REPUBLIC OF SOUTH AFRICA

JUSTICE CRIME PREVENTION AND SECURITY CLUSTER PROTOCOL IN RESPECT OF POST MORTEMS AND TOXICOLOGY ANALYSIS PERFORMED BY THE FORENSIC CHEMISTRY LABORATORIES OF THE NATIONAL DEPARTMENT OF HEALTH

THE P & T PROTOCOL

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Foreword:
Background & Persons Consulted

This protocol is one of two protocols dealing with operational matters within this field of endeavour. This protocol, in respect of toxicology, has a dedicated focus on discovery forensics. The other protocol, in respect of the analysis for alcohol, is a defined process and as such requires less exploratory forensic techniques.

The following were consulted in person, by the circulation of documentation and through the medium of a private internet based discussion forum.

NDOH

- Prof M Freeman (Cluster Manager: Non-communicable Diseases and Chair: National Forensic Pathology Services Committee - also discussed in Committee meeting)
- Ms P Netshidzivhani (new project manager: FCL's and mortuaries) JHB and CT
- Lab Heads (Ms J van Rooyen (acting at JHB) and Mrs A Schillack)
- FCLPTA - all staff and Prof S Naidoo (Chair: Academic Sub-Committee of the National Forensic Pathology Services Committee - it was discussed in their last meeting)
- Ms V Thompson (Director: Forensic Pathology Service, Western Cape)
- Prof J Vellema (Chief Specialist & Head of Department, Forensic Pathology Service: Johannesburg)

SAPS

- Lt. Col MS Louw (Commander: Community Service Centres and Courts, Division: Visible Policing, SAPS National Head Office)
- Col. A Lamprecht (Section Head: General Investigations: Investigation Support, SAPS National Head Office)

NPA

- Adv. B Smith (Deputy Director of Public Prosecutions, National Prosecuting Authority of South Africa)

DoJ&CD

- Adv. P du Rand (Chief Director: Court Services, Department of Justice and Constitutional Development)

The two protocols referred to above are to be signed by the National Departments who shall follow established channels for the implementation thereof at provincial level.

WHEREAS Cabinet, on 7 November 2007, approved, in terms of the Review of the Criminal Justice System (CJS Review), a package of seven fundamental and far-reaching transformative changes (''the CJS Seven-Point-Plan") that must be adopted and implemented in an integrated and holistic manner to achieve a new dynamic and coordinated Criminal Justice System;

AND WHEREAS the CJS Seven-Point-Plan adopted by Cabinet provides that practical short-term solutions to improve the performance and effectiveness of the overall CJS must be developed and actions initiated to implement these solutions;

ACKNOWLEDGING that the Forensic Chemistry Laboratories administered by the National Department of Health perform a vital function with regard to the forensic analysis and adducing of evidence in a number of criminal cases;

AND NOTING that the Forensic Chemistry Laboratories have over a considerable period experienced considerable capacity challenges and significant backlogs;

AND IN ORDER TO ENSURE that the services of the various departments are optimally utilised with regard to the analysis of evidentiary material in criminal cases and that minimum service requirements are adhered to;

THE PARTIES HEREBY AGREE AS FOLLOWS:

ARTICLE 1

INTERPRETATION

1. In this P & T Protocol, unless the context otherwise requires—

(a) **''Department of Justice"** means the Department of Justice and Constitutional Development;

(c) **''FCL"** means a Forensic Chemistry Laboratory of the National Department of Health;

(d) **''Investigation Officer"** means a member of the South African Police Service responsible for the investigation of any offence or any member acting under his or her command;

(e) **''Law enforcement agency"** means any law enforcement agency that, in the course of the performance of its official functions, is competent or required to take and/or submit

samples to the FCL's for scientific analysis, including ante- and post-mortem blood for alcohol analysis and biological samples such as blood, urine, bile, stomach content, eye-fluid and liver of a deceased person, as well as physical exhibits such as food, medication and other liquids, solids or gasses for toxicological (drugs and poisons) analysis;

(f) **''NDOH"** means the National Department of Health;

(g) **''OCJSR"** means Office for Criminal Justice System Reform, which is responsible for the Review of the Criminal Justice System, presently being undertaken by the Cabinet and which shall undertake the duties prescribed for the OWR until such time as the OWR is duly constituted;

(h) **"OWR"** means the Operational War Room established to oversee the implementation and monitor the P & T Protocol.

(i) **''Police official"** means any member of the South African Police Service as defined in section 1 of the South African Police Service Act, 1995 (Act No. 68 of 1995);

(j) **''NPA"** means the national prosecuting authority established by section 179 of the Constitution and referred to in section 2 of the National Prosecuting Authority Act, 1998 (Act No. 32 of 1998);

(k) **''Sample"** means any substance intended for scientific analysis by a FCL;

(l) **''SAPS'"** means the South African Police Service established by section 5(1) of the South African Police Service Act, 1995.

2. This Protocol may be cited as the **''P & T Protocol"**.

ARTICLE 2

OBJECTIVES

The objectives of this P & T Protocol are to promote, facilitate and regulate cooperation between the NDOH (Mortuaries and FCL's), the SAPS, the NPA and the Department of Justice in order to ensure the optimal utilisation of the role players in the criminal justice system and to agree upon minimum service delivery requirements.

ARTICLE 3

SERVICE LEVEL GUIDELINES AND OPERATIONAL DIRECTIVES FOR FCL's

1. The Operational Directives contained in the Schedules and in the Annexure to this agreement must be used to inform the formulation of Departmental Standing Operational Instructions, Directives or the equivalent thereof, instituted by each signatory to this P & T Protocol.

2. The Operational Directives may from time to time be amended by the signatories to this P & T Protocol or their delegates, in the manner determined by those signatories.

3. The successful implementation of the Operational Directives is dependent on the full cooperation of all role players.

4. The relevant Operational Directives shall be reflected within any Departmental Standing Operational Instructions, Directives or the equivalent thereto by each signatory to this P & T Protocol.

5. The reports detailed in Schedule B must be used to measure the performance of the individual FCL's.

6. Officials designated by the signatories to this P & T Protocol must report to each of the signatories to this agreement and to the Operational War Room (OWR) when service levels fall below those specified in this P & T Protocol and once such notice is given the responsible official must issue an update on corrective measures being taken in each succeeding calendar month until the specified service levels are achieved.

ARTICLE 4

ARRANGEMENTS FOR IMPLEMENTATION AND MONITORING

1. The OCJSR must, until such time as the OWR in the OCJSR is established, oversee the implementation of this P & T Protocol and until such time as the OWR is established the roles, responsibilities and duties of the OWR must be undertaken by the OCJSR.

2. The Operational War Room is responsible for the following—
   (a) overseeing the application of this P & T Protocol;

(b) making recommendations to the signatories to this P & T Protocol and other relevant role players;
(c) providing assistance or advice to any relevant role player regarding the application of this P & T Protocol;
(d) reviewing and reporting upon the implications of any report issued in terms of Article 3 point 6 of this P & T Protocol to the signatories to this P & T Protocol; and
(e) recommending amendments to the P & T Protocol to the signatories to this P & T Protocol.

3. In fulfilling the functions set out in paragraph 2, the OWR must, where appropriate, make use of relevant national, provincial and local structures within the Criminal Justice System.

ARTICLE 5

ENTRY INTO FORCE

This P & T Protocol shall enter into force on the _____ day of _____2011

ARTICLE 6

COMPLIANCE

This P & T Protocol is binding on all employees within the Government Departments that are signatories to the P & T Protocol.

ARTICLE 7

ENDORSEMENT AND ADOPTION

This P & T Protocol was endorsed and adopted by the JCPS Cluster on the _____day of _____ 2011. The JCPS Cluster regards the provisions of this P & T Protocol to be binding and the violation of any aspect thereof should lend itself to the institution of disciplinary proceedings.

IN WITNESS WHEREOF, WE the undersigned representatives have signed this P & T Protocol.

_____

Department of Health

Date: _____

_____

South African Police Service

Date: _____

_____

National Prosecuting Authority

Date: _____

_____

Department of Justice and Constitutional Development

Date: _____

SCHEDULE A

SERVICE LEVEL GUIDELINES AND OPERATIONAL DIRECTIVES FOR FCL'S

A1. OVERVIEW

a. INTRODUCTION

Each FCL shall, by the 14th of each month, forward to each of the signatories to this P & T Protocol and to the OWR a schedule of services delivered as more fully described in Schedule B.

Sampling, packaging, sealing, storing and transporting of samples is a critically important service delivery enabler. This is so as these matters impact on the chain of custody, as well as the scientific integrity of the samples tested. Non-compliance with guidelines contained in this agreement place the analyses performed at risk of not meeting requirements for admissibility as evidence in a court of law.

This P & T Protocol requires the signatories to this agreement to minimise any unnecessary analyst attendance at court proceedings. Certificates issued by FCL's should be sufficient for court purposes. Where an analyst is subpoenaed to testify regarding the analyses, the analyst shall attend court notwithstanding the issuance of a certificate that meets defined requirements[1]. The subpoena of analysts should be the exception and not the rule and should adhere to the guideline detailed in Annexure E regarding the time needed by an analyst to prepare for the court case and to arrange air or road transport.

This P & T Protocol serves as a binding agreement upon all stakeholders. It (and the Annexure associated with it) outlines, in detail, the performance expectations of the stakeholders. It also specifies the documentation needed with the submission of samples to the FCL's, which sampling containers to use and in what timeframe samples must be delivered to the FCL's. Contact details of offices where specific problems must be reported form part of this P & T Protocol, for example, unsealed samples received at the Johannesburg FCL from the SAPS must be reported to the office of the appropriate Provincial Commissioner of the SAPS[2].

[1] The prosecution, court or even an accused may decide to subpoena the witness.. Once the certificate or affidavit in terms of section 212 is produced as proof, the court may decide to have the person subpoenaed.

[2] This document should be read, in keeping with the Occupational Health and Safety Act and Regulations (85 of 1993). Blood and blood products should always be treated as infectious. Therefore strict Personal Protective Equipment is assumed at all times, for all individuals, throughout the chain of custody.

b. TOXICOLOGY

Toxicology is the analyses of exhibit material (biological and other) for the presence of harmful substances.

In the case of an unnatural death (cause of death unknown, suicide or murder, fatal vehicle accidents, etc), the FCL's analyse blood, urine, stomach content, eye-fluid, bile and/or liver for the presence of poisons, drugs or other harmful substances. Physical exhibits such as a syringe stuck in the deceased's arm, an empty container suspected to have contained a drug or poison or any other exhibit that the person might have ingested, inhaled or been injected with, and found close to the body, are also analysed by the FCL's. This information assists a pathologist when determining the cause of death.

The exhibits, as mentioned above, are collected on the scene and are sealed appropriately in a prescribed way (Annexure A: Sampling, sampling kits, sealing of samples and documentation required) by the detective on the scene or by the SAPS crime scene technician on the scene. These exhibits are transported (Annexure B: Sample storage and transportation) to the Forensic Pathology Services mortuary, with the body, where the autopsy would take place. Biological samples collected and sealed by the pathologist, and any exhibits that require analysis, are transported to the relevant FCL for analyses. Receipt is acknowledged and the samples are registered on the Laboratory Information Management System (LIMS) after which a laboratory reference number is issued. (Annexure D: Rejected samples, sample receipt, storage and analyses at FCL's).

Samples must be kept in cold storage in an access-controlled environment. In time, on a first in first out basis, the samples are allocated to an analyst who analyses the samples. Quantification is done on blood only, unless no drug, poison or other harmful substance was detected in the blood. In such an instance the liver will be analysed and the compound of interest will be quantified. Biological fluids of live people suspected to be under the influence of drugs whilst driving a motor vehicle, will not be quantified. The drug will just be reported as being present. The result is reported on in the form of an affidavit or certificate. These are available only to the Forensic Pathology Services mortuaries, SAPS and Court officials. Duplicate reports (certified copies or copies) are available on written request as per procedure described in Annexure C: Enquiries. No insurance companies will be provided by the FCL's with case related information or duplicate reports and they have to follow the prescribed Protocol in Annexure C.

The relevant Forensic Pathology Services mortuary, SAPS or the NPA may request in writing for a specific sample to be prioritised, for reasons such as a pending court date; if foreigners are detained in custody and their release or not depends on the outcome of the toxicological analyses and cases

involving minors. The procedure for prioritisation of samples is detailed in Annexure C. Each FCL shall report monthly on the progress made on priority sample analysis as detailed in para 3.5 below.

Annexure F describes the line of communication to follow should any problems be experienced by any of the stakeholders. Problems may include who to report unsealed samples to, who to contact when problems are experienced with subpoenas, etc. Members of the public or other parties awaiting the outcome of analysis must not be referred directly to the FCL's. The role and nature of work performed by the FCL's also does not permit the release of samples for analysis by private laboratories.

Annexure G contains general information regarding the FCL's.

Annexure I provides background information on the consultative process followed in drafting this P & T Protocol and details the gleanings obtained from this process. Given this insight the following are required:

1.1.1 A handover brief (letter/memo) that is completed by the IO that describes the circumstances surrounding the scene of the crime/incident and in addition which details local crime trends possibly relevant to the death where the use of poisons was suspected.
1.1.2 The addition of comments/report by the pathologist that performed the autopsy to the above handover brief which should be sent to the FCL's together with the samples sent for analysis.
1.1.3 That each FCL maintain a register in the form of a Microsoft Excel spreadsheet that details the following:

- The date of the crime/incident
- The geographic location of the incident and if urban the suburb and city
- The nature of the biological sample tested e.g. blood
- The nature of physical evidence assessed e.g. syringe
- Details of compounds detected e.g. morphine

1.1.4 This register must be available to all analysts who should be empowered to explore suggested analysis processes.
1.1.5 That the OWR be required to research matters presented for their attention and to report to the signatories to this agreement with recommendations, on a quarterly basis, with effect from within 90 days of this protocol coming into effect.

A2. SCOPE OF FCL SERVICES

2.1 INCLUSIONS

(a) Biological samples (blood, urine, bile, stomach content, eye-fluid, liver) as well as physical exhibits such as food, medication and other liquids, solids or gasses, are analyzed for the presence of drugs and toxins. Hair and nail samples are analysed for the presence of heavy metals (such as arsenic). All biological samples are retained for a period of 30 days post analysis and are then destroyed unless an official request is received for retention prior to the expiry of the 30 day period. The test results are used by pathologists to conclude upon the cause of death.

(b) The FCL's analyze samples for the presence of alcohol or drugs in instances of suspected crimes committed under the influence of alcohol or drugs. These test results can be used as evidence in a Court of Law.

(c) Post mortem blood is tested for the presence of carbon monoxide in order to assist the pathologists to conclude on the cause of death.

(d) Body fluid and or tissue samples drawn from victims of crime allegedly under the influence of drugs and or alcohol where these are required to adjudicate in a criminal case that may be brought to trial e.g. date rape, substance induced crime, suspected illicit substances found at the scene of a crime etc.

(e) Body fluid and or tissue samples received in terms of agreements with other countries.

(f) Analysis in terms of the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972).

EXCLUSIONS

(g) No tests for insulin, DNA testing, HIV testing, weapons and ammunition, snake or spider poison, drugs or suspected drugs confiscated at ports of entry, made in illegal factories (clandestine laboratories) or found on people (possession of drugs), blood or urine of suspected drug dealers, or random drug testing at schools shall be performed by the FCL's.

(h) Traditional medicines and dog-poisoning case samples are also not analyzed by the FCL's.

A3. ROLES AND RESPONSIBILITIES

3.1 SAPS

The SAPS are responsible for maintaining the integrity of samples in terms of Annexure B Sample storage and transportation. These samples need to be kept in circumstances where their integrity is protected, in other words, a chain of custody needs to be maintained, and the samples need to be kept in a refrigerator. These samples are hand-delivered to the relevant FCL for analysis within 30 calendar days after sampling. In circumstances where this is not practical the guideline issued for the preservation of such samples shall be followed.

The SAPS Investigating Officers or the detective on stand-by who attended to an unnatural death if an investigating officer was not allocated at the time, must attend the autopsy where an unnatural death occurred and where drug(s) or poisons are suspected. Biological samples taken at the autopsy, as well as any physical exhibits found with the body (container with suspected poison, drug paraphernalia) are hand-delivered by the SAPS to the relevant FCL for analysis. Investigating Officers shall send a copy of the toxicology and blood alcohol analysis to the medical practitioner within one month of receipt for reconciliation and finalisation of findings.

Biological samples must be maintained in terms of Annexure B.

3.2 FORENSIC PATHOLOGY SERVICES MORTUARIES

Sample testing capacity within FCL's is an extremely scarce resource and demand for analysis does, on average, exceed capacity with the result that analysis backlogs require constant attention. Pathologists requesting sample analyses are encouraged to prioritise analysis requirements so as to alleviate where possible the current excessive backlog analysis position.

Pathologists are responsible for performing the autopsy, removing samples for analysis and for determining the cause of death. Biological samples taken in the case of an unnatural death in order to determine the presence or absence of drugs, poisons or other harmful substances are handed over to the SAPS contact/liaison person at the mortuary to facilitate the receipt and distribution of the samples and correspondence between the stakeholders. The appointed SAPS contact persons at mortuaries must document the forwarding, by the SAPS, of samples sent for analysis.

Biological samples must be maintained in terms of Annexure B.

A schedule of SAPS contact/liaison persons at each mortuary and NDOH contact persons at each FCL shall be provided to each signatory to this P & T Protocol and to the OWR within 30 days of this FCL protocol coming into force and it shall be updated each month by the seventh of the month in the event of a change in any appointment. This schedule shall detail the name and rank of the person so appointed, a contact email address and telephone number for that person.

3.3 FCL's

The FCL's are responsible for analysing biological samples. They are also responsible for analysing samples of persons suspected to have been driving under the influence of drugs having a narcotic, or if a crime has been committed and it is suspected that drug intoxication played a role.

The FCL's are responsible for preserving the integrity of samples received and shall take the steps necessary to do so, which shall include electrical backup arrangements to guard against a power failure that may otherwise affect the preservation of samples.

It shall be the duty of each FCL to make arrangements to ensure the availability of resources required to perform analysis. A backup emergency supply of critical compounds such as nitrogen must be carried at all times on or off site by contracted suppliers and in circumstances of non-compliance, appropriate penalty provisions contained in contractual appointments must be enforced.

It shall further be required of the NDOH to report on progress with the progression towards the implementation of an OSD scheme so as to alleviate the impact of scarce human resources available to the FCLs within 30 days of the signature of this agreement and to update the report on a quarterly basis. This report should be sent to the signatories to this agreement.

A contact/liaison person shall be appointed at each FCL and a schedule thereof shall be provided to each signatory to this P & T Protocol and to the OWR within 30 days of this FCL protocol coming into force and it shall be updated each month by the seventh of the month in the event of a change in any appointment. This schedule shall detail the name

and position of the person so appointed, a contact email address and telephone number for that person.

Service hours and availability are specified in Annexure G.

3.4 NATIONAL PROSECUTING AUTHORITY

Evidence gathered by the SAPS and scientific evidence obtained by the FCL's is used in the prosecution of a suspect.

In order that certificates and affidavits issued by FCL's are sufficient for court purposes the NPA shall advise the FCL's from time to time of the minimum requirements for the issue of such certificates.

Annexure E: Handling of subpoenas, addresses matters regarding the time needed by an analyst to prepare for a court case and to arrange for air or road transport.[3]

[3] The reports go directly to SAPS, are placed in the docket and then this is handed to the prosecutor.

SCHEDULE B

MONTHLY FCL SERVICE DELIVERY REPORTS

Detailed below is a sample report. The data and notes are for illustrative purposes only

B1: Production Report

FCL Cape Town	FCL Johannesburg	FCL Pretoria
Staffing Capacity	**Staffing Capacity**	**Staffing Capacity**
No of working staff	No of working staff	No of working staff
No of posts with No of vacancies	No of posts with No of vacancies	No of posts with No of vacancies
Equivalent Analyst Capacity: No	Equivalent Analyst Capacity: No	Equivalent Analyst Capacity: No
Measured Output / Production Per Month	**Measured Output / Production Per Month**	**Measured Output / Production Per Month**
No of Toxicology	No of Toxicology	No of Toxicology
No of Food	No of Food	No of Food
Production average per equivalent analyst (Hrs/std hrs pm per analyst)	**Production average per equivalent analyst**	**Production average per equivalent analyst**
No of Toxicology	No of Toxicology	No of Toxicology
No of Food	No of Food	No of Food
Finalised Reports not collected	**Finalised Reports not collected**	**Finalised Reports not collected**
No	No	No

Notes on Non- Personnel Matters etc:

Detail here other matters e.g. The JHB FCL is in the process of being refurbished and staff have limited access to the laboratories. Nitrogen availability. Equipment downtime, etc.

B2: Capacity Report

Post level	Total posts	Vacant posts	Filled posts	Analysis staff	Analysis staff theoretical capacity	Diverted time to court etc	Total analysis time
12							
10							
9							
8							
6							
5							
4							
3							
2							
Total							

B3: Volumes and Backlogs Report

Volumes and Backlogs Report

Volumes and sample aging (per sample category: BA DD, BA PM, Tox & Food)					
	FCL Cape Town		FCL Johannesburg	FCL Pretoria	OWR Advisory
Opening Balance					
Received					
Production					
Closing Balance					
Sample Aging – This section to be repeated for each sample category					
O/S Prioritised < 1 Mth > 1 < 2 Mths > 2 < 3 Mths > 3 < 4 Mths > 4 < 5 Mths > 5< 6 Mths > 6 Mths < 1 Yr > 1 < 2 Yrs to be continued per year thereafter					
Total Aged Samples					
Closing Balance					
Backlogs					
From sample receipt to competed report	FCL Cape Town		FCL Johannesburg	FCL Pretoria	OWR - Advisory
Toxicology -Years					
Prioritized listing per individual case					
FCL Lab Number	CAS Number	Category	Date prioritisation requested	Turnaround weeks	Reason Category e.g. Foreigner Court date Child etc
	CAS Pretoria North	BA			FIFA/Foreigner
Notes:					

B4: Outlook and Recommendations

Details to be provided by each FCL.

Annexure A: Sampling, sampling kits, sealing of samples and documentation required

A1. Toxicology

A1.1 At the Forensic Pathology Services mortuary

A1.1.1 Sampling: The autopsy

Approximately 50 gram of liver (without the gallbladder), as much stomach content as possible especially where tablet or poison residues are visible, at least 5ml of blood, at least 10ml of urine or other bodily fluid, and at least 2ml of eye-fluid should be sampled.

A1.1.2 Kits to use:

Only the prescribed toxicology kit and the post-mortem blood alcohol kit must be used. Kits must be procured by the individual Forensic Pathology Services mortuaries from the National Tender: NDOH 34/2008-2009 (Toxicology kit) or NDOH 11/2009-2010 (post-mortem blood alcohol)[4].

The Toxicology Kit is to be used for multiple samples from a single body for toxicology analysis and consists of:

- an outer tub, sealed in a poly-bag by the manufacturer;
- the tub will contain a 260mL container labelled ‘‘Stomach content ‘‘, a 260mL container labelled ‘‘Liver‘‘, a 28mL container with screw-cap and labelled ‘‘Urine‘‘, a 28mL container with screw-cap with an unmarked label, one permanent marker, one glass McCartney bottle containing sodium Fluoride and Potassium Oxalate and labelled ‘‘Blood‘‘, one small eye-fluid dropper bottle containing Sodium Fluoride and labelled ‘‘Eye-fluid‘‘, two tamper evident seals with serial number reflected by the barcode for re-sealing after sampling, instruction leaflet ‘‘FCL002‘‘, and a Post Mortem Toxicology Referral Form ‘‘FCL001‘‘ (to be completed by the pathologist), all packaged in a poly bag.

A.1.1.3 How to seal:

Toxicology kit – The Pathologist and or the Forensic Pathology Officer should ensure that the lid is tightly sealed and secured. Apply the 2 yellow tamper evident security seals as indicated on the diagram inserted in the kit. Press down firmly.

A.1.1.4 Documentation required:

[4] Akacia Medical can be contacted at 011 699 2700 to place orders for these kits.

New documents that have been implemented will replace the old SAPS 387 (a) & (b) forms. The documents include a new toxicology form (FCL001) and accompanied instruction form (FCL002), completed by the pathologist, as well as a form for the submission of blood samples for alcohol (ethanol), drugs and carbon monoxide testing (FCL003), completed and signed by the pathologist. ONE FCL003 form must be completed PER SAMPLE submitted (this applies to alcohol specimens as well). No FCL003 forms on which multiple specimens are recorded will be accepted by the Laboratory. The documents must be completed in full and in duplicate, signed and stamped prior to submission to the laboratory. A a copy of the document (not packaged within the kit) must be submitted when delivering the kit to the Laboratory.

The Forensic Pathology Services mortuary is responsible for making its own copies of the completed original documentation (FCL001 and FCL003), as the original documentation must be handed in at the laboratory with the kit. The laboratory will provide the SAPS official responsible for sample delivery with a unique bar-coded sticker on the copy after receiving the sample. Relevant accompanying documentation must not be sealed in the container that contains the sample. If the accompanying documentation is sealed in the container with the specimens, it will be rejected at the laboratory. (The original FCL001 must be inserted into the pouch provided for it on the outside of the Toxicology kit.)

The Forensic Pathology Services official who carries out the autopsy should also ensure that additional exhibits which may include drug paraphernalia such as syringes or pure drugs, or bottles or containers containing poisons and empty containers found on the death or incident scene (sealed separately) **are not separated from the biological samples submitted to the Forensic Chemistry Laboratories**, as the physical exhibits are analysed by the analyst first in order to get an indication of what compound to test for in the biological material.

Forms used that relate to the analysis of blood have been detailed above so as to ensure that they are used for the purpose intended.

A.1.2 At the SAPS

Additional/ Physical Exhibits: non-biological samples collected on a death scene for analyses for the presence of drugs, poisons or other harmful substances.

A1.2.1 Sampling of additional exhibits

Additional exhibits include all drug paraphernalia such as syringes or possible drugs, or bottles or containers containing poison and empty containers found on the death or incident scene. These exhibits must not be separated from the biological samples submitted to the Forensic Chemistry Laboratories, as the physical exhibits are analysed by the analyst first in order to get an indication of what compound to test for in the biological material.

A.1.2.2 Kits to use:

SAPS FSL exhibit sealing bags must be used for packaging of additional Toxicology exhibits.

A.1.2.3 How to package and seal exhibits:

Physical exhibits packaged in envelopes or small boxes can be sealed using SAPS FSL exhibit sealing bags. Ensure, however, that all containers are appropriately labelled (take care to include the SAPS 13 No., Station and CAS number), and that the correct documentation (SAPS 384) is packaged separately from the exhibit. Multiple exhibits related to the same case must still, however, be sealed individually.

A.1.2.4 Documentation required:

The SAPS 384 form must be completed in duplicate for each individual exhibit. The SAPS 13 No., Station and CAS number, as well as the seal number needs to be reflected on the SAPS 384. The analysis required should also be specified on the SAPS 384.

A.1.2.5 Attending the Autopsy

The investigating officer, or the detective on stand-by who attended to the unnatural death if an investigating officer has not been allocated at the time, must attend the autopsy (SAPS directive 3/1/5/1/148 dated 2007-01-19 has relevance).

A.1.2.6 Documentation required for biological samples sampled at the Autopsy:

See A.1.1.4 above.

Annexure B: Sample storage and transportation

B1. Toxicology

Standard sample temperature monitoring procedures in place to verify adherence to the 2 to 8 degree storage requirement is important and needs to be verifiable. To this end sample temperature registers should be updated at least on a daily basis and evidence thereof per the temperature register should be available to courts upon request.

B1.1 At the Forensic Pathology Services mortuary

B.1.1.1 How to store samples:

All samples must be recorded in the property register (SAPS 13) in accordance with SO(G) 333.1.3. Samples must be kept in a fridge/cold room (2 to 8˚C) until delivery.

B.1.1.2 How to transport:

The Forensic Pathology Services is not responsible for transporting the samples to the laboratory. **Samples will be taken by the SAPS to nodal points that have been identified in each province. Staff members specifically assigned by the respective Provincial Commissioners will transport the samples to the various FCL's.** Ensure that any non-biological/ additional exhibits as defined in A.1.2 are not separated from the biological exhibits. Transport the kits containing the samples to the laboratory within a maximum of one month after sampling, maintaining the required temperature range (2 – 8˚C). **Note: Cooler boxes with ice packs are recommended during transport to the laboratory. Only hand-delivered samples will be accepted for analyses.**

B1.2 At the SAPS

B.1.2.1 How to store:

All samples must be recorded in the property register (SAPS 13) of the Community Service Centre (CSC) in accordance with SO(G) 333.1.3. When exhibits are recorded in the Property Register, the Commander in the CSC must check that the entry has been made correctly, and that the sample has been sealed and marked properly and sign in column 4.5 of the SAPS 13 Register as proof that he/she has checked the seal and markings (SO(G) 334.3.4 and 334.5). The Commander must also ensure that these samples are kept safely until the SAPS13 official

takes receipt thereof (SO(G) 335.1, 335.2, 335.6 and 335.7). The samples (additional exhibits as defined in A.1.2) must be kept in a fridge in the SAPS 13 store for no longer than one month at 2 to 8˚ C before delivery. The seal number and CAS number must be recorded in the SAPS 13 register - these are the only acceptable numbers to use.

B.1.2.2 How to transport:

The SAPS 13 official/investigating officer is responsible for ensuring the transporting of the biological, as well as the non-biological samples to the laboratory. Samples will be taken to nodal points that have been identified in each province. Staff members specifically assigned by the respective Provincial Commissioners will transport the samples to the various FCL's. See B.1.1.2 above for more details on the transport of samples.

Annexure C: Prioritisation of cases

C.1 Toxicology

Forensic Pathology Services mortuaries

1. All queries must be in writing.
2. Should a test result be outstanding and the court date pending, or a duplicate report needed, the Laboratory Head must be requested in writing to prioritise the relevant sample or to provide a copy of the relevant report.
3. The letter must be on a Forensic Pathology Services, signed by the Mortuary Manager, and contain the six-digit seal number (old kits) or cable tie seal/strip seals number (post-mortem blood alcohol kits) or unique number of the tamper evident security seals (toxicology kit), station and CAS number or Forensic Pathology Services mortuary and DR/PM or WC number for easy reference.
4. This letter and affidavit, can be posted, hand delivered or faxed to the laboratory.
5. No reports will be copied or faxed to anyone else than the investigating officer, relevant pathologist or prosecutor.
6. Reports are fetched from the laboratory by hand by a designated SAPS official. No reports will be posted.

C.1.2 SAPS

See Annexure I

Annexure D: Rejection of samples, sample receipt, storage and analyses at FCL's

D.1 Provinces served by the FCL's

All samples from the SAPS stations and Forensic Pathology Services mortuaries in the North West, Free State and Southern Gauteng province will be dealt with exclusively by the Johannesburg laboratory. This includes samples to be tested for blood alcohol, toxicology and carbon monoxide. All samples that need to be tested for blood alcohol, toxicology and carbon monoxide that are originating from the Mpumalanga, Limpopo, Kwazulu Natal and Northern Gauteng provinces, will be dealt with by the Pretoria laboratory. The Cape Town Forensic Chemistry Laboratory deals with samples from the SAPS stations and Forensic Pathology Services mortuaries in the Northern Cape, Western Cape and Eastern Cape.

D.2 Toxicology

Toxicology analysis is performed on liver, blood, eye-fluid, stomach content and urine, or other biological fluids, as well as physical exhibits (defined in A.1.2) such as syringes, tablets, empty glasses or bottles, pure poisons and half-eaten food found on a suicide or murder scene. All the samples received, excluding the liver, are screened for the presence of drugs or other toxic substances such as pesticides.

Body fluid and or tissue samples received in terms of agreements with other countries are analysed, provided that the requesting country obtains a permit from the NDOH for the export of the biological material to South Africa. The Clinical Forensic Pathology Sub-Directorate of the Forensic Pathology Services Directorate of the NDOH, Cluster: Non-communicable Diseases, issue these permits. Interpol also needs to be notified by the requesting country, and form I247 needs to be completed prior to transporting the biological material to South Africa.

The FCL's do not analyse samples for DNA, snake and spider poisons or insulin. Samples related to dog poisonings are not analysed by the NDOH.

Quantification is done only in blood, unless the compound could not be detected in the blood, in which case the liver will be analysed, and the compound/s detected will be quantified.

D.2.1 Toxicology samples rejected for analysis

Unless advised otherwise by the Head of the Laboratory, the following samples are rejected by the Laboratory:

1. The SAPS Forensic Science Laboratory exhibit-sealing bag is not an acceptable sealing method for FCL laboratories for biological samples (physical exhibits like drugs or

syringes excluded). It will, however, be accepted if the SAPS FSL has conducted analysis on the specimen first, re-sealed it in the exhibit bag and accompanied with a statement indicating who broke the initial seal, and how the sample was re-sealed.

2. Leaking samples are rejected for analysis due to the health hazard associated with it, and kept for biologically safe destruction purposes.
3. Samples in wrong containers are rejected. For example blood in tubes that do not contain sodium fluoride and potassium oxalate as preservative and anti-coagulant respectively, as well as organs stored in formalin, are rejected.
4. Samples not transported in cooler boxes.
5. The documentation (SAPS 384, FCL001, FCL003 – depending on the type of sample submitted) is checked to ensure that the seal number and other relevant case information correspond with the sample label and unique bar-coded security or strip seals. If the accompanying documentation is incomplete or not correctly filled out, the sample will be rejected until this information has been corrected.
6. Any samples received through the post that is meant for another institution.

D.2.1.1 Method of sample rejection

1. Upon receiving the toxicology kit and biological fluid kit at the laboratory's case reception, the administrative official will carry out standard checks to decide whether the sample will be accepted or rejected for analysis.
2. Note: for other reasons for rejecting samples, see above.
3. An official form with all the sample details, reason for rejection, investigation officer details, the details of the official's commander and comment by the laboratory head, is given to the SAPS official.
4. All rejected samples are reported to the relevant SAPS Provincial Commissioners/nodal points on a monthly basis.
5. Samples that are meant for another institution will be handed back to the official who delivered the sample at the laboratory.

D.2.2 Receipt and Storage of Toxicology samples

1. Once the above checks have been done and the administration official is convinced that everything is in order with the security and strip seals and accompanying documentation, the sample/kit is received, registered on LIMS and the documentation stamped.
2. Bar-coded labels with the laboratory name, laboratory number, seal number, SAPS 13 number, police station and CAS number/Forensic Pathology Services mortuary reference number and date and time received are printed out.

3. One label is placed on the sample, one on the documentation accompanying the sample to the section, and one is placed on the duplicate form in the possession of the submitting officer.
4. All samples/kits are kept in an access-controlled environment, as well as in fridges or temperature controlled cold rooms.

D.2.3 Analysis of Toxicology samples

1. Upon opening the samples the analyst checks all seals and markings against the documentation and database information. The report will eventually contain the information as per individual sample label and seal.
2. If an analyst reports the sample as being sealed, it obviously indicates that nowhere during the whole process since sealing of the sample did anyone tamper with the seal, and that the chain is thus intact. It would then defeat the purpose to subpoena the administrative official, lab assistant and analysts to testify in Court about the chain of that specific sample.
3. The annexure at the back of each report describes the calibration and analysis procedures, as well as the fluoride analysis and other procedures relevant to toxicology analysis in the case of toxicology samples (Pretoria laboratory only).
4. Analysis reports are issued in the form of an affidavit.

Annexure E: Handling of Subpoenas

E.1 Toxicology, Ante-mortem Drunk Driving analyses, Post-mortem Drunk Driving analyses

1. Analysts should be subpoenaed at least 10 working days[5] before the date of trial to allow time for preparation, obtaining relevant documentation if stored off-site and to finalize transport arrangements[6].
2. Hand-delivered and faxed subpoenas must contain the laboratory reference number or the seal number in order for the analyst to obtain the correct documentation for preparation for the court case, as well as the contact details (including the fax number for acknowledging of receipt of a faxed subpoena) of the relevant court and/or prosecutor[7].
3. Analysts must be informed at least one day before the court date if they are no longer needed to testify, or if the case will not proceed.

Note

In order that FCL analysts are fully prepared for any required attendance at court the Justice College shall be requested to issue, within 30 days of this Tox Protocol coming into force, a general guideline (with case specific examples) to each FCL on the challenges and likely questioning that they may anticipate when attending court and the suggested matters that they should prepare for in relation to such required attendance. In addition the guideline should cover

- The minimum requirements to preserve the chain of custody re evidence in respect of matters from the crime scene, through the movement of a body to a mortuary, identification, autopsy etc and in respect of any sample to be analysed and in respect of any report on such samples that may be required in a court of law.
- Minimum preparation needed for court attendance.
- The correct protocol to be followed by witnesses seeking information on court attendance.

Where a prosecutor hands in the certificate or affidavit of the analyst, provided it complies with section 212 of the Criminal Procedure Act, this constitutes prima facie proof of the

[5] The legislation does not prescribe how long before the court date witnesses must be subpoenaed.
[6] Once the 212 statement is tendered as evidence it is up to the presiding officer to exercise his/her discretion to call the witness
[7] Where the court has directed that the witness be subpoenaed as the witness is the court's witness and both the prosecution and defence may cross-examine the witness.

facts alleged. However, the court may in its discretion cause the person who made the certificate or affidavit to be subpoenaed to give oral evidence, or may cause written questions to be submitted to the person for reply. Such a witness is the court's witness. Consequently, it is inappropriate for the witness and prosecutor to contact one another or discuss the matter without leave of the court (who will consider any objections that the defence may have). The prosecutor can alas not release the witness from attendance should it be clear that the proceedings will not go ahead at the court date.

Analysts subpoenaed to testify should liaise directly with the clerk of the court in question, thus ensuring their independence, avoiding any allegations that there have been communication between the prosecution and the witness.

In should be noted that there may be occasions where the prosecution decides up front to call the analyst to testify rather than hand in the certificate/affidavit, but these circumstances are expected to be a rare exception.

Annexure F: Line of communication – reporting of problems

F.1 Un-sealed samples received by the FCL's

Any un-sealed or obviously tampered with samples must be reported to the relevant Provincial Commissioners (contact details below).

Province	**Telephone Number Provincial Commissioner**	**Fax Number Provincial Commissioner**
Eastern Cape	040 608 8413	040 608 8416
Free State	051 507 6562	051 507 6500
Gauteng	011 274 7859	011 274 7312
KZN	031 325 4825	031 325 4746
Limpopo	015 290 6163	015 290 6162
Mpumalanga	013 249 1024/5	013 249 1026
Northern Cape	053 839 2841/0	053 833 1275
North West	018 299 7001	018 299 7002
Western Cape	021 417 7149/100	021 417 7336/445

F.2 Reports not collected monthly

Any reports not being collected at least monthly, must be reported to the Provincial Commissioners (contact details above). The next level of reporting will be the General.

F.3 Problems with court testimony and subpoenas

Any problems experienced by analysts regarding court appearance and subpoenas can be reported to the relevant Directors of Public Prosecutions:

Province	**Telephone Number DPP**	**Fax Number DPP**
Eastern Cape (excluding former Transkei)	046 602 3001	046 602 3061
Eastern Cape (former Transkei region)	047 501 2600	047 501 2653
Free State	051 410 6000	051 448 2671
Gauteng North	012 351 6700	012 323 0866
Gauteng South	011 220 4000	011 333 0402

KZN	033 845 4400	033 394 8884
Limpopo	012 351 6700	012 323 0866
Mpumalanga	012 351 6700	012 323 0866
Northern Cape	053 807 4500	053 832 9434
North West	018 381 9000	018 381 903
Western Cape	021 487 7000	021 424 7825

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F.4 Problems regarding long outstanding reports from the FCL's

Any problems regarding long outstanding reports (ante- and post-mortem drunken driving reports outstanding for longer than 90 days, Toxicology reports longer outstanding than three years, perishable food samples longer than 30 days after sampling and non-perishable food samples longer than 60 days after sampling) from the FCL's can be reported as follows:

FORENSIC CHEMISTRY LABORATORY	TYPES OF ANALYSIS	PROVINCES DEALT WITH
Cape Town HEAD – Mrs. A Schillack (Deputy Director) 120 Albert Street, Woodstock, Cape Town Contact numbers 021 442 8940 (t), 021 447 2397 (f) SchilA@health.gov.za	Toxicology: drugs and poisons (harmful substances) in biological fluids and liver and other diverse matrices, Drunken driving blood alcohol, Post-mortem blood alcohol and Carbon monoxide	Eastern Cape Northern Cape Western Cape

Johannesburg ACTING HEAD Ms. S Monokofala 110 Joubert Street Extension, Braamfontein, Johannesburg Contact numbers 011 242 9700 (t), 011 725 4731 (f) monoks@health.gov.za	Toxicology: drugs and poisons (harmful substances) in biological fluids and liver and other diverse matrices, Drunken driving and Post-mortem blood alcohol and Carbon monoxide analysis.	Southern Gauteng North West Free State
Pretoria ACTING HEAD Mrs. C Deysel 271 Visagie Street, Burgerspark, Pretoria Contact numbers 012 322 6600 (t), 012 320 6385 (f) deysec@health.gov.za	Toxicology: drugs and poisons (harmful substances) in biological fluids and liver and other diverse matrices.	Biological fluid and diverse exhibit analysis: Northern Gauteng Limpopo Mpumalanga KZN
	Drunken driving blood alcohol, Post-mortem blood alcohol and Carbon monoxide	Northern Gauteng Limpopo Mpumalanga KZN
	Food Analysis (Foodstuffs, Cosmetics and Disinfectants Act, Act 54 of 1972)	Gauteng Limpopo Mpumalanga KZN North West Free State

Annexure G: General

G.1 The Pretoria FCL is in the process of applying for South African Accreditation Systems (SANAS) accreditation. SANAS accreditation has been received by the Cape Town FCL (see below) for their blood alcohol sections.

G.2 Analysts in all three the FCL's are also taking part in international proficiency testing schemes regarding blood alcohol, carbon monoxide and drug analysis in biological material.

G.3 Any rejected samples will be kept at the laboratory and will be destroyed within one month of the date of rejection (excluding samples that were meant for another laboratory that have been returned to the official that delivered it).

G.4 The blood alcohol section of the Cape Town FCL has obtained FCL (F0002) SANAS accreditation in terms of ISO 17025.

G.5 The FCL's are open for sample receipt during the following weekday hours:

FCL Cape Town	:	07:30 – 12:30, 13:30 – 15:30
FCL Johannesburg	:	07:30 – 12:00, 13:00 – 15:30
FCL Pretoria	:	07:30 – 12:00, 13:00 – 15:30

Annexure H: Attachments

H1 Evidence CPA 212 proof of fact (6 pages)
H2 Consultative process followed and gleanings there from.

This annexure explores gleanings from documentation researched and from discussions, comments received and interviews with experts in the field of toxicology that potentially offer the basis for affordably resolving the unacceptably long toxicology backlogs. It is mooted that if the gleanings shared below are used to direct the analysis process that timelines to achieving a result could be reduced by periods in excess of seventy five percent.

A FCL protocol was drafted and comment was provided mostly off-line to the web based forum due to the NDOH not having connectivity. In short, it was decided that the scope of the PM and DD protocol together with the P & T protocol should be broadened so as to allow for the drafting of inter-departmental process protocols rather than a single protocol drafted from a NDOH FCL perspective only.

Gleaning 1: Managing Risks

Stakeholders were invited to offer comment on the matters below and or to suggest new matters for discussion. The channels of communication included direct commentary on a web based discussion forum as well as by return of email. Comments received were shared on the forum.

1. Maintaining and sharing analysis trends
   - Stats can reduce analysis time by narrowing the scope of testing and or reduce false negative results by including specific tests not included in routine screen testing.
   - Routine screen testing takes approximately 2/3 months plus per sample/case whereas specific testing can take about 10% of the time or less to achieve a positive result.
   - Exhibits found at the scene of a suspected suicide/murder scene need to be linked to the body and to analysed samples.
   - As stated, crime scene exhibits can direct analysis to specific tests that can be quickly done and if positive reduce the need for further exploratory testing that is very time consuming e.g. was the poison found in the body and not just at the scene? This

question is important say, in the case of arsenic poisoning where arsenic is found at the scene of death as arsenic is a readily available substance used in large quantities in mines that is not routinely tested for. Testing for arsenic is not included in initial screen testing and without indicators may not be tested for. Thus, it is possible that a negative result may result only because the analysis did not explore all eventualities. Exploring all eventualities can take over three months and in addition it is possible that an analyst with exhaust sample availability before exhausting the analysis for possible causes of death. Thus, it is possible that a negative result may result only because the analysis did not explore all eventualities. Exploring all eventualities can take over three months and in addition it is possible that an analyst with exhaust sample availability before exhausting the analysis for possible causes of death.

- In the above example it is possible to achieve a positive result in one day in circumstances that often achieve a negative result in some 100 days!
- This matter could significantly increase FCL lab output. This is a bold statement however the FCL's are of the opinion that directed forensic analysis is an approach not used before that potentially could break new ground in delivering an affordable enabler to toxicology backlog reduction.

    - Understanding the extent of possibility

        - Poisons vs Drugs
            - Eg in the UK they do trend analysis on an on-going basis that enables directed analysis which reduces analysis time dramatically. In SA analysts are normally provided samples with no background. Applied to SA scenarios:

                - Knowledge that samples are from certain farming areas could suggest that one looks for certain poisons - the Pretoria FCL analyse samples from farming areas in Limpopo where agricultural pesticides are often found vs "city" cases where certain drugs e.g. cocaine & or heroine are often found in Northern Gauteng. These "statistical trends" are suspected however they are not confirmed nor documented.

- Analysts generally work on samples that are not drawn on a chronological (date order) basis and trends change over time.
    - The underlying methodology is a FIFO (first in first out) basis however prioritisation requirements mean that as a general rule analysts work on samples drawn at "random" across a 4 to 5 year period and these are from various areas as the FCL's cover very wide "dormitory" areas (rural areas and various cities).

    - When one is aware of a trend
        - Obtaining a "positive result" can be achieved months earlier and
        - The possibility of a false negative is substantially reduced as certain tests are not included in routine screening analysis
            - Note: Routine screening that generates a negative result normally results in the closure of a case.
            - Further (exploratory or specific) testing that could be suggested is thus not done without indicators received by way of background information and or crime scene exhibits.

Gleaning 2: Chain of custody matters

- Handover at the scene of the crime
    - There should be a handover affidavit at each point that custody of the body is handed by one person to another.
    - This is to prevent
        - Body identity swopping
            - Body numbers incorrectly referenced to sample kit numbers, CAS numbers etc
        - Body sample swopping
            - Wrong numbers used when say lab numbers are referenced to CAS numbers after an autopsy etc.
        - Crime scene exhibits that require multiple analysis are possibly sources of information that could direct opinions drawn by
            - Pathologists at mortuaries

- Analysts at the FSL's
- Analysts at the FCL's
- Eg - a drinking glass found at the scene of death
  - Could alert the pathologist (by simply smelling the glass) to poisons etc which could direct the taking of samples for further directed specific analysis vs routine screen testing for unknowns
  - Could be used by the FSL's to test for fingerprints - if the deceased's fingerprints are not found it could indicate that the poison was administered by another.
  - Could offer direction for FCL analysis that could reduce the reporting timeline by many months.
- An "analysis report" should accompany the glass
  - Objective
    - Evidence found at the scene can reduce analysis time significantly and it is critical to case evidence gathering. Exhibits found at the scene of a suspected suicide/murder scene need to be linked to a body and to analysed samples. Crime scene exhibits can direct analysis to specific tests that can be quickly done and if positive reduce the need for further exploratory testing that is very time consuming. eg was the poison found in the body and not just at the scene - say in the case of arsenic poisoning where arsenic is found at the scene of death (eg arsenic is a readily available substance used in large quantities in mines that is not routinely tested for). Testing for arsenic is not included in initial screen testing and without indicators may not be tested for.
  - Scenario sharing
    - The Investigating Officer (IO) should record the occupation of the deceased and immediate family as this may provide indicators to possible poison sources eg Vets put animals to sleep with certain barbiturates, mining personnel have access to arsenic and cyanide, individuals in possession of prescribed drugs can use them to overdosed, farming pesticide use etc
  - Crime scene exhibit sharing
    - FCL toxicology analysis generally tests for drugs and or poisons to assist with the determination of an unknown cause of death.

Indicators found at the crime scene not only need to be gathered they need to be shared for a variety of purposes.

- Exhibits found at the scene of the crime should be sent with a body to the mortuary where poisoning is suspected eg syringes, chemical/medicine bottles, bedding, tablets, food etc

Gleaning 3: Attracting & keeping staff

- Keeping staff - Scarce skills / OSD's
- Growing staff - bursaries, training norms etc
- The reality is:
  - that the Mortuary services, FSL's and FCL's are losing talent and they have difficulty in finding affordable expertise in the marketplace
  - Sustainable research funding is not available to explore analysis process efficiencies etc

Gleaning 4: Reducing silo-thinking

- IO's to attend autopsies and
- in certain cases - IO's to call for pathologists to attend a crime scene
- Using the SACJR "War Room" as a cross cutting think tank to evaluate drug/poisoning trends

Gleaning 5: Improved systematic procedures

- Introducing dynamic versus static routine screening
  - This should be informed by formal "geo-mapped" statistical trend analysis and by understanding the environment "on the street."
  - Research: Consider contributing to national task teams vs isolated lab by lab initiatives (most research is done informally by individuals in labs and findings are not shared), develop international relationships, provide technology guidelines to IO's

- Sharing international journals eg via a knowledge management library
- Research can be in-house and in partnership with agencies such as
    - Academic institutions
    - CSIR
    - NHLS
    - Foreign counterparts

Gleaning 6: Exhibit routing

It is normal that no communication between the various agencies transpires and exhibits rarely are offered to pathologists and FCL analysts as they are collected and sent to the SAPS FSL's in isolation to the needs of the other analytical agencies.

- The protocol should address this matter)
    - The 1st and more immediate decision is taken by the pathologist
    - 2nd the next decision is likely to be FSL analysis for fingerprints and or DNA re saliva etc
    - The 3rd (due to backlogs) is normally the FCL analysis

Gleaning 7: Documentation and information sharing

- "Briefing file" content guideline
    - Drug "availability" reports about what is in the marketplace eg drug find trends at airports, "bad/spiked" drugs on the streets (eg for a 3 mth period "spiked" drugs can cause a number of deaths - this info could cut analysis time dramatically when samples are tested in a few years time)
    - Crime scene scenario
    - Exhibit listing
    - Analyst / pathologist comments should be required vs being encouraged by way of providing space on form FCL001 (Post Mortem toxicology referral form)
- Referencing
    - A variety of practices are in place

- SAPS use CAS No and SAPS 13 Number
- Mortuaries use body no's & seal numbers. Not CAS No's as they are usually not created when the "body" arrives at the mortuary.
- "Body Numbers" are referred to as a variety of names:
- PM Number (is a number generated at each mortuary)
- DR Number (is a number generated at a mortuary)
- Other eg DK No is a number generated by the Diepkloof mortuary, WC No is a number generated in the Western Cape.
- Lab Numbers are unique to each laboratory.
- FSL's use Seal no's , CAS No's and lab numbers

- Number options
  - The docket number
  - The CAS No.
  - SAPS 13 No (exhibit number)
  - A exhibit container seal number (bar coded) - note each exhibit is placed in a prescribed exhibit container eg
    - Sealed Tox kit container
    - Sealed Rape kit container
    - Sealed Alcohol kit container
    - Sealed FSL exhibit bag
  - A body number
  - FCL LIMS number
  - FCL lab number
  - FSL Lab reference number

Annexure I: Prioritisation of Blood and Toxicology Samples: Department of Health: Forensic Chemistry Laboratories.

South African Police Service — Suid-Afrikaanse Polisiediens

Private Bag / Privaatsak X302 Pretoria — Fax No: / Faks No: 012 393 2193

Your reference/U verwysing:

My reference/My verwysing: 3/1/5/1/148

Enquiries/Navrae: Maj General Moonoo, Brig Johnson

Tel: 012 393 1826
Fax: 012 393 1642

THE DIVISIONAL COMMISSIONER
DIE AFDELINGSKOMMISSARIS
DETECTIVE SERVICE
SPEURDIENS
PRETORIA
0001

2010 -08- 24

A. All Provincial Commissioners
SOUTH AFRICAN POLICE SERVICE

B. The Deputy Provincial Commissioners
DIRECTORATE FOR PRIORITY CRIME INVESTIGATIONS

C. All Divisional Commissioners
SOUTH AFRICAN POLICE SERVICE

PRIORITISATION OF BLOOD AND TOXICOLOGY SAMPLES: DEPARTMENT OF HEALTH: FORENSIC CHEMISTRY LABORATORIES

A+B 1. During meetings held by the Office of Criminal Justice System Review Committee (OCJSR) concerns were raised by the National Prosecuting Authority (NPA) regarding the delays in the analysis of blood toxicology and histology samples at the Forensic Chemistry Laboratories (FCL) of the Department of Health.

2. The Department of Health indicated that backlogs in the analysis of these samples exist at some of the Forensic Chemistry Laboratories (FCL) due to a shortage of resources, but undertook to prioritise the analysis of specific cases upon a written request received from an Investigating Officer.

3. The Provincial Heads: Detective Service were instructed to co-ordinate the request for the fast tracking of analysis of exhibits in urgent court cases by submitting these requests through the office of the Provincial Commissioner to this office for forwarding to the Department of Health.

4. This office is now experiencing that stations forward requests for fast tracking of analysis of samples for almost every exhibit that was forwarded to the Forensic Chemistry Laboratories directly to this office.

5. In order to assist the Department of Health to effectively deal with the backlog and not to prioritise each and every case, the following working procedure must be implemented with immediate effect :

5.1 The Detective Commander at station level must peruse the case docket and if there are merits to request for the fast tracking of the analysis, complete and sign the attached application form.

5.2 The completed application form together with the case docket must then be handed to the Provincial Head: Detective Service who must verify the facts and if satisfied that the matter can be regarded as urgent, approve and sign the application form.

5.3 The completed application form must be forwarded via e mail to the office of Major General Moonoo at moonoov@saps.org.za Or fax no 012 393 1828.

5.4 This office will forward the request to the relevant Forensic Chemistry Laboratory for direct finalization with the police station that made the request for fast tracking.

6. Kindly note that the normal procedures to forward exhibits/samples directly to the relevant Forensic Chemistry Laboratory must still be followed and no exhibits/samples must be forwarded to this office.

7. This office must immediately be informed when the analysis report is no longer needed for court purposes, eg, when the court case is finalized after a request for fast tracking was forwarded to this office but the report was not yet received at the station.

8. Your co-operation is appreciated.

C. Copy for your information.

R. LALLA: LIEUTENANT GENERAL
DETECTIVE SERVICE

DIVISIONAL COMMISSIONER: DETECTIVE SERVICE, HEAD OFFICE

DATE: 2010 -08- 1

Lt Gen

DIVISIONAL COMMISSIONER: PRIORITY CRIME INVESTIGATIONS

SG Lebeya

DATE: 2010 -08- 19

DEPUTY NATIONAL COMMISSIONER: DIRECTORATE FOR PRIORITY CRIME INVESTIGATIONS

DATE: 2010-08-23

APPLICATION: FAST TRACKING OF BLOOD/TOXICOLOGY SAMPLE SUBMITTED TO DEPARTMENT OF HEALTH

Detective Unit: _____

Charge: _____

CAS Nr: _____

Investigator details & tel Nr: _____

Date sample was submitted to Forensic Chemistry Laboratory: _____

Forensic Chemistry Laboratory Reference No: _____

Type of Analysis requested: _____

Next court date: _____

Reason for fast tracking:

_____

_____

_____

_____

_____

_____

Signature of Detective Commander:

Signature of Provincial Head: Detective Service:
Date:

Table 1: P & T Protocol – Toxicology

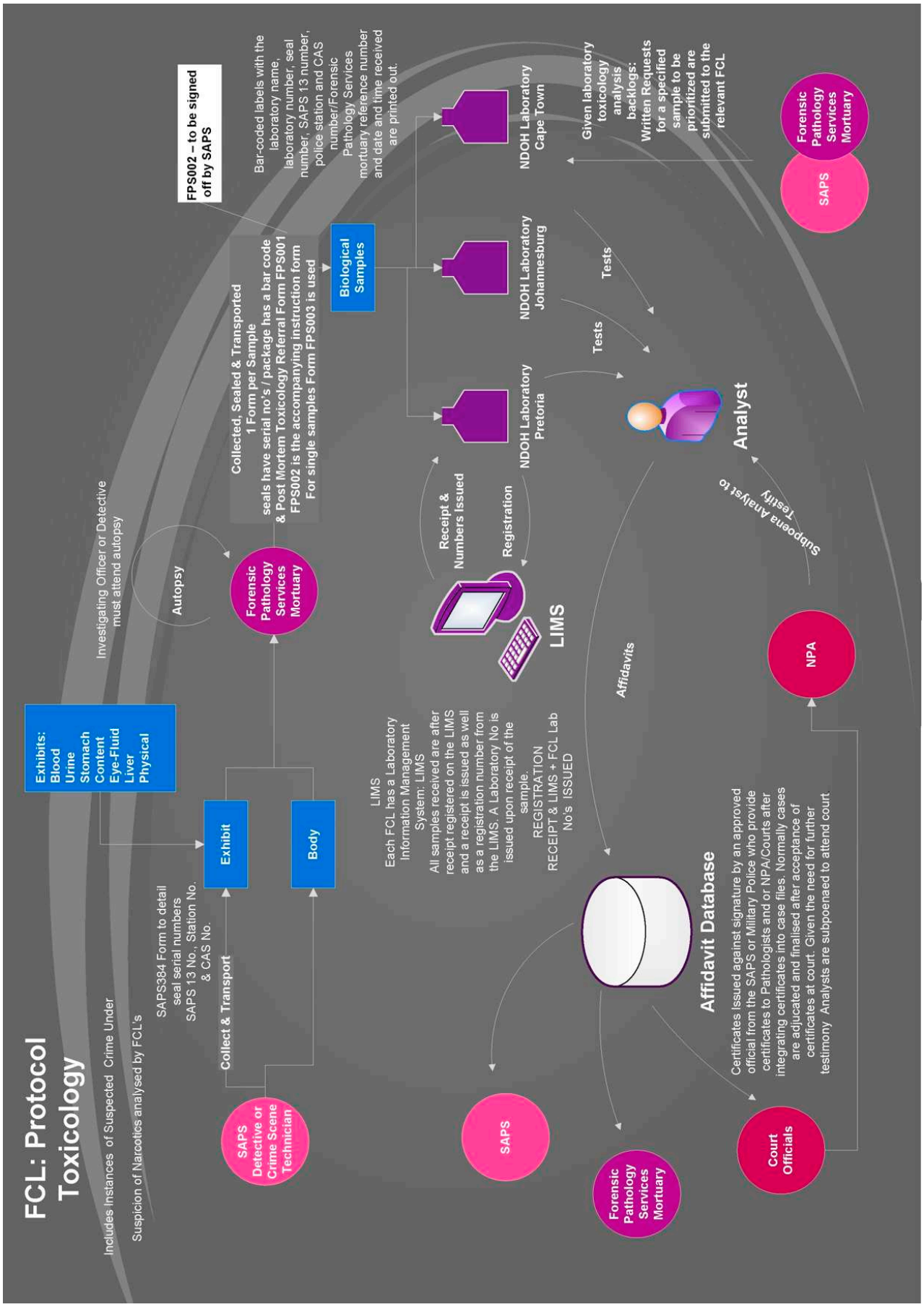
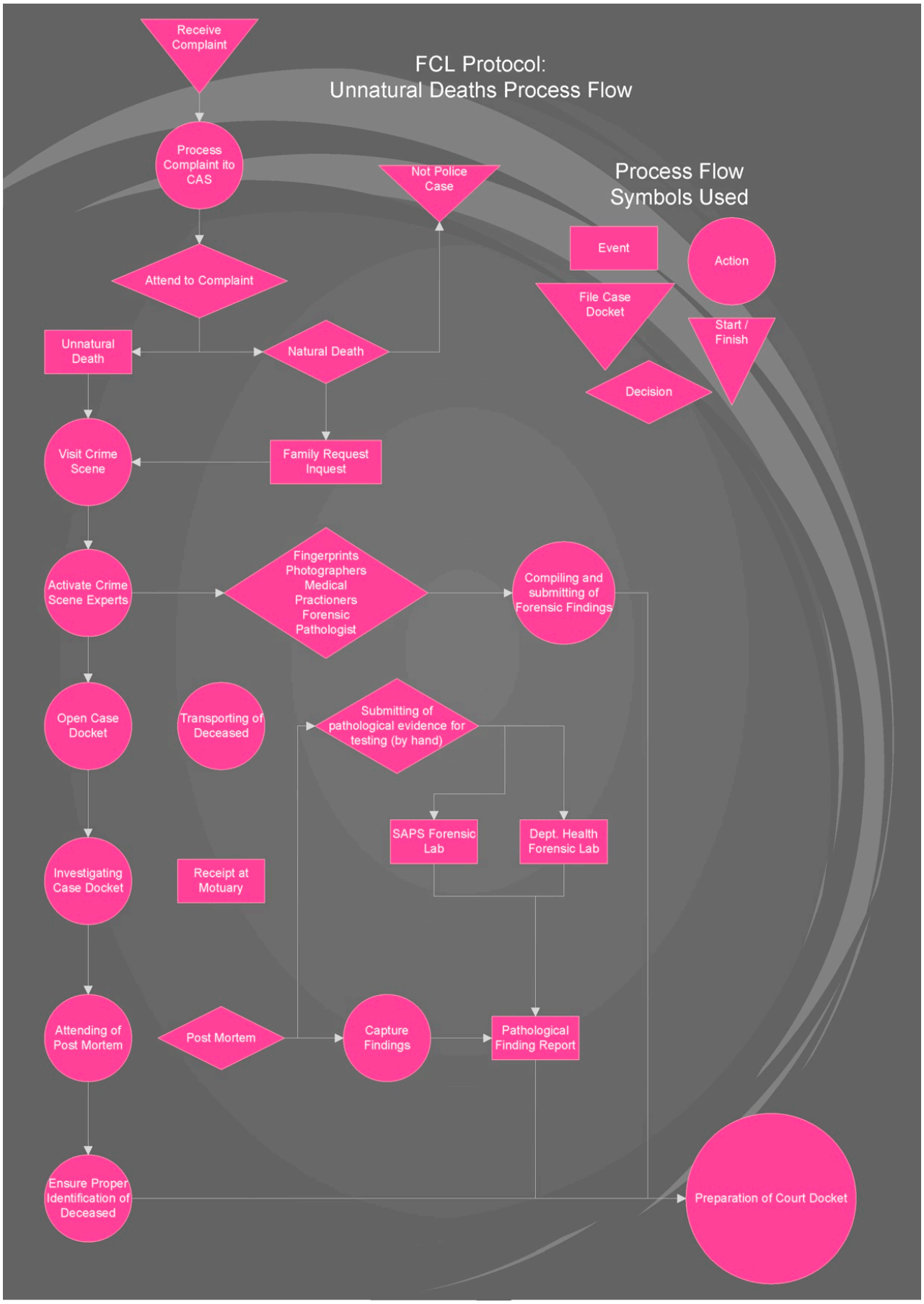


Table 2: P & T Protocol – Unnatural Deaths



Form: FCL001

Post Mortem Toxicology Referral Form (PLEASE PRINT CLEARLY IN ENGLISH) **Complete in full and in duplicate (or make a copy).**						
Mortuary 3.5 DR, PM or WC	**Priority Status:**	Urgent		Routine		
Case number	**If URGENT, please provide reason**					
SAPS station						
Date of specimen collection						
Time of specimen collection						
Date of death						

Was the deceased hospitalized before his/her death?	Yes		No	
If YES, please indicate the following: Length of hospitalization:				
Were toxicological analysis performed On blood in hospital?	Yes		No	Unsure
If **YES**, please list results:				
Were any drugs administered during admission in hospital?	Yes		No	Unsure
If **YES**, please list drugs.				

Clinical History	**Age**		**4 Race**		**Sex**	Male		Female	
Circumstance of death:	Suicide		Homicide		MVA		Unknown		Other	
Please provide relevant facts in the history									

Relevant post mortem observations by the pathologist (e.g. tablet pieces in stomach, needle puncture marks on arm, where specimens were sampled from, etc)	
Specimens collected (mandatory information)	
Stomach contents	Piece of Liver (minimum 50g)

Eye-fluid		List any other non-biological exhibits (e.g. tablets, empty glass, bottle with poison) collected and related to this specific case and for which containers were not provided in the kit:
Blood (jar)		
Urine		Exhibit:
Bile		
Blood (McCartney)		Original seal number if polystyrene container:
List any **other specimens** collected in the additional jar and not provided for in above categories (by prior arrangement with laboratory only):		Resealed with (outside seal):
Expiry date of toxicology kit:		**Expiry date where applicable:**
Seal number of toxicology kit:		**Other seal number (for example exhibit bag):**

Analysis requested

Qualitative Drug screen (drugs of abuse and prescription drugs)		Inorganic (acids and bases) (specify)	
Quantitative Drug screen (drugs of abuse and prescription drugs)		LSD	
Carbon monoxide		Herbicides (specify)	
Carbamates		Insecticides (specify)	
Cyanide		Rodenticides (specify)	
Heavy metals (specify)		Fungicides (specify)	
Paraquat		Volatiles (specify e.g. ethanol)	

Specific substance or poison to be determined:

Additional comments:

Name of Pathologist	Signature
Institution	Date
Address	
Tel number	Fax number
e-mail	

Version: Revision 02 Effective date: May 2009

Form: FCL002

Instruction Leaflet for Toxicology Kit as compiled by the Forensic Chemistry Laboratories of the National Department of Health

1. Collect all necessary specimens as per the appropriate national protocol and fill the necessary containers as labelled.
2. The containers with blank labels may be used to collect other specimens for analysis. Indicate the type of specimen on the blank label.
3. When writing on the container labels, use the permanent marker supplied. Write neatly and legibly (in print).
4. Ensure that all containers have been sealed properly before returning them to the bucket to prevent leakage. When returning the filled containers, place them in the plastic bag they were originally received in.
5. Make a copy of the completed Toxicology form. At the Laboratory, a barcode label with the Laboratory reference number will be stuck on the copied toxicology form.
6. The original completed Toxicology form must be placed in the Zip Seal bag located on the **outside of the bucket**.
7. Ensure that the lid is tightly sealed and secured.
8. Apply the two yellow security seals as indicated on the diagram below. (Insert Diagram) Press down firmly.
9. Store the bucket containing the specimens in a refrigerator at a temperature of between 2 and 8ºC.
10. Transport the buckets to the Laboratory within a maximum of 8 weeks after sampling, maintaining this temperature interval.

    Note: Cooler boxes with ice packs are recommended for transporting kits to the Laboratory.
11. It is preferred that no preservative is used for the liver. If SVR (95% ethanol) is used as preservative, add just enough to cover the liver. Avoid spillage of the solvent (SVR) after it has been added to the container, as this may negatively influence the results obtained by the Laboratory.
12. Do not use SVR if ethanol poisoning is suspected to have been the cause of death.

Version: Revision 02 Effective Date: 01 May 2009

Form: FCL003

FORENSIC PATHOLOGY SERVICES
(To be completed in full and in duplicate by the pathologist, or make a copy)

This form is to be used to request for the analysis of blood for the presence of ethanol, drugs and/or carboxyhaemoglobin or the analysis of eye-fluid for the presence of drugs or ethanol

Address of mortuary:

_____

_____

_____

Police Station: _____ CAS number: _____

5 Reference: DR/PM_____ or WC/_____/_____

Contact person:	
Contact number:	Fax number:
Expiry date of kit:	Original seal number of kit:

1. A sample container containing a **blood/ eye fluid** sample with identifying marking DR/PM_____ or WC/_____/_____ and re-sealed with seal number _____ is being handed in at the Forensic Chemistry Laboratory, Cape Town/ Johannesburg/ Pretoria by _____.
2. The sample is to be analysed for the presence of:

Ethanol		Carboxyhaemoglobin		Drugs (please specify):	

Signature of Pathologist: _____ Date: _____

Laboratory reference number:	Signature Laboratory official:
Date received:	

Or bar-coded label if issued.

Version: Revision 02 Effective date: 01 December 2009

Form: FCL004

DIRECTIONS FOR THE COLLECTION OF POST MORTEM BLOOD SAMPLES FOR ALCOHOL DETERMINATION

1. Remove glass bottle and tap the cap to shake away white powder (sodium fluoride and potassium oxalate) which may adhere to the cap, back into the bottle.
2. Collect 15 ml liquid cadaver blood from a peripheral vascular source.
3. Replace the cap firmly.
4. Immediately after filling the bottle, mix the contents by gently inverting the bottle at least ten times.
5. Complete the main label. Remove the self-adhesive main label and fix it to the outside top of the container.
6. Put the capped bottle back into the polystyrene container. Ensure that the bottle be placed in the position that it was found.
7. Place broken first seals back into the polystyrene container. Reseal the polystyrene container with un-used seals found in the kit.
8. Complete FCL003 Revision 02 and submit in duplicate with the sample.
9. Secure the seals firmly without damaging the polystyrene, whilst ensuring that the plastic tubes remain in the holes that the seals are pushed through. Ensure that the seals are secured to such an extent that it does not allow for the lid to be opened wide enough to interfere with the contents.
10. Store the sample in a refrigerator until it can be submitted to the laboratory for analysis.