PS, COPFS partners and FS in 2014. This group is primarily looking at capacity and demand management, agreement of services provided and to develop a framework in which to work together to provide a fit for purpose, valued service within the resource capability of Forensic Services.

4.2.1 Physical Sciences:

Due to the changes in demand in this area further data has been provided.

(See the appendix for a Divisional area code map)



The 5 year trend in drugs possession shows the biggest increases in East and a couple of West Divisions.

The greatest increase in Drugs/Drink Driving is seen in Northern Divisions.

Category 7 – Traffic crime, covers the S5A Drug Driving. During the initial planning stages, estimations of demand, based on information received from police forces in England, was around 1000 cases annually. However, as go-live approached that figure was revised to 1200 cases per year (100 per month) following reports from English forces of the increased demand they had been experiencing.

Further funding for an additional analysis instrument in 2020 increased capacity further to around 110-115 cases per month however as the legislation embedded it became clear that demand was far exceeding that which had been anticipated and is currently averaging around 220 cases per month.

The process to examine, detect and quantify each of the 17 Drugs has a high degree of complexity when compared to the more traditional drink driving samples where blood is examined for alcohol. Analysis and data processing times are longer and as such the turnaround time for such cases take more time than the more simple blood alcohol work.

Additionally, in order to bridge the gap between demand and capacity, just over 1000 cases were outsourced to forensic providers in England and all of those cases have now all been reported.

The refurbishment of the Edinburgh Laboratory and investment in new equipment has increased long term capacity however that is still below the demand figure which is showing a consistent average of over 200 cases per month.

Forensic Services - Physical Sciences - Drugs Unit - Case Demand and Result Trending

11,200
new cases
in the
previous 12 months

40%
5yr demand
increase

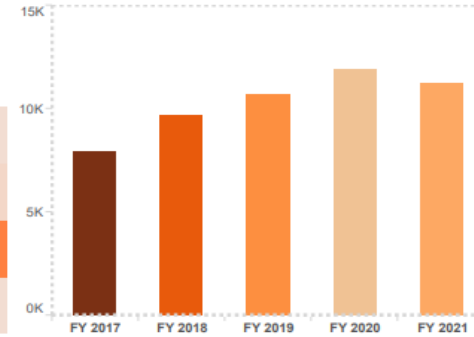
3,200 Additional Cases compared to 2016-17

45% Rise in Output compared to 2016-17

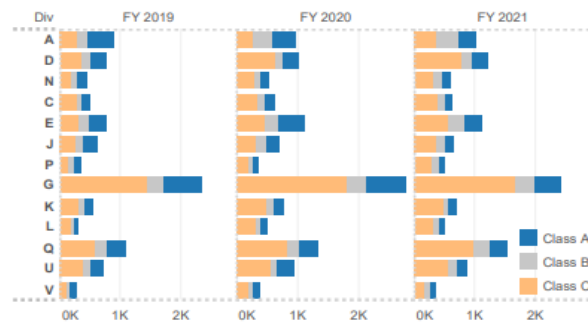
Drug Classification
(proportions of drugs analysed within Forensic Services by schedule - n>100 due to instances of multiple drug types within same case)

Class A	37%	31%	24%
Class B	21%	21%	25%
Class C	56%	60%	57%
Not Controlled	20%	20%	22%

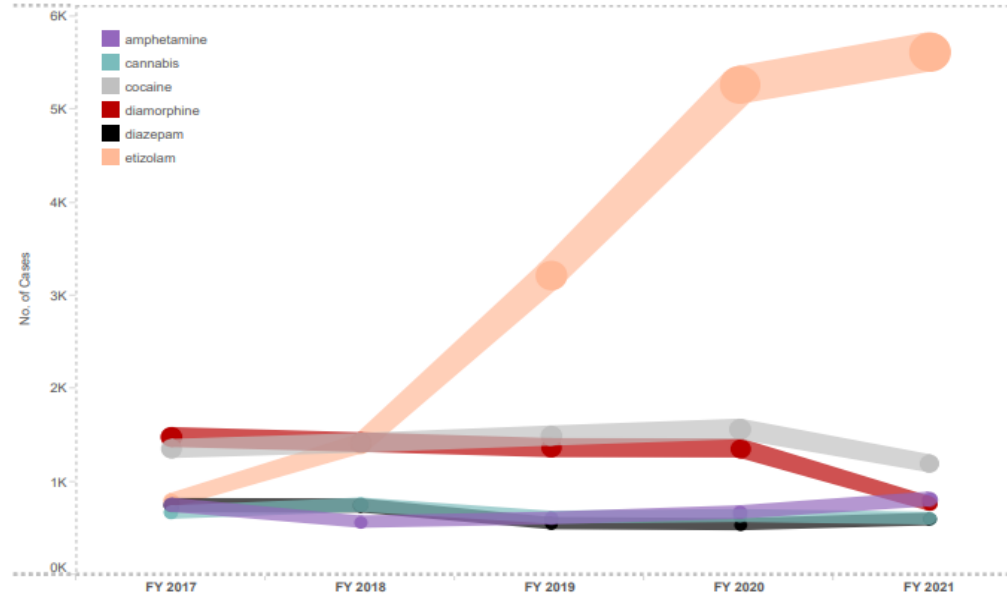
Demand (by number of drugs unit lab cases)



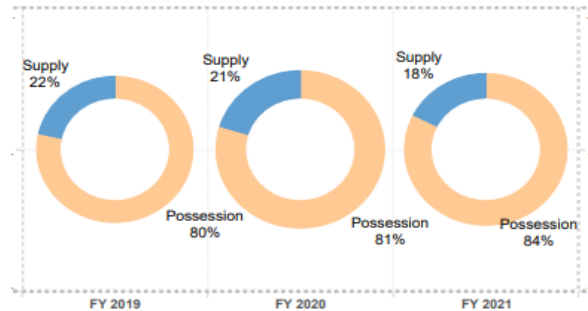
Divisional Output (number of lab cases, by Drug Constituent Schedule)



Drug Constituent Trending (selected drug types)



Case Profile - % of Drug Lab Demand



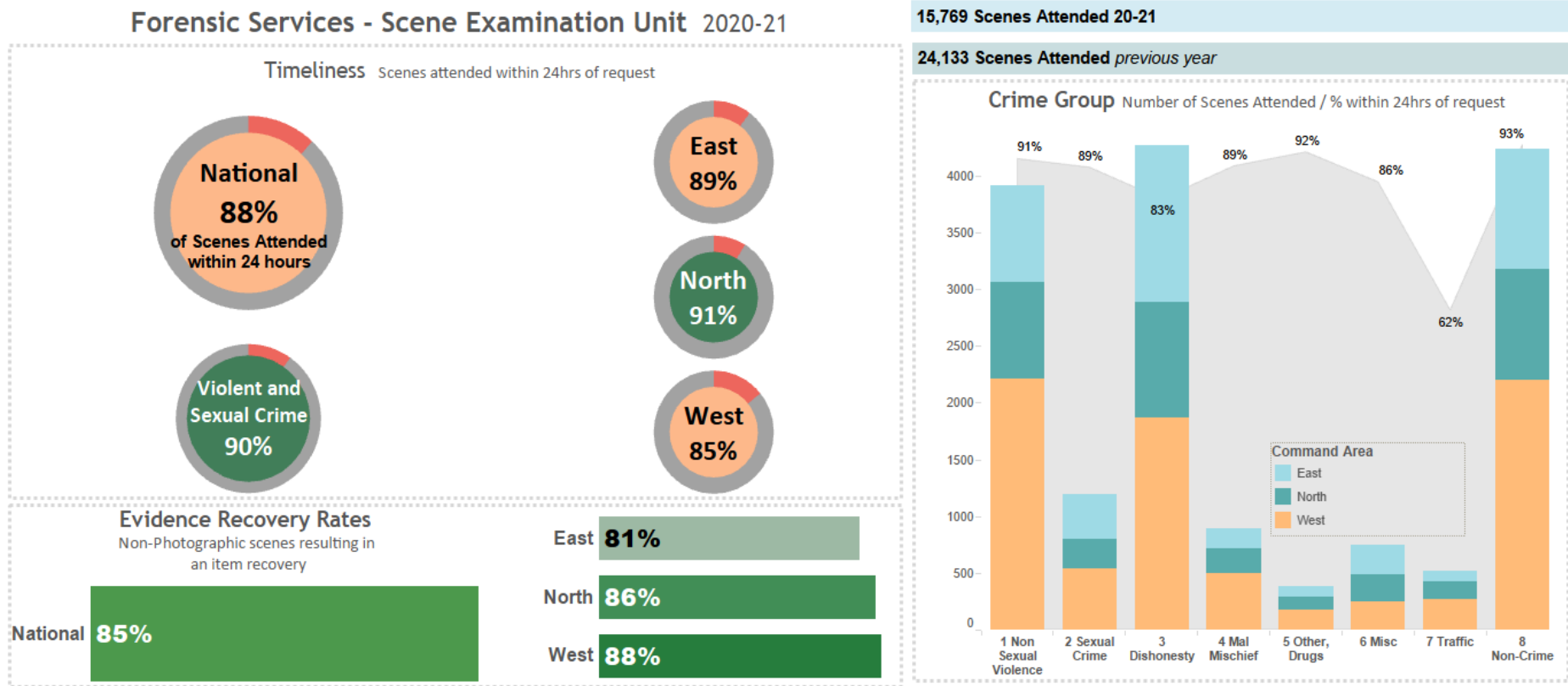
Drug trends change however Etizolam (a benzodiazepine) is prevalent in Scotland.

The ratio of supply and possession cases have remained consistent for the past 3 years.

Class C drug output was increased in 2021 due to staff seconded and trained in this analysis type.

4.2.2 Scene Examination

This chart reflects SE attendance against the 24hr target KPI. The numbers reported year on year have been fairly static and is reflective of the prioritisation to attendance at serious crimes.



Timeliness of attendance rates are affected as the time recording begins on 'receipt' of a request.

This measure requires review as this can be out with SE control due to the request arriving after the end of the working day had finished or the request to attend specifies attendance at a certain time, but the 'clock' begins on request receipt.

Since Nov 2018, Cat 7 scenes has varied between 53% and 70% with most in the low 60% area so the current stat of 62% is 'normal'. These tend to comprise multi-disciplinary examinations of vehicles in garages, recovered from Road Traffic Collisions, which are low in numbers and require a greater level of co-ordination. Response to these cases are within the request times of PS.

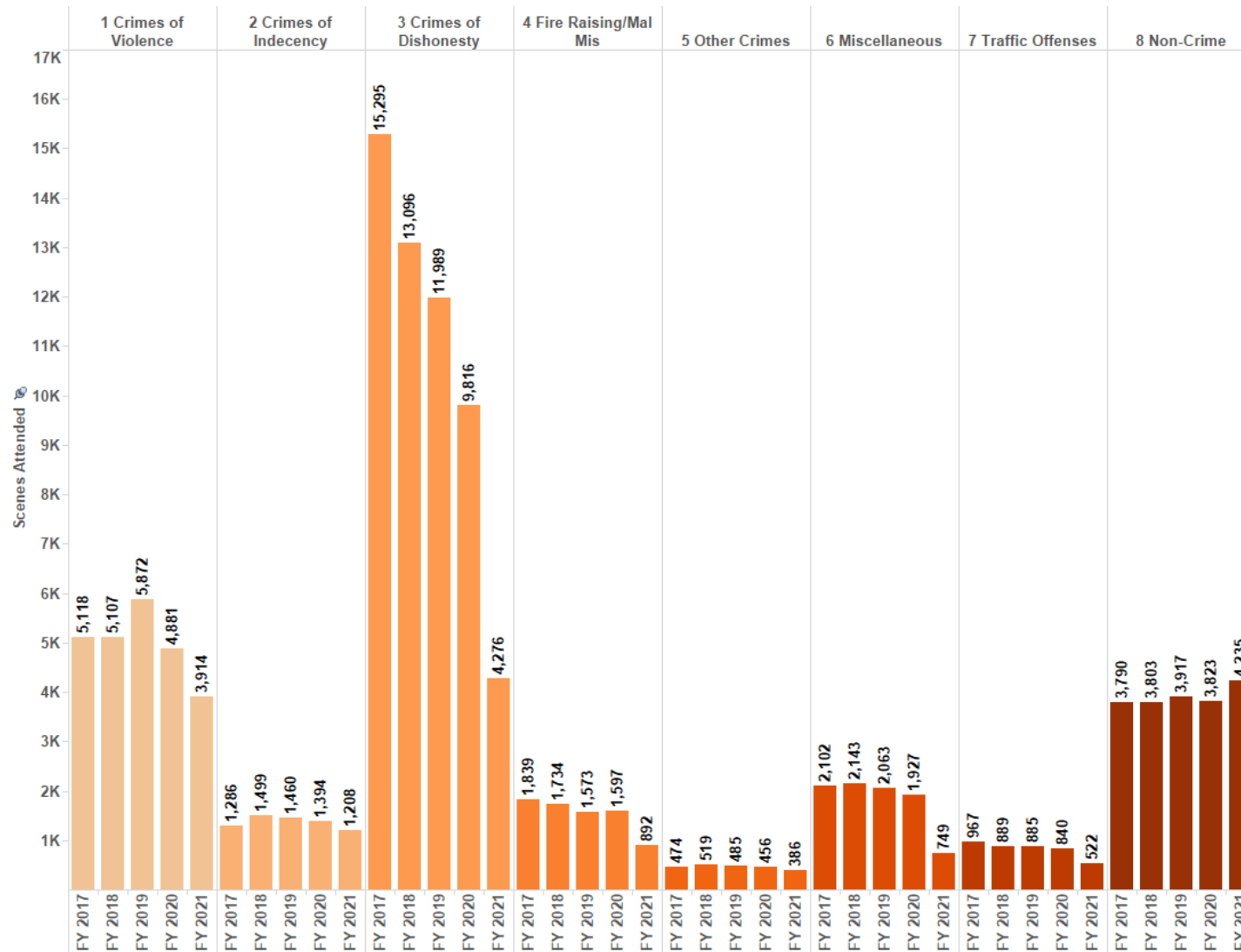
Attendance volumes (-35%) were heavily impacted by Covid during Spring/Summer 20-21, particularly for Group 3-related crimes (-40% in this category). The only crime group which did not decline year on year was Group 8, non-crime, due to increases in call outs for sudden deaths, many of which were suicides, and drug deaths.

Attendance turnaround times remain steady with the previous year.

Evidence recovery rates posted an improvement, attributed to the lower volume of attended housebreakings, a scene type which ordinarily results in a lower number of recovered productions.

The Scene Examination unit are reactive to COPFS / PS requests and it is possible to trend data but not provide any explanations for the requests.

5-Year trend for Scenes attended vs Crime category



Although Cat 3 (mostly House breakings) have historically been in decline there has been an 80% increase in numbers in May 2021.

5. Case Study

Forensic Services is a highly scientific and technology enabled area. As technology has advanced there has been greater opportunity to bring about criminal prosecutions through obtaining DNA profiles from crime scenes than would previously been possible. The case involving Mary McLaughlin demonstrates how the expertise of staff and use of more advanced technology has been able to solve this cold case.

5.1 A guilty verdict from a Cold Case

Mary McLaughlin was found dead in her home on 2nd October 1984. She was last seen alive on 26 September 1984, in the Partick area of Glasgow.

Ms McLaughlin was strangled with the belt from her dressing gown.

As part of cold case review which coincided with the launch of new DNA technology a number of DNA samples were re-analysed using this new technology. Using such advances available today can assist in unsolved crime cases which are many decades old. The sensitivity of the chemistries is greater, and the advent of new complex software makes solving of some cold cases possible.

From this work, a male DNA profile was obtained from an item found in Mary's house. A search of the DNA database was found to match the DNA profile of Graham McGill.

Further examinations were carried out from a number of the original case productions and additional DNA samples were taken. DNA attributable to Graham McGill was identified.

An experienced Forensic Scientist spent a day giving evidence in Glasgow High Court in April 2021.

On 9 April the accused, Graham McGill, was found guilty of the murder of Mary McLaughlin. This was a unanimous verdict.

Successes in such operations have led to apprehension of suspects in serious criminal cases.

Appendix:

- A – North East
- C – Forth Valley
- D – Tayside
- E – Edinburgh
- G – Greater Glasgow
- J – The Lothians & Borders
- K – Renfrewshire & Inverclyde
- L – Argyll & West
Dunbartonshire
- N – Highland and Islands
- P – Fife
- Q – Lanarkshire
- U – Ayrshire
- V – Dumfries & Galloway

