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Auditor General of Canada

to the House of Commons

MAY

Chapter 7

Management of Forensic Laboratory Services—
Royal Canadian Mounted Police

Office of the Auditor General of Canada

The May 2007 Report of the Auditor General of Canada comprises A Message from the Auditor General of Canada, Main Points—Chapters 1 to 7, and seven chapters. The main table of contents for the Report is found at the end of this publication.

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Chapter

7

Management of Forensic Laboratory Services

Royal Canadian Mounted Police

All of the audit work in this chapter was conducted in accordance with the standards for assurance engagements set by the Canadian Institute of Chartered Accountants. While the Office adopts these standards as the minimum requirement for our audits, we also draw upon the standards and practices of other disciplines.

Table of Contents

Management of Forensic Laboratory Services

Royal Canadian Mounted Police

Main Points

What we examined

The Forensic Laboratory Services (FLS) of the Royal Canadian Mounted Police (RCMP) provides forensic analysis services for criminal cases to Canada's law enforcement community, which includes Canadian police agencies, Crown counsel, and other federal, provincial, and municipal agencies. It operates laboratories in six cities across Canada.

In 2005, the House of Commons Standing Committee on Justice and Human Rights, Public Safety and Emergency Preparedness heard conflicting testimony on the performance of the Forensic Laboratory Services. The Committee subsequently asked the Auditor General of Canada to audit the performance of the FLS, and the status of DNA cases and service requests. We examined the timeliness of service delivery by the FLS, the quality management system, consultation with clients, and performance reporting to Parliament. We did not audit the quality of the forensic science and offer no opinion, positive or negative, on the validity of scientific analysis used.

Why it's important

The RCMP's Forensic Laboratory Services is the main provider of forensic analysis for most police agencies and courts in Canada. Forensic labs are an important element of the criminal justice system. Investigators and prosecutors rely on forensics to help identify or eliminate suspects and to provide evidence that can withstand scrutiny in court. Delays in obtaining results of forensic analysis can slow police investigations and leave criminals on the street to re-offend.

What we found

- For the most part the FLS does not meet its own turnaround targets for completing service requests. Although it can process urgent service requests in less than 15 days, they account for only 1 percent of all service requests. In the remaining 99 percent categorized as routine, the FLS is unable for the most part to meet the 30-day target it has set for them. While average turnaround times have improved for all other types of analysis, for DNA analysis requests they have worsened—from 91 days in 2003–04 to 114 days in 2005–06—despite increased spending and additional staff. The backlog of DNA requests is a major contributor to the long turnaround times.

- Although the labs now have a national quality management system in place, in practice there are significant weaknesses in how the FLS defines, records, monitors, and resolves quality issues (situations where there is a concern that the validity of forensic work is unreliable for any reason), including those related to lab results. Furthermore, the national quality management system failed to identify problems with the new automated process for DNA analysis. At the conclusion of our audit work, the FLS quality management system was not functioning as designed and could not provide assurance of quality to senior management.
- The RCMP does not give clients—police forces and prosecutors—adequate opportunity to influence how the FLS operates. For example, clients told us that although the RCMP conducts client visits, it consults them very little on their needs regarding matters such as changes to the labs' services, priorities, and service standards. Clients have little opportunity to negotiate turnaround times for service requests, and a recent change in policy gives them little say in the number of exhibits they are allowed to submit—no more than eight with each request.
- Although its new Laboratory Information Management System enables it to examine the performance of the FLS, the RCMP is not keeping its commitment to report to Parliament on performance; nor is it reporting to clients on FLS performance.

The RCMP has responded. The RCMP agreed to our recommendations and is preparing action plans to address them.

Introduction

7.1 Through its Forensic Laboratory Services (FLS), the Royal Canadian Mounted Police (RCMP) provides forensic analysis services to Canada's law enforcement community, including police agencies, Crown counsel, and other federal, provincial, and municipal agencies.

7.2 The FLS is a national laboratory service operating at six sites located in Halifax, Ottawa, Winnipeg, Regina, Edmonton, and Vancouver. It provides a range of forensic analysis services relating to criminal cases, chiefly in the disciplines of Biology, Toxicology, Firearms, Trace Evidence, and Counterfeit and Document Examinations (Exhibit 7.1).

7.3 Other FLS services include a Break and Enter DNA processing unit; a national Breath-Test Program; an Integrated Ballistics Identification System to better link bullets to crime scenes; an explosives laboratory; a laboratory that analyzes unknown substances; and diamond profiling research, which will assist in combatting organized crime by determining the source and identity of a diamond. The FLS does not provide services related to fingerprints, computer analysis, or chemistry of illicit drugs. It also does not perform autopsies.

7.4 Not every site provides a full range of services. Furthermore, the FLS does not serve the entire law enforcement community: the provinces of Quebec and Ontario operate their own forensic laboratories, and the Vancouver Police Department operates its own forensic firearms laboratory.

Exhibit 7.1 FLS provides a range of forensic analysis services relating to criminal cases

Discipline	Type of service
• Biology	DNA analysis
• Toxicology	Detection of drugs and alcohol in bodily fluid and tissue
• Firearms	Firearms analysis to determine type of weapon, and to compare firearms cartridges with weapons Tool mark analysis to examine what tool may have been involved in a crime
• Trace evidence	Analysis of fibre, paint, glass, and explosives
• Bureau for Counterfeit and Document Examinations	Analysis of counterfeit and questioned documents

7.5 FLS headquarters in Ottawa provides overall management, with a national program manager responsible for each discipline. Other headquarters functions include operating the National DNA Data Bank and a quality assurance program.

7.6 According to FLS records, expenditures during the 2005–06 fiscal year amounted to $40.8 million ($25.2 million for salaries, $13.0 million for operations and maintenance, and $2.6 million for capital); its full-time staff numbered about 385 (Exhibit 7.2). The primary source of funding was the federal government, although the provinces and territories provided $5.7 million through Biology casework agreements.

Exhibit 7.2 **Expenditures and staff, 2005–06 fiscal year**

Expenditures	Staff	Actual $ (millions)
Case Receipt Unit	41	$2.5
Biology (including Evidence Recovery Unit)	110	$9.4
Toxicology	51	$4.0
Firearms	35	$2.9
Trace Evidence	31	$2.7
Bureau for Counterfeit and Document Examinations	20	$1.5
National DNA Data Bank	28	$2.6
Other (including administration, automated systems, quality assurance, and operational support)[1]	69	$15.4
Total	**385**	**$40.8**[2]

[1] The provinces/territories covered $5.7 million of the expenditures. Some of this amount was used for the National DNA Data Bank.

[2] Excludes $1.4 million from the British Columbia government for a large forensic analysis. Because of rounding, individual amounts do not add up to the total.

Source: Royal Canadian Mounted Police

7.7 In the 2005–06 fiscal year the FLS received approximately 8,300 cases, representing about 13,000 service requests. A single case may generate more than one service request, depending on the number of disciplines involved. Most service requests were for Toxicology, Biology, and Firearms analysis services (Exhibit 7.3). Amendments to the *Criminal Code* and the *DNA Identification Act* will broaden the types of offences entered into the National DNA Data Bank. Once the amendments come into force, FLS projections suggest that the number of cases received by the FLS could increase by more than 30 percent.

A case may involve more than one service request, each concerning evidence submitted to a particular discipline for analysis.

Exhibit 7.3 **Toxicology, Biology, and Firearms accounted for most of the service requests received**

Discipline	Service requests received in 2005–06
Toxicology	3,743
Biology	3,362
Firearms	3,031
Bureau for Counterfeit and Document Examinations	1,454
No-suspect Break and Enter	696
Trace Evidence	730
Total	**13,016**

Source: Royal Canadian Mounted Police

7.8 In the early 2000s the RCMP restructured the FLS to improve efficiency. Previously, six full-service laboratories operated separately, each serving a limited geographic area. Now they function as a single consolidated organization with several service delivery sites across Canada. The new model has a number of notable features:

- A Case Receipt Unit (CRU) at each laboratory provides a single point of contact with investigators, and can move cases between disciplines and laboratories.
- An Evidence Recovery Unit (ERU) conducts a one-time search of exhibits to recover all potential evidentiary material.
- A new case prioritizing system has been developed. The target is completion within 15 days for cases designated as urgent and 30 days for cases designated as routine.

The RCMP categorizes a service request as urgent if it concerns an immediate threat to national security (for example, terrorist activities) or community safety (for example, unsolved serial crimes against persons). It categorizes all other requests as routine.

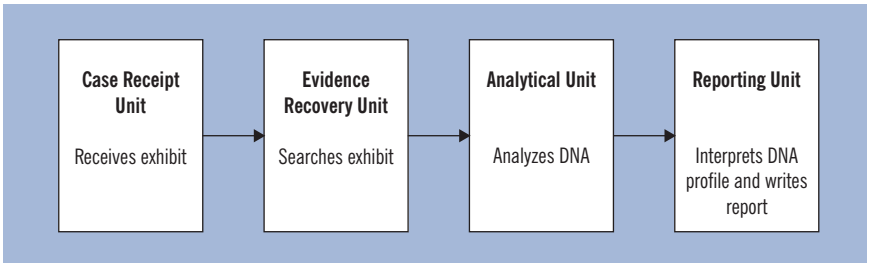
- An off-the-shelf Laboratory Information Management System (LIMS) has been installed and customized. It ensures that staff members at different sites have access to the same case at the same time and that casework can be moved from one site to another.

7.9 The consolidated structure aims to optimize casework activity by grouping scientists and technicians with similar training at the same site, and by reducing equipment and material costs.

7.10 Under the new service delivery model, individual scientists do not follow cases from start to finish; instead, cases flow through specialized units. For instance, for a Biology service request, the CRU

receives exhibits, the ERU searches exhibits for evidence, the Analytical Unit analyzes what the ERU recovers, and the Reporting Unit interprets the findings and prepares a report (Exhibit 7.4).

Exhibit 7.4 Under the new model for processing Biology cases, cases flow through specialized units



7.11 Other countries differ from the FLS in how they deliver services, particularly for Biology service requests. Some labs give one scientist responsibility for following a case through the entire process. Other labs function like the FLS, with units responsible for a specific aspect of the process. Still other labs adopt a team approach. In most of the labs we reviewed, the scientist responsible for reporting the findings plays a crucial role in overseeing the case from start to finish. At the FLS a case coordinator, who is not involved in analyzing the exhibits, is responsible for the administration and management of the case. Reporting officers are involved in scientific decisions if there are specific questions relating to the file or if samples are reworked.

7.12 Forensic labs are an important element of the criminal justice system. Investigators rely on forensic science to help identify or eliminate suspects, and to link suspects to crime scenes. Prosecutors rely on forensic science because it can withstand scrutiny in court. Forensic evidence can also aid in the exoneration of persons previously convicted.

7.13 DNA analysis is one of the most important tools available to forensic laboratories and has been used in Canadian courts since 1988. DNA evidence may be obtained from a small biological sample, such as a few drops of blood, semen, or saliva. Testing techniques may enable scientists to detect traces of blood even after clothing has been washed. However, because forensic samples may be contaminated, recovery of DNA is never certain. The RCMP's National DNA Data Bank has been operational since 2000. It helps law enforcement agencies identify repeat offenders by comparing DNA from crime scenes with DNA profiles from offenders convicted of serious crimes.

Previous audits and allegations

7.14 Our 1990 and 2000 audits of the RCMP included recommendations about the FLS (Appendix A). In our April 2000 Report, Chapter 7, Services for Canada's Law Enforcement Community, we noted that the level of service provided by the FLS did not meet clients' needs. DNA analysis took too long and was restricted to only the most important cases, limiting this tool's potential for enhancing public safety.

Standing Committee on Justice and Human Rights, Public Safety and Emergency Preparedness—In April 2006, the House of Commons changed the committee's name to the Standing Committee on Justice and Human Rights. At the same time, the House established a new committee—the Standing Committee on Public Safety and National Security—to take on the balance of the former committee's mandate.

7.15 In 2005 the House of Commons **Standing Committee on Justice and Human Rights, Public Safety and Emergency Preparedness** heard testimony from two former RCMP staff members, casting doubt on statements made earlier by RCMP officials before the Committee. The two former members particularly disputed claims that

- the RCMP Forensic Laboratory Services compared favourably with similar services around the world,
- there were no DNA case backlogs,
- DNA case response times were acceptable,
- service efficiency and effectiveness had improved,
- RCMP laboratories received adequate funding,
- the Balanced Scorecard (the RCMP's internal performance reporting system) was being used to solve previously existing problems, and
- structural changes responded to the Auditor General's 2000 Report.

7.16 The Committee asked the Auditor General to investigate the conflicting testimony presented to it on the performance of the RCMP Forensic Laboratory Services and on the status of DNA cases.

Focus of the audit

7.17 The objectives of this audit were to examine whether

- the FLS is delivering timely forensic services,
- there is adequate quality control of lab results,
- clients have adequate opportunity to influence how the FLS operates, and
- the RCMP has kept its commitment to report on FLS performance to Parliament.

7.18 The scope of the audit is limited to the RCMP's Forensic Laboratory Services. We did not examine other RCMP functions or services, or the National DNA Data Bank. Nor did we audit the quality of the forensic science used by the FLS, and we offer no opinion, positive or negative, on the validity of scientific analysis used.

7.19 More details on the audit objectives, scope, approach, and criteria are in **About the Audit** at the end of this chapter.

Observations and Recommendations

Timeliness of service

7.20 Forensic analysis is a highly valuable tool for police investigations, and delays in obtaining results can have significant impact. Delays may slow investigations and hamper the police's ability to eliminate suspects and make arrests quickly; the results include increased costs and wasted resources. More important, delays endanger public safety by giving criminals more time on the street to re-offend.

7.21 In our 2000 audit we noted numerous complaints about delays in DNA analysis by the Forensic Laboratory Services (FLS) and recommended better prioritizing so that more urgent requests would be handled first. We reported that on average DNA analysis took 101 days to complete at the end of 1999 (Vancouver and Ottawa labs averaged 171 days) and that there was a substantial backlog of cases not completed. Former RCMP employees have disputed recent claims to Parliament by the RCMP that turnaround times for DNA testing were improving and that the backlog was decreasing. Our objective was to determine whether the FLS is now providing timely service and whether there is a backlog. We examined the FLS from the 2003–04 fiscal year, when the new Laboratory Information Management System was implemented, through the 2005–06 fiscal year.

For the most part the FLS does not meet its own turnaround targets for completing service requests

Turnaround target—The number of days within which a service request should be completed.

7.22 The FLS introduced **turnaround targets** for service requests in the early 2000s. In 2000 the House of Commons Standing Committee on Public Accounts recommended that the RCMP "develop and implement a series of performance indicators and standards for each of the services provided by its forensic laboratories by the end of fiscal year 2000–01." The government responded that the RCMP had developed a two-tier priority system to replace the existing four tiers, with turnaround targets of 15 days for urgent requests and 30 days for

routine ones. In 2000 the RCMP created a performance standard formula with the same turnaround targets, including waiting time. The RCMP also called for targets to be validated, and it estimated that it would have sufficient data to undertake the validation by April 2002. In fact, no validation was ever conducted.

7.23 At the time of our audit, FLS policy included the 15- and 30-day turnaround targets, and the FLS reported on the extent to which it met these targets in the Balanced Scorecard. Since the FLS itself established the turnaround targets, we determined that it was appropriate to expect this standard to be met.

7.24 In the 2005–06 fiscal year the FLS met the 15-day turnaround target for handling almost all urgent requests—132 out of 134. But these represented only 1 percent of requests completed. The remaining 99 percent were categorized as routine, and in most instances the FLS did not meet its 30-day turnaround target for them. It met the target for only 10 percent of routine Biology service requests, 55 percent of Toxicology requests, 34 percent of Trace Evidence requests, and 23 percent of requests in both Firearms and Counterfeits/ Documents.

7.25 A number of sources indicate that the turnaround targets established by the FLS reflect operational requirements. For instance, in his 1996 inquiry into police investigation of the Bernardo case, Justice Archie Campbell recommended a 30-day turnaround time for DNA analysis. The RCMP performance standard formula created in 2000 set 15- and 30-day turnaround targets. In 2001, clients called on the FLS to establish a standard of 5 days or less for urgent requests, and 30 days or less for routine ones. In a survey we conducted for our audit, clients said that 15- and 30-day targets were acceptable. There is no generally accepted international standard, but the turnaround targets are similar to those set by some other labs. In the US state of Georgia, for example, the goal is to handle priority requests within 20 days and regular requests within 30 days. In Sweden the target is 20 days for all requests. Other labs have the goal of completing a certain percentage of cases within a set period; for example, the Ontario Centre of Forensic Sciences has a goal of completing 80 percent of cases within 90 days.

7.26 In addition to the corporate target of 30 days, the FLS uses Expected Diary Dates (EDDs) to provide realistic information to clients about the amount of time required to complete a routine service request. The EDD for Biology is currently 180 days. Management expects EDDs to be met 100 percent of the time. The proportion of

EDDs currently being met has risen from previous years but it has not reached 100 percent. Only 74 percent of Biology requests were completed within the 180-day EDD during the 2005–06 fiscal year. Other disciplines had higher completion rates, ranging from 80 to 98 percent of their EDDs. However, the FLS has lengthened the target times in recent years. For example, the EDD for Biology increased from 70 to 180 calendar days over the last three years. Although the corporate target of 30 days for routine requests may not currently be realistic for the FLS, an EDD that can be changed to ensure it is met is not a good performance indicator. It is important that the FLS develop appropriate targets for measuring performance.

7.27 In January 2006 the FLS began developing the Priority Rating of Operational Files (PROOF) system—a new prioritizing system that ranks operational files from least to most important. PROOF keeps the two-tier system of "urgent" and "routine," but it further divides routine cases into streams A, B, and C according to the type of offence and other criteria. PROOF is currently being implemented in a pilot project, and turnaround targets have not yet been established for the different streams. That is, a similar time frame applies for handling lesser offences (stream C) and more serious ones (streams A and B). The PROOF system has not been operating long enough for us to comment on the results.

7.28 **Recommendation.** The RCMP should ensure that the Forensic Laboratory Services' prioritization system and turnaround targets meet the operational needs of clients. Turnaround targets should be implemented before service requests increase, as they are expected to do once amendments to the *Criminal Code* and the *DNA Identification Act* come into force. The targets should be used to measure and report FLS performance.

The RCMP's response. The RCMP agrees that response times must be reduced. As the report indicates, significant reductions have been achieved in all disciplines except Biology (DNA).

The RCMP agrees that client consultation is important in ensuring that response times meet client needs. The RCMP will continue to engage its clients to establish reasonable turnaround targets. These targets will form the basis of performance reporting.

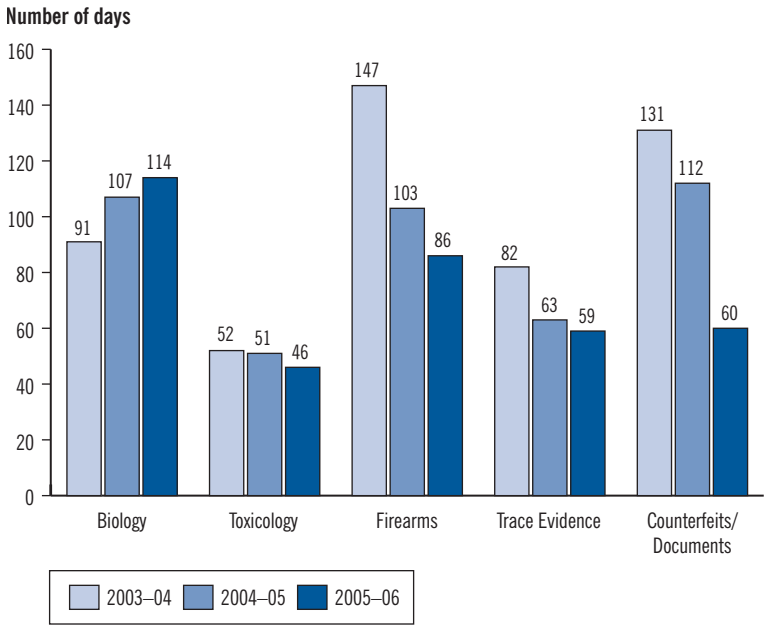
The FLS acknowledges the significant additional demands on Biology services that the proposed changes to the *Criminal Code* and the *DNA Identification Act* will create. The FLS has identified its requirements to meet the proposed changes.

Average turnaround time has improved for service requests in all disciplines except Biology

7.29 Recent years have seen a decrease in the average number of days required to complete a service request in most disciplines (Exhibit 7.5). When urgent and routine service requests are combined, the average **turnaround time** in Toxicology declined from 52 days in the 2003–04 fiscal year to 46 days in 2005–06. Over the same period it fell from 147 to 86 days in Firearms, 82 to 59 days in Trace Evidence, and 131 to 60 days in Counterfeits/Documents. With the exception of Firearms, these program areas also experienced a decrease in the number of service requests received over the same time frame. According to FLS officials, this may have given staff time to complete requests more expeditiously.

Turnaround time—The time that elapses from the arrival of the evidence at the FLS until the FLS sends a final report.

Exhibit 7.5 The average turnaround time has improved for all disciplines except Biology



Number of completed service requests

Discipline	2003–04	2004–05	2005–06
Biology	3,335	2,903	3,223
Toxicology	3,945	3,856	3,684
Firearms	2,335	2,408	2,682
Trace Evidence	852	688	772
Counterfeits/Documents	1,755	2,239	1,399

Source: Royal Canadian Mounted Police

7.30 The average overall turnaround time in Biology increased from 91 days in the 2003–04 fiscal year to 114 days in 2005–06. This includes requests outsourced to a private laboratory; excluding them, the average turnaround time in the 2005–06 fiscal year was 118 days (compared with 94 days in 2003–04). Since the FLS categorizes service requests as either urgent or routine, we examined turnaround times for both priority levels. An urgent Biology service request is completed in 11 days on average. However, urgent requests account for only about 3 percent of completed Biology service requests. The remaining 97 percent of requests are routine and their average turnaround time is 116 days.

7.31 In statements to Parliament, the RCMP noted that its forensic services are "as good as, if not better than, anywhere else in the world" in terms of response time for major crimes. At the time of the audit, however, the FLS was not able to provide us with much information on how it compares with other labs. We therefore contacted other labs in Canada and elsewhere (Exhibit 7.6). Our information on those facilities is based on official reports or was provided to us during site visits and later confirmed. It is unaudited. Although some labs report shorter turnaround times than the FLS, few labs complete service requests within 30 days, and some labs reported longer turnaround times than the FLS. The United Kingdom's Forensic Science Service, a private organization, appears to have the shortest turnaround time, with an average of 7 days in the 2004–05 fiscal year for a DNA crime scene request. For other labs we visited, turnaround times range from a median of 28 days at Sweden's National Laboratory of Forensic Science (excluding break and enter samples, which are generally completed more quickly) to more than 100 days in some labs in the United States. In Canada, the Ontario Centre of Forensic Sciences reports an average turnaround time of 96 days (excluding break and enter samples).

Only about half the clients we surveyed said that the service was timely

7.32 According to RCMP officials, efficiency and effectiveness of casework processing are measured against client needs and satisfaction levels, as determined by quality of service questionnaires and client visits. The FLS sends out questionnaires with each report it prepares, and it analyzes those returned to measure client satisfaction. According to returned questionnaires in the 2005–06 fiscal year, 87 percent of clients agreed or strongly agreed that the service was timely. However, these questionnaires are not anonymous and the response rate was only 33 percent. The FLS has not studied whether clients who do not respond to these questionnaires are more likely to have negative opinions.

Exhibit 7.6 We compared RCMP FLS to other Biology units[1]

Laboratory	Expenditures (millions of CAN$)[2]	Staff	Service requests completed yearly	Average turnaround time (days)	Comments
RCMP FLS	$9.4	110	3,223	114	• In addition, completed 592 no-suspect break and enter service requests
Ontario Centre of Forensic Sciences	$5.9	75	3,682	96	• Expenditures and staff cover work on break and enter service requests and some research and development • In addition, completed 1,402 no-suspect break and enter service requests
Laboratoire de sciences judiciaires et de médecine légale, Quebec	$4.8	38	4,319	—	• Includes break and enter service requests
Georgia Bureau of Investigation, Division of Forensic Science (US)	$2.0	16	3,031	80–105 (estimate)	• Includes break and enter service requests • Does not include about 3,000 outsourced service requests • Service requests may be split, which could affect average turnaround time
Florida Department of Law Enforcement, Crime Laboratory (US)	$8.8	108	6,621	188	• Includes break and enter service requests
UK Forensic Science Service	—	—	—	7 (crime scene exhibits only)	• Private lab model
National Laboratory of Forensic Science, Sweden	$5.1	65	Approx. 3,000	28 (median)	• Expenditures and staff cover work on the DNA database and break and enter service requests • In addition, completed 10,000 break and enter service requests

[1] The information provided by the UK is based on a published 2004–05 annual report; other information was provided to us directly by the labs. It is unaudited. Despite some organizational or policy differences, in general labs have indicated that the information is based on definitions similar to what the FLS uses. The time frame used differs slightly across labs, but basically covers 2004–05 or 2005–06. Unless noted, the information excludes processing of requests by the DNA data bank.

[2] Converted to Canadian dollars using Bank of Canada annual average exchange rates.

— Comparable information is not currently available.

Primary offences are the most serious of crimes. They include murder, attempted murder, sexual assault, and assault.

7.33 We conducted a client survey with investigators responsible for 113 randomly selected cases with at least one **primary offence**, and another more general survey of 135 clients, with response rates of 98 and 91 percent respectively (see **About the Audit**). We asked clients about the timeliness of service for specific service requests, as well as the timeliness of service in general. In client interviews about service in general, around one third of respondents said the response time was good or very good for urgent requests, and one quarter said it was good or very good for routine requests. In discussing specific cases, half (53 percent) of those interviewed said that the service was timely. About one third (30 percent) said the response time was fair, and 18 percent said it was poor or very poor. When asked what would have been an appropriate turnaround time for the specific service request they were asked about, 68 percent said 30 days or less. These results differ substantially from those of the FLS questionnaires, indicating the need for additional measures of client satisfaction by the FLS.

7.34 **Recommendation.** The RCMP should develop measures of service efficiency and effectiveness in consultation with clients. In addition to existing tools for measuring client satisfaction, it should use client surveys conducted by an independent, external organization.

The RCMP's response. The RCMP agrees that measurement of efficiency and effectiveness, both internally and from client feedback, is important. The FLS currently uses a Quality of Service Questionnaire, which it encourages clients to complete. The RCMP agrees that use of an independent third party to develop and receive feedback may improve response rates and reduce the likelihood of bias. It will further explore this option.

The FLS is not prioritizing cases as described to the parliamentary standing committee

7.35 In their 2005 testimony before the House of Commons Standing Committee on Justice and Human Rights, Public Safety and Emergency Preparedness, RCMP officials said that "murder cases, cases with violence, violent assault cases . . . would definitely go right into the priority queue and be handled right away." In fact, the FLS does not prioritize cases in this way. At the time of the testimony an urgent service request was defined as concerning only an immediate threat to national security (for example, terrorist activities) or community safety (for example, unsolved serial crimes against persons). Other requests could be designated as urgent under extraordinary circumstances—for example, if the ability to recover

information from the material declined rapidly, or a court order required a time frame of less than 30 days.

7.36 There were 63 service requests categorized as urgent during the 2004–05 fiscal year and 134 in 2005–06 (about two thirds of them Biology requests). In each of those years the urgent requests amounted to 1 percent or fewer of all requests. In contrast, there were 980 urgent requests amounting to 8 percent of the total in the 2003–04 fiscal year, when the definition of "urgent" was broader. Approximately 38 percent of all service requests in 2005–06 were related to violent crimes, including murder, sexual assault, robbery, abduction, and assault. A further 10 percent were related to property crimes (such as break and enter, and theft) and 52 percent were related to "other" *Criminal Code* offences (such as motor vehicle or weapons offences and fraud). Since almost 5,000 of completed service requests were related to violent offences and 134 service requests were categorized as urgent, it follows that most violent cases in fiscal year 2005–06 were categorized as routine. Officials told us that the FLS lacks the capacity to treat large numbers of service requests as urgent.

7.37 To evaluate RCMP claims that serious offences such as murder and violent assault are handled more rapidly than requests involving less serious crimes, we calculated turnaround times for different offence categories. In the 2005–06 fiscal year, service requests for violent offences were not handled more rapidly than those involving less serious crimes. For instance, the average turnaround time was 91 days for service requests related to homicide and 109 days for those related to sexual assault. For service requests related to break and enter the average turnaround time was 87 days, and for those related to motor vehicle offences it was 37 days.

7.38 RCMP officials have noted that they strive to meet the court date set for a case. Aside from the need to meet a court date, there are other reasons for providing timely service. For instance, the results of DNA analysis can help eliminate suspects, allowing investigators to better focus their work and save time and resources. DNA evidence is often required to lay a charge; timely analysis can help ensure that a suspect is not on the street with the opportunity to re-offend. In addition, forensic evidence can alleviate victims' anxiety, may be needed at preliminary hearings, and may exonerate an innocent person.

7.39 The turnaround time for analysis of DNA warrants illustrates the significance of timely results. In many criminal investigations, police officers require an initial screening of DNA from the crime scene before they can obtain a court order for the collection of a suspect's DNA.

The two steps open the possibility for two delays. First is the wait for the initial screening of DNA from the crime scene before obtaining a DNA warrant; second is the wait to obtain a suspect's DNA profile and check whether it matches the crime scene sample. Until October 2006, the FLS had no mechanism in place for linking and expediting the two steps. Officials told us that the FLS can now link DNA warrant samples with initial screenings and give them higher priority.

Backlog is a major cause of longer turnaround times in Biology

7.40 We looked for delays in particular parts of the process for Biology service requests. FLS officials have said that cases are not opened as promptly as they once were, lengthening the turnaround time. We could not use the Laboratory Information Management System (LIMS) to calculate processing and waiting times because the FLS decided not to include information on waiting times in that system. The FLS told us that no one has measured the exact time required for particular tasks, but it estimates that processing time for a Biology service request ranges from 11 to 21 calendar days. This includes 2 to 6 days for evidence recovery, 5 to 6 days for analysis, 3 to 5 days for reporting, and 1 to 4 days for technical and administrative reviews. If we subtract processing time from the average turnaround time of 114 days, we obtain an estimate for the average waiting time of between 93 and 103 days.

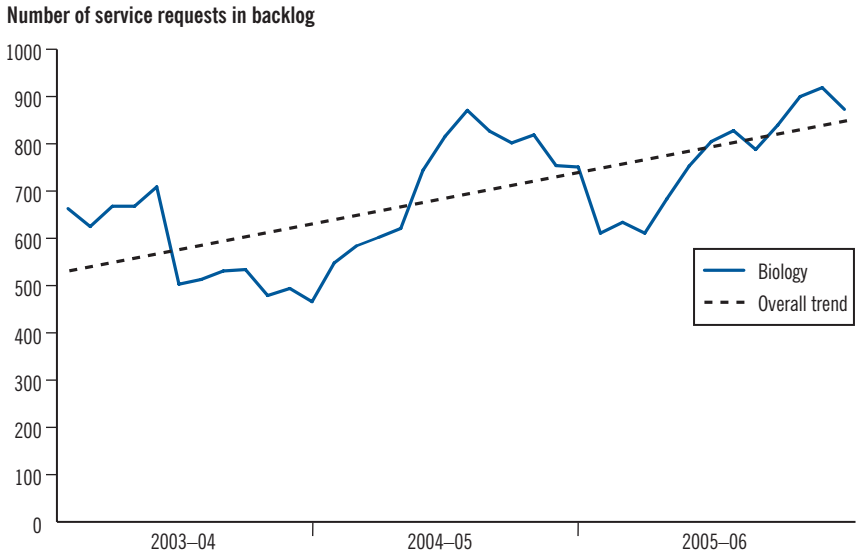
7.41 In 2001 RCMP officials reported that turnaround times for DNA testing were shortening and the **backlog** was decreasing. In 2004 they told the Standing Committee on Justice and Human Rights, Public Safety and Emergency Preparedness that the system had no backlog, only "cases in process."

Backlog—Requests for service not completed within the approved performance standard response time for the assigned priority—in this case the 30-day routine standard developed by the FLS.

7.42 The FLS regularly monitors requests that are not completed. According to FLS records, as of March 2006 there were 2,017 requests across all disciplines that were unfinished 30 days after receipt, a decrease from 2,518 in April 2003. However, during the same period the backlog in Biology grew from 663 to 873 service requests (Exhibit 7.7). Furthermore, at the end of March 2006, the Biology unit had a queue of 760 cases (which would translate to at least as many service requests) above the number agreed to in provincial/territorial agreements. These **queued cases** had not yet been accepted by the FLS. With the current performance standard of 2 requests per week for Biology reporting officers, additional staff may be required to clear the backlog.

Queued cases involve secondary offences (for example, robbery or break and enter) and are beyond the quota of cases that the FLS is expected to complete under agreements with provinces/territories.

Exhibit 7.7 The backlog in Biology has increased



Source: Royal Canadian Mounted Police

7.43 Recommendation. The RCMP should develop mechanisms for identifying bottlenecks in the process and should determine the systems, procedures, and resources required to eliminate the backlog.

The RCMP's response. The RCMP agrees that identifying bottlenecks in processes is important, and will undertake workflow analyses to determine further efficiencies.

Additional resources have not made service more timely in Biology

7.44 According to FLS officials, a review completed in 2003 sought to ensure that programs were aligned with the FLS mandate. Officials said that the program review would yield annual ongoing savings of $2 million as a result of the consolidation of equipment and staff. Savings generated by the efficiencies achieved were to be re-invested in high-priority areas, such as DNA analysis and the creation of case receipt units and evidence recovery units.

7.45 The RCMP has been unable to provide evidence of the program review but it appears to have adjusted funding levels in line with demand. In the 2005–06 fiscal year Toxicology, Trace Evidence, and Counterfeits/Documents received less funding than in 2003–04; this paralleled a decline in the number of service requests they received. Funding rose for Biology and Firearms, the two disciplines with an

increased number of service requests. Biology, for example, experienced a 5 percent increase in the number of service requests received between fiscal years 2003–04 and 2005–06. During the same time expenditures adjusted for inflation increased by at least 30 percent (from $6.9 million to at least $9 million) and staff by 29 percent (from 85 to 110).

7.46 According to FLS officials, however, it takes up to two years to prepare a scientist to conduct forensic analysis, and there are indirect costs of using in-house personnel for training. FLS officials could provide only limited data on the number of employees trained and available for work. On the basis of the data provided to us, if we exclude Biology staff in training, on leave, or not working in the unit, as well as indirect staff time used to train new personnel, we estimate that there was an increase of about 30 percent in staff devoted to casework from May 2004 to March 2006. FLS officials told us that most new staff members were assigned to the ERU, and the bottleneck is currently in the Analysis Unit. They told us that for turnaround times to decrease, overall demand for services must remain stable over time and the system for processing forensic DNA analysis must stabilize and mature.

7.47 While resources for Biology have increased, the number of service requests completed each year has remained relatively stable: 3,335 requests were completed in the 2003–04 fiscal year and 3,223 in 2005–06. Similarly, according to FLS documents, there has been no major change in the number of exhibits per service request; these averaged 9.1 in the 2003–04 fiscal year and 9.9 in 2005–06. Accordingly, we would expect to see an improvement in the turnaround time for Biology service requests. Instead, the average turnaround time increased by 25 percent between fiscal years 2003–04 and 2005–06 (from 91 to 114 days). The Biology unit was able to complete about 13 service requests per working day.

7.48 We looked at the possibility that FLS involvement in a British Columbia serial murder case might have adversely affected turnaround times for other Biology cases. The FLS first became involved in the case in February 2002. During a five-year period it analyzed more than 220,000 DNA samples, by far the largest number analyzed for a single case in the history of the FLS. Between fiscal years 2002–03 and 2005–06, the FLS received $8.2 million from the province for the forensic services it provided for the case.

7.49 FLS officials told us that existing staff worked on the case until April 2004, when additional employees were hired. The officials also noted that the case had at least an indirect negative impact on other

operational casework. For instance, the FLS had to allot resources for hiring and training new staff; and the case required the attention of senior staff members, lessening the opportunity for them to address issues of turnaround time on other cases. Aside from the indirect impact, the FLS has not been able to quantify the direct impact on operational casework. As we have noted, during this period the FLS saw an increase in the number of staff available to handle the normal Biology workload.

7.50 **Recommendation.** The RCMP should conduct a review of the Forensic Laboratory Services to examine internal efficiencies, perform a cost/benefit analysis of various services, and examine the need for additional resources.

The RCMP's response. As per recommendation 7.43, the RCMP agrees that there should be cost/benefits analyses for all services and will undertake a workflow analysis to determine if there are further operational efficiencies to be gained.

7.51 **Recommendation.** The RCMP should develop a capability for management of the Forensic Laboratory Services to analyze capacity and efficiency (including comparing performance with that of other forensic labs) in order to handle future demands.

The RCMP's response. The RCMP agrees that benchmarking is an important tool to measure performance and analyze capacity to meet future demands. The FLS will strive to balance capacity with performance by developing individual and unit performance metrics, and ensure that they are measurable and reportable.

Quality of lab results

The labs have a quality management system in place

7.52 It is crucial that forensic work be of high quality. If it contains errors, guilty individuals could go free or innocent individuals could be wrongly convicted. Weak quality control in forensic laboratories can cast serious doubt on the integrity of the criminal justice system.

7.53 Our 2000 audit found the FLS quality assurance process to be weak. The accreditation process was two years behind schedule, and the **proficiency testing** program was not adequately implemented or monitored. We recommended that the RCMP ensure quality in its laboratories by timely accreditation, documentation of methodology, and full implementation of the proficiency testing program.

Proficiency testing—The systematic examination of an individual's competence. A test may be prepared internally or externally. In an open test the individual knows that he or she is being tested but does not know the expected results. In a blind test the individual does not know that he or she is being tested.

7.54 Since that time the FLS has made progress in remedying the weaknesses identified. It has created a national quality assurance program, with a National Quality Manager and Local Quality

Managers at each site. It has also established national policies and procedures regarding quality. The Standards Council of Canada has now accredited all FLS sites.

7.55 The FLS has implemented another important aspect of quality assurance: a proficiency testing program. According to FLS policy, each forensic scientist must perform at least one proficiency test per year in his or her specialization, and at least one proficiency test every two years in each major area of testing within the program. Proficiency tests are the responsibility of the quality assurance program and are monitored through managerial reviews. Failure on a proficiency test results in an identification of a quality issue.

7.56 According to FLS annual reports, success rates on proficiency tests are high—between 98 and 100 percent in calendar years 2001 through 2005. The FLS proficiency testing program is similar to that of other labs, although some have more extensive testing in place (for example, blind testing or retests of performed analyses). The FLS primarily uses open testing and regards blind testing as unfeasible.

7.57 Finally, in our review of quality of service questionnaires and in client interviews, we found that clients were generally pleased with the quality of service and particularly with staff. Eighty-nine percent of clients interviewed said that the quality of service provided by the FLS was good or very good.

The quality assurance program failed to identify some quality issues

7.58 FLS policy defines a quality issue as "any situation in which there is a reasonable concern or suspicion that the validity of forensic work undertaken in FLS in a particular instance is unreliable for any reason whatsoever. This includes situations in which the quality of service is suspected to be substandard."

7.59 Quality issues may result from clients' complaints, proficiency tests, reviews, audits, or other sources. The National Quality Manager is responsible for the documentation, investigation, and adjudication of quality issues. FLS policy requires all staff to report suspicious situations to a Local Quality Manager. The Local Quality Manager will immediately notify the National Quality Manager, who in turn notifies the program manager. Consulting as necessary, the National Quality Manager and Local Quality Manager determine whether a suspicious situation should be recorded as a quality issue. According to FLS's Standard Operating Procedure, if there is any doubt, the situation should be called a quality issue.

7.60 The National Quality Manager has the overall responsibility for investigating, identifying corrective and preventive actions, and preparing a written report; if the issue is local, however, the Local Quality Manager will conduct the investigation. The National Quality Manager is also responsible for maintaining a record of all quality issues, the results of investigations concerning them, and the actions taken to correct them.

7.61 We found that in practice some issues meeting the FLS definition of a quality issue were not recorded as such. In 2005 the FLS identified 11 quality issues. However, some nonconformities identified from internal reviews and other sources were not dealt with according to policy under the national quality management system. According to FLS officials, individual program assurance processes dealt with these issues. But in these instances, the National Quality Manager may not have been aware of a potential quality issue, the issue may not have been dealt with in a consistent manner, and some quality issues would not have been identified as such.

7.62 FLS officials told us they lack a workable definition of a "quality issue" that would allow staff to distinguish between anomalous results needing investigation and simple lab errors. Consequently, senior management cannot determine whether the quality management system is operating as intended or whether any of the nonconformities had an impact on services provided.

7.63 The most significant failure of the quality management system identified in the audit concerned the new automated process for DNA analysis, which was introduced in operational casework in September 2005. The automated process uses robots at various stages of analysis to increase the number of DNA samples that can be processed at one time. The RCMP's Departmental Performance Report for the 2005–06 fiscal year projected that automation would "provide a two- to three-fold increase in casework capacity while improving the timeliness of reporting results."

7.64 Shortly after implementation of the automated process, FLS scientists involved in casework began raising quality concerns in email messages to management and in meetings (Exhibit 7.8). Similar concerns were identified in a review conducted by a Local Quality Manager in November 2005. Late in that month the automated process was suspended to examine inconsistencies in results. Management concluded that the standard used for quantification was inaccurate, yielding weak DNA profiles. Management reinstated the automated process on 30 January 2006, for use in operational casework. About a

month later, FLS scientists again began expressing concern about the quality of results obtained from the automated process.

7.65 In May 2006, FLS officials asked Biology staff to provide a list of case samples for which the automated process did not produce the expected results. As of 28 June 2006, 116 cases with a total of 416 samples were identified, representing about 27 percent of cases processed since the implementation of the automated process. FLS officials noted that some samples identified did not conform to the criteria they had suggested. At the same time, it is possible that the list does not contain all samples with questionable results. We found instances in which the validity and consistency of the results were

Exhibit 7.8 Problems with the automated DNA process were noted soon after implementation

Year	Date	Event
2005	26 September	Analysis of operational casework using the new automated process for DNA analysis began.
	27 October	Problems with the automated process were first noted.
	8 November	An internal review identified concerns about the quality of the automated process.
	30 November	Casework using the automated process was suspended pending a review of inconsistent results.
2006	30 January	Casework using the automated process restarted.
	March	Starting in March and continuing throughout the year, staff members raised concerns about the automated process (for example, low DNA yields) and referred to quality assurance and quality control issues in meetings and email.
	10 May	Management requested information on case samples that did not provide expected results.
	27 June	The Acting National Quality Manager announced a review of cases for which the automated process had yielded questionable results.
	28 June	Spreadsheet of 416 problem samples identified.
	18 July	Troubleshooting progress report on the automated process: problem still unresolved.
	10 August	Email indicating that certain sample types would now be processed manually.
	30 October	Quality issue identified: using Hemastix on possible blood sample could interfere with any subsequent analysis using the automated process. (See definition of Hemastix on page 23.)

questioned by FLS scientific staff involved in operational casework, as well as by police investigators (Exhibit 7.9). FLS scientists were not concerned about errors in DNA profiles, once generated. Instead they were concerned about findings of no or insufficient DNA when they would have expected to find some.

7.66 FLS officials have noted that there is no guarantee of obtaining DNA typing results from casework samples and that the previously used manual extraction process could give similar results. Furthermore, initial analyses indicate that the automated and manual processes yield similar overall success rates. However, in examining sample types (for example, where there was an indication of blood or where blood was identified), the FLS found that the success rate of the automated process in obtaining reportable DNA profiles was lower than the success rate of the manual extraction method. The FLS also found that when the automated process was used, approximately 3 percent of known samples did not yield sufficient DNA for profile development; when the manual process was used, the percentage was zero during the same period. The FLS did not identify a quality issue until October 2006, more than a year after concerns were first raised by staff. The quality issue was identified because of indications that the use of a **Hemastix test strip** on possible blood could interfere with analysis using the automated process.

Hemastix test strips—A tool commonly used to indicate whether a sample from a crime scene may contain blood.

Exhibit 7.9 Examples where results from automated process were questioned

- The FLS received exhibits from a murder investigation. According to the investigator, two exhibits had more than 100 spots of blood each. The FLS examined the samples using the automated process. Six months later it reported finding no DNA for analysis. The investigator asked for retesting because the case relied on DNA evidence and the exhibits clearly had blood on them. The FLS re-examined the exhibits with the manual method previously in use for analyzing DNA; it found positive DNA profiles linking the suspect, victim, and crime scene. Eleven months had elapsed from the original submission of exhibits until the final results were obtained. Although DNA was eventually found for the exhibit, this example illustrates concerns raised about finding no or insufficient DNA, and the added time involved in analysis.
- The FLS received exhibits from a murder investigation. One sample drawn from a suspect was to be used as a known sample. After the sample was examined, the analysis was rerun to confirm the profile. The second profile was not consistent with the first. The scientist responsible for the analysis raised the lack of reliable results as a quality issue. This issue was never formally identified as a quality issue or addressed through the quality management system. This example illustrates concerns raised about the consistency of results, and indicates that quality concerns were not reflected in the quality management system.

7.67 FLS officials noted that the November 2005 review conducted by the Local Quality Manager and subsequent actions were not brought to their attention until revealed by our audit in June 2006. Furthermore, although quality concerns were raised in internal meetings and through emails, and although the automated process was suspended for two months after concerns were raised, no quality issue was recorded until more than a year later, in October 2006. Since the concerns about the automated process fit the FLS definition of a quality issue, they should have been identified as such, with appropriate follow-up actions tracked and recorded.

7.68 **Recommendation.** The RCMP should take measures to ensure identification of all quality issues. The RCMP should ensure that quality issues, once identified, are systematically tracked and resolved, and made available in a consolidated form, and that actions are communicated to senior management.

The RCMP's response. The FLS agrees that it will put into place managerial mechanisms to ensure that quality issues are defined clearly, are recorded and tracked in a systematic manner in its Quality Management System, are available in a consolidated format, and that all actions are communicated to senior management.

The FLS did not follow adequate procedures for project planning and implementation

7.69 The audit identified some additional concerns about the validation and implementation of the automated process. The process was validated for use in operational casework according to the guidelines of the Scientific Working Group on DNA Analysis Methods (SWGDAM). This working group is organized by the United States Federal Bureau of Investigation and includes representation from federal, state, and local forensic laboratories in the United States. The FLS is a member of SWGDAM. SWGDAM serves as a forum to share and evaluate forensic biology methods, protocols, training, and research to enhance forensic biology services. It also makes recommendations on quality assurance standards for forensic DNA testing laboratories.

7.70 According to the 2003 SWGDAM guidelines, developmental validation (demonstration of the accuracy, precision, and reproducibility of a procedure) must precede the use of a novel methodology for forensic DNA analysis. Under the guidelines, a peer-reviewed publication of the underlying scientific principles of a

technology is required, and a peer-reviewed publication of the results of developmental validation is encouraged. The new procedure may be implemented without a peer-reviewed publication if the results have been disseminated in multiple ways to the scientific community for review and evaluation. Following the developmental validation, an internal validation is required to demonstrate the reliability and limitations of the procedure at each site where it is being used.

7.71 According to FLS officials, the developmental and internal validations of the automated process were planned along SWGDAM guidelines, which cover the type of experiments to be performed and the type of samples to be tested, as well as what is to be defined before the process is implemented in casework. Although the results of the developmental validation were not published in a peer-reviewed journal, according to the FLS the results were provided to the scientific community in presentations at scientific meetings and conferences. However, the validation studies were conducted by individuals who themselves had been involved in designing and implementing the automated process. In our view, while the FLS may have met SWGDAM validation guidelines, a new process of this significance should have been subjected to an external peer review to provide independent assurance to management prior to implementation.

7.72 Of equal concern was the lack of documented sign-off by the National Program Manager, the Chief Scientific Officer, and the FLS Assistant Commissioner before implementation; this was particularly necessary given the importance of the switch to automation. Also lacking is documentation showing that the FLS put in place a strategy for dealing with limitations or making key decisions before it implemented the new process.

7.73 Recommendation. The RCMP should develop standard procedures for project planning and implementation, including documentation of decisions and sign-off by senior management.

The RCMP's response. In 2004, the FLS created the Project Management Office to ensure that PMBOK® (Project Management Institute) standard project management practices are applied to FLS projects.

The decision-making process for planning, implementation, and sign-off of projects will be subject to a more rigorous and detailed process.

Client consultation

Clients lack opportunity to influence how the FLS operates

7.74 Not only the RCMP but other members of the law enforcement community rely on the FLS. Provincial and municipal police and other agencies currently submit about half the service requests, and prosecutors rely on the results in court. Furthermore, some FLS funding comes from agreements with provinces and territories. It is therefore important that clients be consulted about their requirements and have an opportunity to influence how the FLS operates to ensure that their needs are met.

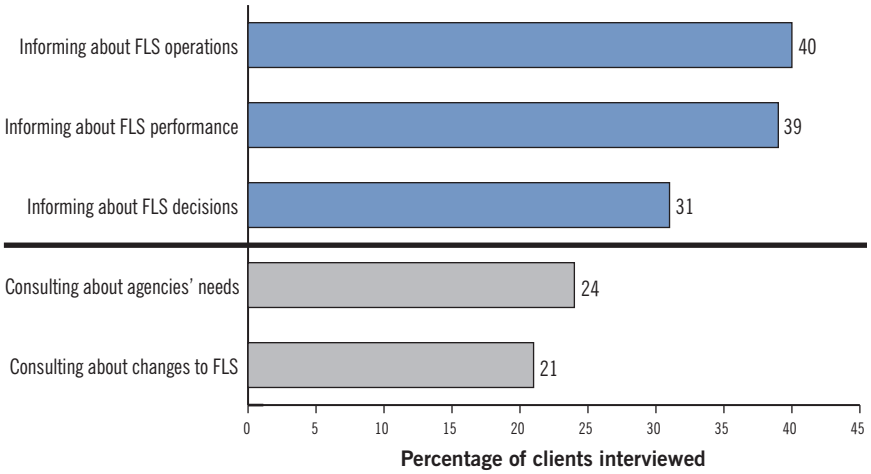
7.75 In previous audits we recommended that the RCMP establish a national forensic advisory committee. In 2000, the RCMP established the Forensic Laboratory Services Advisory Group (FLSAG), which provides advice and recommendations to the FLS Assistant Commissioner. Currently the FLSAG includes individuals representing client expectations (the RCMP and municipal police services), partnerships (provincial governments), criminal justice, work processes, science, and human resources. Given the terms of reference and membership, the Advisory Group appears to be designed as a source of expertise to which the FLS can turn for assistance in operations, rather than a mechanism for informing and consulting with clients. It may be advisable to strengthen the role of the FLSAG, making it more of a consultative body.

7.76 A national forensic advisory committee has been created but the intent of our previous recommendations has not been addressed. The RCMP still needs to provide an opportunity for client input.

7.77 The FLS keeps clients informed to some extent through client visits, newsletters, written correspondence on specific topics, and the RCMP website. However, only about one third of the clients we interviewed said that the FLS was good or very good at informing clients about operations, decisions, and performance (Exhibit 7.10). Furthermore, 42 percent said that they or their agency had received a client visit from the FLS.

7.78 More important, clients reported little consultation on key topics. Less than a quarter of the clients we interviewed said that the FLS was good or very good at consulting about client needs and changes being planned. FLS officials told us that Regional Consultation Committees were created in fall 2006.

Exhibit 7.10 **A small proportion of clients said the FLS was good or very good at informing or consulting with them**



7.79 **Recommendation.** The RCMP should establish a mechanism for consulting with clients so that they have an opportunity to influence lab services, priorities, and service standards.

The RCMP's response. The RCMP agrees that client consultation is an important component in identifying FLS priorities and ensuring client service is aligned with needs. Client consultation groups have been established, and a more comprehensive consultative plan will be developed to enable clients to influence decision-making processes.

The FLS will undertake a more active communications approach with clients to enhance mutual understanding.

The FLS does not usually negotiate the due date for service requests

7.80 In their testimony to the House of Commons Standing Committee on Justice and Human Rights, Public Safety and Emergency Preparedness in 2005, RCMP officials stated that the FLS negotiates due dates with its clients and that each request is negotiated to the client's satisfaction. When asked who decides whether a service request is urgent, officials said that the final decision rests with the police service and the investigator submitting the case to the lab facility.

7.81 We examined the extent to which the FLS negotiates the priority of a service request and response times with clients. The due date was automatically set to the default Expected Diary Date (EDD) for 92 percent of routine service requests in the 2005–06 fiscal year.

Routine service requests for which the due date was not simply the EDD included requests in cases having a set court date (6 percent) and flagged requests (2 percent). The FLS told us that due dates can be negotiated but negotiations are infrequent and limited, since deviation from the EDD can create problems in the orderly processing of service requests nationwide.

7.82 Our client interviews confirmed the lack of negotiation. In the case-specific interviews, 82 percent of respondents said that there was no negotiation of the original due date. When asked about specific cases, 20 percent said that the due date did not meet their needs. Of that 20 percent, two thirds said that the due date set by the FLS had affected the arrest or court proceedings.

7.83 As well as limited opportunities to negotiate turnaround time, clients have little say in the number of exhibits they can submit to the FLS for analysis. Recent FLS policy allows investigators to submit up to eight exhibits with each Biology service request. In rare instances that policy may be waived. The FLS says that the limit on the number of exhibits enables laboratory staff to better manage service requests and improve response times.

Performance reporting

Performance reporting has not improved

7.84 In our 2000 audit we found that FLS performance measurement systems were weak. Stakeholders had little information on the level of service at laboratories; laboratory management did not have the required information on efficiency. The lack of information was reflected in the RCMP's performance reports, which contained discrepancies in data. We recommended that the RCMP ensure full implementation of its information management system and improve performance reporting.

7.85 In January 2003 the FLS implemented a new Laboratory Information Management System (LIMS). Our review found that LIMS captures information needed to monitor operations and respond to client needs, and it allows the FLS to operate as a single lab system. It is capable of integrating evidence tracking, analytical results, and lab management information to provide a clear overview of each case. Furthermore, it facilitates the use of a national case numbering system and monitoring of the completion of service requests; this allows staff to enter case information and track exhibits during the lifetime of a case. The FLS regularly adds new features to update and improve the system. We found evidence of one significant issue: staff can and do overwrite the due date for a request. This is problematic because one of

the key FLS performance indicators is the percentage of due dates met. If the due date can be overwritten, performance may appear better than it actually is.

7.86 Although LIMS has increased the reliability of information and improved the ability to report on performance, the RCMP is not reporting FLS performance externally to clients or Parliament. In 2001 the RCMP accepted the recommendation of the House of Commons Public Accounts Committee that it "begin to report financial and performance information with regard to its forensic laboratories in its annual Departmental Performance Reports, beginning with the Report for the period ending 31 March 2002." The RCMP reported FLS performance in its Departmental Performance Report for the 2001–02 fiscal year, but the report for the 2002–03 fiscal year contained limited information on the FLS, and the 2003–04 report contained none. FLS performance is currently not reported through any other channel. Therefore, little performance information about the FLS is available externally.

7.87 **Recommendation.** The RCMP should ensure that parliamentarians receive the information needed to hold the government to account for the performance of all activities related to the Forensic Laboratory Services, including information on turnaround times and the extent to which performance targets are met.

The RCMP's response. The RCMP agrees with government's commitment to transparency and accountability. It will explore mechanisms to report to Parliament more fully.

Conclusion

7.88 In examining statements made to Parliament by the government and the RCMP since our 2000 audit, we found large discrepancies with our findings from this audit (Exhibit 7.11). Our first audit objective was to determine whether the RCMP delivered timely forensic services as claimed in statements by RCMP officials to parliamentary standing committees. The RCMP has met some criteria but overall it is not delivering timely forensic services according to the targets it has set. Although a system for prioritizing requests is in place, the definition of "urgent" has been revised so that only 1 percent of service requests fall into that category, compared with 8 percent in the 2003–04 fiscal year. Turnaround targets exist for urgent and routine requests, but in most instances the Forensic Laboratory Service (FLS) cannot meet the targets. Furthermore, we found problems in workload management:

the backlog of Biology requests in particular is increasing, as is the turnaround time. The average turnaround time for a Biology service request is 114 days, up from 91 days in the 2003–04 fiscal year.

7.89 We examined whether the RCMP had adequate quality control of lab results. A national quality management system is in place, including accreditation and proficiency testing processes. In practice, however, there are significant weaknesses in how the FLS defines, monitors, and resolves quality issues. Problems that meet the definition of a quality issue were not recorded as such. In addition, the quality management system failed to identify problems with the automated DNA process. Given these major shortcomings, overall the RCMP cannot be said to perform satisfactorily in this area.

7.90 We looked at whether clients are provided with adequate opportunities for influencing how the FLS operates to meet their needs. The RCMP met our criteria with regard to establishing a forensic advisory group, and it attempts to inform clients through client visits and newsletters. According to clients, however, there is not much consultation on important topics such as services, priorities, timeliness of service, or performance. Clients told us they have little opportunity to negotiate the turnaround times for service requests, and they have little say in how many exhibits they can submit per service request—the maximum number allowed is eight.

7.91 Finally, we examined whether the RCMP has kept its commitment to report on FLS performance to Parliament. The RCMP partially met our criteria by implementing a laboratory management system. But although it is able to examine performance, the RCMP is not reporting on FLS performance to clients or to Parliament.

7.92 Many of our recommendations focus on addressing weaknesses in the FLS internal management systems. Our findings suggest the need for standards and indicators so that management can adequately measure and report on performance. Similarly, there is a need to identify and resolve quality issues systematically. Finally, the FLS needs the capability to examine its capacity and efficiency.

Exhibit 7.11 Summary of findings on statements to Parliament

Government and RCMP statements	Our findings
Solicitor General of Canada, Government Response to the 17th Report of the Standing Committee on Public Accounts: RCMP—Services for Canada's Law Enforcement Community, June 2001	
"It is anticipated that new performance and service standards will have been validated and client consultation completed by fiscal year 2002. It is the intention of the RCMP to publish these standards and to report annually on its performance against these standards."	• No evidence that performance and service standards were validated. • New standards have not been published. • FLS performance discussed in departmental performance reports for fiscal years 2001–02 and 2002–03, but not thereafter.
Standing Committee on Justice, Human Rights, Public Safety and Emergency Preparedness, November 2004	
"There is no backlog in the system. What we have is cases in process. There isn't one major case that is not done within 15 days. There is no country in the world that meets that standard."	• We examined "cases in process" that had not been completed within 30 days (defined as backlog). Overall backlog was 2,017 service requests in March 2006. • Most urgent service requests are completed within 15 days. However, the definition of an urgent request was narrowed in 2003, with the result that 1 percent or fewer service requests currently fall into this category. The remaining routine service requests include murder and other violent offences (38 percent of all requests concern violent offences). • The UK's Forensic Science Service meets the target of 7 days for completing DNA analysis of crime scene stains.
"Every single major case that requires an emergency DNA analysis is done in this country and it's done within 15 days. Every other case is negotiated and discussed with the police force or the agency that wants that done, and every single one is satisfied."	• 82 percent of clients interviewed said there was no negotiation of the original due date. • 92 percent of routine service requests are given the default due date. • When asked about specific cases, only about one half of clients said timeliness was "good" or "very good."
Standing Committee on Justice, Human Rights, Public Safety and Emergency Preparedness, March 2005	
"We today on major crimes guarantee and have produced a 15-day turnaround, which is as good as if not better than anywhere else in the world."	• Analyses for most major crimes are not completed within 15 days. The FLS categorizes 99 percent of service requests as routine, including murder and other violent offences.
"[Regarding restructuring,] there is absolutely no loss or diminution of service. The timelines we are committed to with DNA and other tests stay the same."	• Although the RCMP established turnaround targets of 15 days for urgent service requests and 30 days for routine ones, it has created much longer Expected Diary Dates (EDDs), which are provided to clients as an estimate of when the examination will be completed. Furthermore, the EDD for Biology is currently 180 calendar days, up from 70 days in February 2003. • The timelines for completing Biology service requests have increased from an average of 91 days in the 2003–04 fiscal year to 114 days in 2005–06.
"Clearly, murder cases, cases with violence, violent assault cases, those kinds of things would definitely go right into the priority queue and be handled right away."	• 38 percent of service requests relate to violent offences. The FLS categorizes most of these as routine and does not give them any special priority.

Exhibit 7.11 Summary of findings on statements to Parliament (Continued)

Government and RCMP statements	Our findings
"By 2005 we will have substantially improved our ability to provide world-class service."	• In the 2005–06 fiscal year, turnaround times for Biology requests were longer than in earlier years and backlogs had increased.
"We have a negotiated agreement with the police forces on how much time they need: when does their case have to go to court? We negotiate to their satisfaction, each one."	• 82 percent of clients interviewed said there was no negotiation of the original due date. • 20 percent of clients said the original due date did not meet their needs.

About the Audit

Objectives

We wished to determine whether

- the Forensic Laboratory Services (FLS) of the Royal Canadian Mounted Police (RCMP) is delivering timely forensic services,
- there is adequate quality control of lab results,
- clients have adequate opportunity to influence how the FLS operates, and
- the RCMP has kept its commitment to report on FLS performance to Parliament.

Scope and approach

The audit was limited to the FLS. We did not examine other RCMP functions or services, nor the National DNA Data Bank. In addition, we did not audit the quality of the forensic science; we offer no opinion, positive or negative, on the validity of scientific analysis used.

For all lines of enquiry we reviewed RCMP documents and records, and met with management and staff. We also interviewed 42 staff members, 6 members of the Forensic Laboratory Services Advisory Group, and representatives from the Standards Council of Canada. We visited eight other labs to gather information:

Location	Laboratory
Ontario	Centre of Forensic Sciences
Quebec	Laboratoire de sciences judiciaires et de médecine légale
North Carolina, United States	State Bureau of Investigation Crime Laboratory
Georgia, United States	Georgia Bureau of Investigation, Division of Forensic Science
Florida, United States	Department of Law Enforcement, Crime Laboratory
United Kingdom	Forensic Science Service
Sweden	National Laboratory of Forensic Science
Netherlands	Netherlands Forensic Institute

During our visits we met with senior management and gathered information on lab features such as structure, business delivery model, budget, staff, workload, and turnaround times. We relied on information either published in the organizations' reports or confirmed by senior officials. The information is unaudited but has been verified by the labs we visited.

The examination also included a client survey using two types of interviews:

- case-specific interviews—questions about specific cases on which the FLS conducted analyses, and
- general interviews—questions about consultation and service in general.

For the case-specific interviews we extracted a random sample of 125 cases from the FLS Laboratory Information Management System (LIMS) database for which the FLS had completed at least one service request associated with a primary offence during the 2005–06 fiscal year (representing 2,117 cases out of 8,993). Ten of the 125 cases selected were found to be invalid; that is, we could not trace the case file number, or the investigator responsible for the case had retired or was unavailable during the survey, and no one else could answer our questions. For the 115 remaining cases identified, we interviewed 113 individuals: 65 RCMP and 48 municipal police investigators. The response rate was 98.3 percent. Overall estimates are accurate to plus or minus 6.3 percent 18 times out of 20.

We used two methods to develop a sample for the general interviews.

- Investigators: We used the 115 cases randomly selected for case-specific interviews. We asked the chief of police (municipal) or the unit supervisor (RCMP) associated with each case to put us in contact with the person most familiar with the FLS. We interviewed 86 of the 92 individuals contacted, including 46 RCMP and 40 municipal investigators.
- Prosecutors: From the LIMS database we drew a random sample of 60 prosecutors with three or more service requests over the last three years. Of these, 4 were considered to be invalid. We interviewed 49 of the remaining 56 prosecutors.

In total, we conducted 135 general interviews (with 86 investigators and 49 prosecutors), for a response rate of 91.2 percent. Overall estimates are accurate to plus or minus 5.8 percent 18 times out of 20.

To examine timeliness we downloaded data from LIMS and examined three fiscal years: 2003–04 through 2005–06. We analyzed data using the Statistical Package for the Social Sciences to confirm the number of cases and service requests, turnaround times, processing and waiting times, and backlog. We used the service request as the main unit of analysis because each case may include more than one service request with different due dates.

Criteria

We expected to find the following:

- Information provided to Parliament was complete and accurate.
- A prioritizing system was in place.
- High-priority cases were handled first.
- Turnaround targets had been set for initial DNA screening tests.
- Turnaround targets had been set for DNA analysis.
- Turnaround targets had been validated with clients, and were based on operational requirements and generally accepted international standards.
- Performance against these targets was monitored and corrective action taken.
- Turnaround targets established by the FLS were met.
- Turnaround times had improved relative to workload and resources.

- Turnaround times achieved by the FLS were reasonable in relation to benchmarked standards.
- Discretionary activity had been reviewed and budgets re-allocated.
- Accreditation of all sites was complete and up to date.
- A quality assurance program and appropriate procedures were in place to ensure quality for new initiatives and processes.
- A proficiency testing program was in place and adequately monitored.
- A national forensic advisory committee had been established, and was representative of the population of clients and stakeholders being served.
- Clients were being consulted and informed about FLS procedures and processes.
- Response times were being negotiated with clients and agreed delivery dates were being met.
- An information management system had been fully implemented.
- Performance reporting had improved.

Audit work completed

Audit work for this chapter was substantially completed on 20 November 2006, and was updated to reflect further information received up to 16 February 2007.

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Appendix A Recommendations arising from past audits of forensic services

1990 Report of the Auditor General, Chapter 27, Royal Canadian Mounted Police—Support Services to Canadian Law Enforcement Agencies

- FLS should take steps to prevent obvious non-criminal cases from being submitted for examination.
- FLS should ensure that future laboratory construction decisions are based on the identification and cost/benefit analysis of all viable options.
- FLS should improve its performance measurement system by using an appropriate unit of measurement, recording data daily, and developing accurate standards.

April 2000 Report of the Auditor General, Chapter 7, Services for Canada's Law Enforcement Community

- In consultation with users, the RCMP should establish turnaround targets for initial screening tests for DNA warrants and turnaround targets for DNA analysis. Managers should monitor performance against these targets and take corrective action to improve service.
- The RCMP should ensure that priorities are set for all cases and high-priority cases are handled first. All discretionary activity should be reviewed and budgets reallocated.
- The RCMP should establish a national forensic advisory committee.
- The RCMP should ensure quality in its laboratories by timely accreditation, documentation of methodology, and full implementation of the proficiency testing program.
- The RCMP should ensure that its information management system is fully implemented and its performance reporting is improved.

October 2000 Report of the House of Commons Standing Committee on Public Accounts after considering the April 2000 Report of the Auditor General

- That the Royal Canadian Mounted Police develop a strategy to rationalize its forensic laboratory facilities and include that strategy, along with implementation dates, in its Report on Plans and Priorities (RPP) for fiscal year 2002–03.
- That the Royal Canadian Mounted Police develop and implement a series of performance indicators and standards for each of the services provided by its forensic laboratories by the end of fiscal year 2000–01.
- That the Royal Canadian Mounted Police use the results of performance measurement in conjunction with efforts to rationalize its forensic laboratories and consolidate services offered through those facilities.
- That the Royal Canadian Mounted Police use data generated by performance measurement to redirect resources to the areas, such as DNA testing, where they are most needed.
- That the Royal Canadian Mounted Police begin to report financial and performance information with regard to its forensic laboratories in its annual Departmental Performance Reports, beginning with the Report for the period ending 31 March 2002.

Appendix B List of recommendations

The following is a list of recommendations found in Chapter 7. The number in front of the recommendation indicates the paragraph where it appears in the chapter. The numbers in parentheses indicate the paragraphs where the topic is discussed.

Recommendation	Response
Timeliness of service	
7.28 The RCMP should ensure that the Forensic Laboratory Services' prioritization system and turnaround targets meet the operational needs of clients. Turnaround targets should be implemented before service requests increase, as they are expected to do once amendments to the *Criminal Code* and the *DNA Identification Act* come into force. The targets should be used to measure and report FLS performance. **(7.20–7.27)**	The RCMP agrees that response times must be reduced. As the report indicates, significant reductions have been achieved in all disciplines except Biology (DNA). The RCMP agrees that client consultation is important in ensuring that response times meet client needs. The RCMP will continue to engage its clients to establish reasonable turnaround targets. These targets will form the basis of performance reporting. The FLS acknowledges the significant additional demands on Biology services that the proposed changes to the *Criminal Code* and the *DNA Identification Act* will create. The FLS has identified its requirements to meet the proposed changes.
7.34 The RCMP should develop measures of service efficiency and effectiveness in consultation with clients. In addition to existing tools for measuring client satisfaction, it should use client surveys conducted by an independent, external organization. **(7.29–7.33)**	The RCMP agrees that measurement of efficiency and effectiveness, both internally and from client feedback, is important. The FLS currently uses a Quality of Service Questionnaire, which it encourages clients to complete. The RCMP agrees that use of an independent third party to develop and receive feedback may improve response rates and reduce the likelihood of bias. It will further explore this option.
7.43 The RCMP should develop mechanisms for identifying bottlenecks in the process and should determine the systems, procedures, and resources required to eliminate the backlog. **(7.40–7.42)**	The RCMP agrees that identifying bottlenecks in processes is important, and will undertake workflow analyses to determine further efficiencies.

Recommendation	Response
7.50 The RCMP should conduct a review of the Forensic Laboratory Services to examine internal efficiencies, perform a cost/benefit analysis of various services, and examine the need for additional resources. **(7.44–7.49)**	As per recommendation 7.43, the RCMP agrees that there should be cost/benefits analyses for all services and will undertake a workflow analysis to determine if there are further operational efficiencies to be gained.
7.51 The RCMP should develop a capability for management of the Forensic Laboratory Services to analyze capacity and efficiency (including comparing performance with that of other forensic labs) in order to handle future demands. **(7.44–7.49)**	The RCMP agrees that benchmarking is an important tool to measure performance and analyze capacity to meet future demands. The FLS will strive to balance capacity with performance by developing individual and unit performance metrics, and ensure that they are measurable and reportable.
Quality of lab results	
7.68 The RCMP should take measures to ensure identification of all quality issues. The RCMP should ensure that quality issues, once identified, are systematically tracked and resolved, and made available in a consolidated form, and that actions are communicated to senior management. **(7.52–7.67)**	The FLS agrees that it will put into place managerial mechanisms to ensure that quality issues are defined clearly, are recorded and tracked in a systematic manner in its Quality Management System, are available in a consolidated format, and that all actions are communicated to senior management.
7.73 The RCMP should develop standard procedures for project planning and implementation, including documentation of decisions and sign-off by senior management. **(7.69–7.72)**	In 2004, the FLS created the Project Management Office to ensure that PMBOK® (Project Management Institute) standard project management practices are applied to FLS projects. The decision-making process for planning, implementation, and sign-off of projects will be subject to a more rigorous and detailed process.

Recommendation	Response
Client consultation	
7.79 The RCMP should establish a mechanism for consulting with clients so that they have an opportunity to influence lab services, priorities, and service standards. **(7.74–7.78)**	The RCMP agrees that client consultation is an important component in identifying FLS priorities and ensuring client service is aligned with needs. Client consultation groups have been established, and a more comprehensive consultative plan will be developed to enable clients to influence decision-making processes. The FLS will undertake a more active communications approach with clients to enhance mutual understanding.
Performance reporting	
7.87 The RCMP should ensure that parliamentarians receive the information needed to hold the government to account for the performance of all activities related to the Forensic Laboratory Services, including information on turnaround times and the extent to which performance targets are met. **(7.84–7.86)**	The RCMP agrees with government's commitment to transparency and accountability. It will explore mechanisms to report to Parliament more fully.

Report of the Auditor General of Canada to the House of Commons—May 2007

Main Table of Contents