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Sent: Friday, 1 March 2013 6:08 PM
To: A/Supt David Neville
Cc: Greg Shaw
Subject: Update
Attachments: Page 1 of profile.JPG; Page 2 of profile.JPG; Cathie Allen.vcf

Hi David

Recently, I discussed with you the situation within DNA Analysis with respect to the significant change of the implementation of PP21 and STRmix.

I'm unsure if all RFSC's are aware of this information, and will be guided by your opinion, but I feel that the below information should be detailed to the RFSCs for the information of the OICs of Scientific and SOCO staff.

Happy to discuss with you.

Cheers
Cathie

Update regarding PP21 and STRmix at DNA Analysis

- ANZPAA (Police Commissioners) supported the implementation of the PP21 kit and STRmix (mandatory that these 2 items were implemented together) The deadline given was the 31st of Dec, 2012.
- The Queensland laboratory implemented PP21 and STRmix on the 3rd of December 2012.
- To date, Queensland is the only jurisdiction to implement these huge changes within the allocated timeframe (all other jurisdictions expect to implement by the end of March 2013)
- Implementation of PP21 and STRmix is the largest change seen within the forensic biology area since 1999 (when Profiler Plus was implemented)
- The DNA profile obtained has increased from 18 pieces of information to 40 pieces of information - over double the amount of information obtained. This is a major change, particularly when the sensitivity of the new kit is factored into this.
- A significant number of changes within the laboratory have been largely unseen by the QPS - ie validation of both PP21 and STRmix requiring significant staff resources, training of a large number of staff in both processing and interpretation of the results, training in PP21 and STRmix, updating of Standard Operating Procedures, changes to workflows etc. All of this has been undertaken whilst processing of routine work has continued.
- Whilst the PP21 kit and STRmix have undergone complete validation, the behaviour of crime scene profiles for both single source and mixed profiles are only seen after implementation. Whilst mock crime scene samples are processed during validation, only true crime scene samples indicate the behaviour of the profile.
- The behaviour of the PP21 profiles is different to Profiler Plus. This was expected, however probably not communicated effectively to the QPS. Whilst we are drawing on our vast experience and expertise to process the PP21 profiles, it takes more time. This is due to double the information being produced and the nature of the DNA profiles produced. An example of this is a DNA profile obtained from a poker machine chair, it produced a DNA profile that was very complex due to the large number of contributors across 20 loci (previously across only 9 loci). A copy of this particular DNA profile is attached merely as an example of the large amount of information that is now obtained from samples.
- Experienced senior scientists have been monitoring and evaluating profiles obtained from PP21 and adjusting workflows and assisting with ongoing training aspects. During training periods, it is expected that the number of results released will be reduced.
- A post implementation review has been conducted to capture this data and ensure that the workflows are appropriate and efficient.
- It is likely that the QPS will see a difference in the turnaround times provided for particular result types, ie samples where no DNA has been detected will be provided to the QPS in a faster turnaround time than mixed DNA profile results. This is due less processing being required for samples where no DNA is detected (ie these samples are halted after the quantitation step, whereas mixed profiles proceed through the system to interpretation).

- Previously, samples where no DNA had been detected were supplied for volume crime, however this workflow has now been implemented for both Major and Volume crime.
- 'No DNA detected' samples and 'No DNA profile' samples have progressed quite rapidly through our system since PP21 was implemented - this is due to a new workflow being introduced for those samples. This was by design, so that the QPS were provided with negative forensic information in quick timeframes, allowing Scientific Officers and SOCOs the opportunity to assess other items within the case and submit further samples, if appropriate.
- The QPS has assisted by reviewing the samples that are submitted and ensuring they are of appropriate forensic value, ie not from areas where a number of people may have touched the surface (ie door handles, gearsticks, etc) given the increased sensitivity of the PP21 kit. This assists both government departments to be economic and efficient.
- This large change was coupled with a number of urgent cases (a large number of items were required for urgent analysis for the following: a 2009 case set for Trial in March and unsolved major crime cases from at least 3 different areas across the state). A large number of items were received by DNA Analysis at the beginning of January (due to both the compulsory QH Christmas closure and the annual increased number of items from Property Points at that time of year). All of this has resulted in a number of results pending finalisation.
- As directed by the QPS, DNA Analysis will focus on reporting of Major crime items prior to reporting of Volume crime items. As the focus for a short period will be primarily on Major crime, the number of profiles being loaded to NCIDD and the subsequent number of links will be reduced. This reduction is not due to a decrease in DNA Analysis' activity on NCIDD, but rather due to the fact that major crime profiles do not traditionally generate a large number of links. In comparison, addition of volume crime profiles to NCIDD do generate a large number of links. This will be resolved over the coming weeks as the number of results outstanding decreases.
- DNA Analysis staff are cognisant of the importance of generating intelligence for the QPS and its effect on the Queensland community. This is evidenced by our commitment to eliminating the backlog, reducing our turnaround times to the best in the country and maintaining our excellent turnaround turn times for a significant period of time, as highlighted in the NIFS End to End Report. DNA Analysis has a proven record of resilience when it comes to reporting a number of results.

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