Ross Inquiry into PathWest Laboratory Medicine WA

Supplementary Report
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Inquiry to determine whether the Forensic Biology Department of PathWest issued incorrect evidence, results or reports to the WA Police or WA Office of the Director of Public Prosecutions.

Supplementary Report

Background

1. An Inquiry was initiated by the Director General of the Department of Health in his role as System Manager (Department CEO) under Part 14 of the Health Services Act 2016 (the HS Act).

2. The Inquiry is being conducted at the request of the Minister for Health to determine whether incorrect evidence, results or reports were issued by the Forensic Biology Department (FBD) of the PathWest Laboratory Medicine WA (PathWest) to the WA Police or WA Office of the Director of Public Prosecutions (the ODPP).

3. The Inquiry was tasked to:
   (a) undertake a forensic review of the 27 cases identified in the ODPP investigation and determine whether incorrect evidence, results or reports were issued to the ODPP or WA Police;
   (b) review any additional cases identified by ODPP, North Metropolitan Health Service (NMHS) or the Inquirer, in the course of the Inquiry;
   (c) identify any instances of non-compliance with the laboratory quality system and determine if the non-compliances resulted in erroneous evidence, results or reports being issued to the ODPP or WA Police;
   (d) review the audit conducted by NMHS on the erroneous DNA matching that occurred in 2004; and
   (e) make findings and recommendations as to any improvements that could be made to the policies and procedures, training and probity controls within the FBD in order to enhance the services provided by PathWest.

4. This supplementary report deals only with reviewing the internal audit conducted on the erroneous DNA matching that occurred in 2004. The Ross Inquiry Report of 19 October 2017 dealt with the other issues listed above.
Summary of Incident

5. In 2004, the DNA profile extracted from a reference sample belonging to person A (AJS) resulted in a DNA database hit (DBH) to a burglary crime scene sample (WA Police reference 010104 1930 10373/0002).

6. Following quality control testing, the paperwork relevant to the crime scene sample and the linked reference sample were retrieved for compilation of a DBH report.

7. The NMHS internal audit concluded that when tasked with the retrieval of the reference sample paperwork for person A (AJS), the clerical officer erroneously retrieved the reference sample paperwork for person B (ASS).

8. The reference samples of person A and person B had been received by the FBD on the same day in 2003 and both men have the same first name and last name. Through standard FBD processes, both samples were given the same case and batch file number (BFN): 03N0034.13 and filed within the same batch.

9. Ordinarily the case and BFN are not used as unique identifiers for reference samples. However, they are used to “…aid in the filing, storage and retrieval of the samples and their associated paperwork.”

10. Each sample did however feature unique barcode numbers (Person A: 62125591 and Person B: 62098310) and middle names and dates of birth which clearly differed.

11. It would appear that the clerical officer retrieved the reference sample paperwork on the basis of first and last names. The clerical officer has since left the employ of FBD.

12. Following the usual process, it is apparent that the clerical officer then provided the linked crime and reference sample paperwork to a forensic scientist who ultimately drafted an erroneous DBH report identifying a link between Person B and crime scene 010104 1930 10373/0002. The forensic scientist involved has since left the employ of FBD.

13. The DBH report is known as a short report. At the time of this link being reported, short reports were manually constructed, relying on the author to manually transpose identifying information from paperwork and database outputs. The short reports were provided to WA Police for the purpose of non-evidentiary intelligence.

14. It appears that the forensic scientist used the reference sample identifiers when compiling the draft short report without reconciling them against the DNA link documents which featured electropherograms (EPGs), database results, the full name of person A - including their middle name, and the unique Barcode number.

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1 Letter from Dr Gavin Turbett (Thursday, 29 June 2017) ‘SUMMARY OF AUDIT ACTIVITIES – STAINES AUDIT’
In line with FBD policy, after drafting, the short report was issued to another forensic scientist for mandatory peer review. The scientist conducting the peer review has since left the employ of FBD.

The peer review process followed a defined, documented checklist known as the FBF039 “Administrative Case Record Review” form.

In this instance, the FBF039 checklist was completed by the peer review scientist who checked and signed the checklist attesting that the “EPGs, the database results and the reported results all concur and are correct”.

It seems clear that during peer review the scientist did not adequately reconcile the identifying details within the draft short report against the associated paperwork, EPGs and DNA database link outputs.

The DBH short report was subsequently published and forwarded to the WA Police, incorrectly identifying person B (ASS).

As a result, person B was charged with the crime and, as understood by the Inquiry, chose to plead guilty on legal advice. Accordingly, the generation of a full trial report (which may have detected the error) was never undertaken.

On 5 April 2016, a DNA Database link occurred between a 2016 crime scene sample 220216 0430 15308 and the 2004 crime scene sample 0101041930 10373/0002.

This 2016 DBH identified person A (AJS) as the contributor to the new crime scene sample (220216 0430 15308) and again to 010104 1930 10373/0002 (as originally detected in the 2004 link).

In light of the new link, FBD reopened the 2004 DBH case file where the short report concerning person B was located and reviewed.

During this review of the 2004 file, it was detected that person B had been incorrectly identified within the 2004 DBH report.

FBD records demonstrate that as soon as possible after the error was detected, WA Police were notified, the original report was withdrawn and a replacement report was subsequently issued.

All of these actions were in full compliance with the FBD accreditation obligations.
Current System for Information Retrieval Following a DBH

27. In light of the advances in technology, the current systems and processes used by FBD to retrieve and report DNA information and links are different to those which were in place in 2004.

28. Since June 2008 reference sample identifying details have been electronically transferred from the WA Police Identifying Particulars System (IPS) into the FBD “WARDEN” database.

29. ‘WARDEN’ allocates and records each sample with an identifier consisting of: a unique system-generated ‘A number’ + Case number + WA Police DNA Barcode number (which is also unique).

30. This identifier then tracks the reference sample through all DNA laboratory processes and is electronically populated within the resultant EPG output and relevant FBD DNA database uploads.

31. Once the reference sample is matched / linked to a crime scene sample a worksheet is generated specific to that link. This worksheet contains the reference identifiers and 2D barcodes.

32. In the reporting phase, DBH reports are still manually drafted in ‘WORD’ by a reporting scientist. However, identifying details (eg. name and DNA Barcode number) for the linked sample are retrieved from the FBD DNA database via the 2D barcode on the worksheet.

33. The FBD DNA database displays the IPS detail and barcode in text format (for that sample only), which is then copied and pasted into the short report ‘WORD’ document.

34. The DBH report is then subject to peer review by another authorised scientist in line with the ‘Case Record Review’ checklist (FBF288) implemented 13 June 2008.

35. FBF288 requires that the reviewer check and sign the checklist, attesting that the “Electropherograms, Database results and reported results concur and are correct”.

36. Once complete, the report is converted to PDF format and issued to the WA Police.

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2 June 2008-March 2017: IPS details received on CD and imported to WARDEN. March 2017-present: IPS details transferred directly from WAPOL computer to WARDEN.
The purpose of the NMHS internal audit was to identify if there had been any other instances where an erroneous DBH report had been issued as a consequence of having received reference samples from different people with the same name on the same day.

The NMHS internal audit methodology, results and findings were outlined by Dr Gavin Turbett as follows:

**Search Parameters**
- Any reference samples from people with the same case number (i.e. the samples were received on the same day); and
- Multiple persons whose names match on first name and last name.

**Search Results**
- The search identified 199 records of people with the same first and last names who had samples received on the same day, including the two people, person A (AJS) and person B (ASS) from this particular case.

**Audit Process**
- The 199 identified records were grouped according to case number and last name which resulted in 94 groups of last names.
- The 94 groups were further separated according to whether or not they were the subject of any DBH.

It is worth noting that not every database link requires a report to be written. Some database links are of no probative value (e.g. finding the DNA of a victim of crime on their own clothing is unsurprising and is typically of no probative value), and DBH reports do not need to be issued specifically in such circumstances, because that information will be contained within any Court report issued by the FBD.

- For the groups where no DBH report was issued, no further action was taken.
- Where there was a DBH report, the report was retrieved and reviewed to ensure the correct information (i.e. name and barcode) had been reported.

**Audit Findings**
- Within the original 199 records, 53 unique DBH numbers were identified.
- Of the 53 DBH numbers, 37 were associated with the issue of DBH reports.
- The 37 DBH reports were reviewed by the Head of Department, FBD and all were confirmed as stating the correct name and barcode.

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3 Letter from Dr Gavin Turbett (Thursday, 29 June 2017) ‘SUMMARY OF AUDIT ACTIVITIES – STAINES AUDIT’
Ross Inquiry - Veracity of the NMHS Internal Audit

Sampling

39. In many fields, for example, quality management of manufacturing processes and financial auditing, sampling is used as a method of assessing compliance to standards or expectations. Often the standards are industry specific.

40. Sampling of a number of products within a batch or within a period of time to assess for compliance to standards is undertaken because often, it is not practical to inspect all products, particularly where there are large numbers.

41. Sampling plans, both statistical and non-statistical, are developed with a view to ensuring that the sample size is ‘fit for purpose’ for the number of products produced (e.g. in a particular batch).

42. Very rarely does sampling for quality management or financial audit, for example, involve examination of 100% of the product.

43. FBD, rather than taking a select sample from the database of DBH involving people with the same first and last names, searched the entire database. Therefore, in this respect, they exceeded what would be acceptable by conventional sampling standards.

Choice of Samples Received on the Same Day

44. The choice to audit samples from people with the same first and last name received on the same day was appropriate. It reflected the circumstances of this incident where the samples were received on the same day and given the same case and BFN.

Full Assessment of Cases where a DBH Report was issued

45. Only DBH reports that are issued to police have the potential to convey erroneous results outside of FBD. Therefore, it was essential that these cases were reviewed.

46. This occurred as part of the audit and all of these reports were confirmed as stating the correct name and barcode by the Head of Department, FBD.

Identification of Samples from the Case in Question

47. The methodology used for the audit independently identified the two samples which were the subject of the audit.

48. This in itself is a validation of the methodology used to identify the cases for audit.

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5 Public Company Accounting Oversight Board (PCAOB), Auditing Standards General Auditing Standards 1000 General Principles and Responsibilities, https://pcaobus.org/Standards/Auditing/Pages/default.aspx
Comparative Findings of the Ross Inquiry

49. This report should be read in conjunction with the Ross Inquiry Report (19 October 2017) as the findings and recommendations in that report are relevant and apply to the erroneous DBH report.

50. Of particular relevance in the Inquiry Report are findings and recommendations related to the development and implementation of automated IT systems by the FBD in order to eliminate or at least minimise manual processes (page 30) and peer review (pages 25 and 29-31).

51. Ten of eleven erroneous results detected in FBD case files examined by the Ross Inquiry were either transcription (8) or typographical (2) errors.

52. The erroneous result which led to the audit in this case could be categorised as a unique clerical error exacerbated by manual processes, leading to a typographical error which was not identified by the peer review process in this particular instance.

53. The error does not involve the scientific process, which remains exemplary.
54. The audit was conducted because of a DBH report which mistakenly identified a person in a rare situation where reference samples from two people with the same first and last names were received by the FBD on the same day.

55. The purpose of the audit was to identify if there had been any further occurrence(s) of erroneous DBH reports issued where reference samples from people with the same name were received by FBD on the same day.

56. The audit methodology which included a search of the entire database (100% ‘sampling’), the choice of parameters (e.g. people with the same first and last names received on the same day) which reflected the circumstances of this incident, and full assessment of cases where a DBH report was issued, was both thorough and appropriate.

57. The audit independently identified the two samples which were the subject of the audit, which is indicative of its veracity.

58. In its initial report, the Ross Inquiry identified errors not detected at peer review (e.g. eight transcription errors) in the 19 cases it examined between 2008 and 2011. The Ross Inquiry endorses its findings and recommendations from its first report which are equally applicable and relevant to this 2004 incident.
## Glossary

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>BFN</td>
<td>Batch File number</td>
</tr>
<tr>
<td>DBH</td>
<td>Database hit</td>
</tr>
<tr>
<td>EPG</td>
<td>Electropherogram (<em>the “raw data” that forensic scientists use to generate the DNA profile of a person, or of a crime stain</em>.</td>
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<tr>
<td>FBD</td>
<td>Forensic Biology Department</td>
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<tr>
<td>IPS</td>
<td>Identifying Particulars System (WAPol)</td>
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<td>WAPol</td>
<td>Western Australia Police</td>
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Appendix 1 – NMHS Response

Government of Western Australia
North Metropolitan Health Service

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Dear Ms Laurence;

FORMAL RESPONSE TO THE SUPPLEMENTARY REPORT FROM THE ROSS INQUIRY

The North Metropolitan Health Service (NMHS), PathWest Laboratory Medicine WA and the Forensic Biology Department (FBD) again thank Mr Ross and the Inquiry team for their significant efforts.

The findings made by the Ross Inquiry in this Supplementary Report are welcome and accepted.

In particular, it is pleasing to note that the Inquiry Team found that the 2004 error was not a failure of the science of forensic DNA profiling, or the WA DNA Database, but was entirely due to a clerical error exacerbated by the manual processes in use at the time.

The Supplementary Report acknowledges that the scientific processes used by the FBD remain exemplary, and that the methodology used to investigate the issue exceeded conventional sampling standards. The fact that a full audit was undertaken at the time is recognition of how seriously the matter was taken by the NMHS.

The Inquiry Team found that as soon as possible after the error was detected, the FBD acted appropriately by notifying clients and that the erroneous report was promptly withdrawn and a replacement report issued. The actions taken by the FBD were in full compliance with their accreditation obligations, and are in direct contrast to the misleading and unfounded reports and allegations made at the time regarding the FBD’s role in the delayed reporting of the error.

The FBD have made significant enhancements to the processes used for the issue of intelligence reports to the WA Police. As a consequence, many of the manual processes that were in place in 2004 have already been replaced with automated solutions.
In accordance with the recommendations made in this Supplementary Report, the FBD will:

[i]. Continue to enhance its procedures by developing and implementing further automated IT systems in order to eliminate or at least minimise manual processes.

[ii]. Refine the existing peer review processes to further minimise risk of error.

Yours sincerely

[Signature]

Professor Bryant Stokes AM
BOARD CHAIR

29 November 2017