

Centre of Forensic Sciences

Background

The Centre of Forensic Sciences (Centre) within the Ministry of Community Safety and Correctional Services (Ministry) provides independent forensic science laboratory services to law-enforcement officers, Crown attorneys, coroners, pathologists, defence counsel, fire investigators, and other official investigative agencies, all of which rely on the Centre as their sole or primary forensic science services provider. The most frequent users of the Centre's services are the Toronto Police Service, the Ontario Provincial Police, and the Office of the Chief Coroner.

The Centre's stated mission is to provide excellent scientific laboratory services in support of the administration of justice and public safety programs for the citizens of Ontario. It does this, specifically, by:

- providing scientific examinations and interpretations in cases involving injury or death in unusual circumstances and in crimes against persons or property;
- presenting independent objective expert testimony to the courts and other tribunals in Ontario;

- conducting research and development to extend the scope and quality of forensic science services; and
- preparing and presenting educational programs and materials on forensic sciences for the benefit of persons and agencies using forensic science services.

The services provided by the Centre are a critical and integral element of the criminal justice system in Ontario. Investigators and prosecutors rely on forensic science to help identify or eliminate suspects and to provide evidence that can withstand scrutiny in court. Delays or errors in forensic analyses can prolong police investigations, increase their costs, and affect public safety by allowing criminals to remain free to reoffend.

During the 2006/07 fiscal year, the Centre received over 10,400 cases from its justice sector clients requesting scientific analysis of evidence. These requests resulted in the issuing of almost 12,700 analytical reports. Services were provided in the six investigative sections noted in Figure 1.

The Centre's head office and central laboratory are located in Toronto, and a northern regional laboratory is located in Sault Ste. Marie. During the 2006/07 fiscal year, the Centre had operating expenses of approximately \$25.5 million, of which 73% related to staffing costs, and had equipment

Figure 1: Types of Services Provided by the Centre of Forensic Sciences, 2006/07

Source of data: Centre of Forensic Sciences

Investigative Section	Examples of Services Provided	% of Staff Providing Services*
biology	<ul style="list-style-type: none"> • DNA profiling • body fluid identification • examination of trace evidence such as hairs and fibres • interpretation of blood-stain patterns 	32
toxicology	<ul style="list-style-type: none"> • identification of drugs, poisons, and alcohol 	20
chemistry	<ul style="list-style-type: none"> • analysis of fire debris, gunshot residue, and explosives • examination of trace evidence such as glass, paint, and soil 	14
firearms and toolmarks	<ul style="list-style-type: none"> • identification and classification of firearms; serial number restorations • comparison of bullets and cartridge cases • firing-distance determinations and trajectory analysis • assessment of striations from tools 	8
documents and photoanalysis	<ul style="list-style-type: none"> • handwriting analysis and examination of documents • specialized photography and microscopy • photographic enhancement 	4
electronics	<ul style="list-style-type: none"> • analysis of electronic devices such as cell phones and computer storage drives • examination of stun guns • audio enhancements 	3

* Percentages are of staff full-time equivalents (FTEs). Eighty-one percent of the total FTEs provide forensic services. The remaining 19% of FTEs, which are not included, work in the Centre Receiving Office, support services, Quality Assurance, and senior management.

expenses of approximately \$2 million. It employed some 260 staff, including 180 scientists and technologists. The Centre does not charge fees or recover costs from its clients for services provided.

Audit Objective and Scope

Our audit objective was to assess whether the Centre of Forensic Sciences had adequate systems and procedures in place to:

- provide efficient, timely, and reliable services; and

- measure and report on the effectiveness of its services in supporting the administration of justice in Ontario.

We did not audit the validity of the scientific analysis performed by the Centre. The results of the Centre's work have been scrutinized in courts, where the Centre's staff are routinely required to testify on their findings. We did, however, inquire into the processes the Centre used to ensure the reliability of its analysis and findings.

Our audit fieldwork included a review of a sample of case files, reports, and policies. We also interviewed key staff at the Centre's head office and two laboratories and some of the Centre's main clients and stakeholders, including representatives

of police services in Ontario, Crown attorneys, and others. We also conducted research into forensic-services best practices in other jurisdictions.

We wish to acknowledge the co-operation and assistance we received from the staff of the Office of the Auditor General of Canada and the Forensic Laboratory Services (FLS) of the Royal Canadian Mounted Police (RCMP). The Auditor General of Canada recently completed an audit of the FLS, and we discussed with her staff their observations, research, and comparisons of FLS's performance measures with those of several forensic science laboratories in Europe and North America. At the FLS, senior management described to us the issues they face in providing high-quality and timely forensic services.

We did not rely on work performed by the Ministry's internal auditors to reduce the extent of our audit, as they had not conducted any recent work at the Centre in the areas covered by our audit.

Summary

The Centre has established reasonable processes for ensuring the quality of its services and is pursuing international accreditation in this regard for 2008. Its clients are also satisfied with the calibre of the work it does. Although timeliness was an issue in the past, over the last several years it has improved the timeliness of its services—its DNA analysis in particular—despite a more than 70% increase in the demand for those services. However, improvements in systems and procedures are required in order for the Centre's turnaround times to be comparable to those of leading international forensic laboratories.

Some of our more significant observations, especially relating to the issue of turnaround time, are as follows:

- Quicker turnaround times for the Centre's case reports will increase public safety and allow police forces and other justice-sector clients to make better and more efficient use of their resources. Two leading forensic science laboratories in the United Kingdom and Sweden complete their case reports in about half the Centre's average turnaround time of 64 days.
- The Centre uses only one turnaround-time target to monitor the performance of its different investigative sections, although the kinds of cases each section works on are completely different, and therefore different target turnaround times would be more realistic. The Centre's 90-day target for completing 80% of its cases was set without the benefit of input from clients on their requirements and was much longer than targets set by forensic science laboratories in other jurisdictions, which generally set targets of 30 days or less.
- The Centre has established no documented systems or procedures for monitoring the number of urgent cases processed by each section and their turnaround times. Some other jurisdictions that monitor their urgent cases achieve completion targets of 20 days or much less for such test results.
- The Centre's information systems did not help management to determine why case reports had been delayed, and standards had not been set in each investigative section for reasonable completion times of tests, analyses, and reports. Such standards and information systems could be used to identify bottlenecks and to determine any necessary corrective action.
- The Centre's two laboratories in Toronto and Sault Ste. Marie were accredited by an American accrediting agency as having met its quality assurance standards for crime laboratories. The Centre is preparing to have both facilities

accredited in 2008 under an international standard.

In addition, the Centre lacked financial performance measures for monitoring the cost of providing its services and did not benchmark its performance against that of other forensic science laboratories, which would allow it to identify best practices that could be applicable in Ontario.

We sent this report to the Ministry of Community Safety and Correctional Services and invited it to provide responses. We reproduce its overall response below and its responses to individual recommendations following the applicable recommendation.

OVERALL MINISTRY RESPONSE

The Ministry appreciates the thorough audit of the Centre of Forensic Sciences (Centre) conducted by the Auditor General and will endeavour to take action to address all the audit observations and recommendations. The Ministry remains committed to providing high-calibre forensic science services to the justice system in Ontario.

We are pleased that the audit report noted that the Centre has the processes necessary for the delivery of quality forensic science services and for pursuing a renewal of laboratory accreditation in 2008. The Centre was first accredited in 1993, and meeting detailed accreditation requirements has supported our efforts to provide the highest levels of quality to our clients.

The principal observations of the audit dealt with the need to provide faster service delivery that meets the needs of our clients and to enhance our ability in tracking the successes in achieving this goal.

Efforts to improve the turnaround time for reporting cases have been under way for many years. As the audit found, considerable progress

has been made in this regard since 2001, and improvement in turnaround time was achieved, along with the implementation of enhanced standards for the quality system, even though the Ministry was experiencing a substantial increase in workload during this period.

The Centre is essentially the sole provider of forensic science services in the province. It continues to experience an increasing demand for forensic science services arising from its importance in the justice system. The ability to meet this demand is a constant challenge.

Detailed Audit Observations

QUALITY MANAGEMENT SYSTEMS

The need to strive continually for high quality is a key requirement for a forensic science laboratory. Most police forces in Ontario depend exclusively on the Centre for forensic science laboratory analyses. If its work contains errors, police resources can be wasted, guilty individuals could go free, and innocent individuals could be wrongly convicted. Equally important is the Centre's ability to provide credible, impartial, and understandable testimony in court.

Our work and comparison against best practices indicated that systems and quality assurance procedures have been successfully implemented to monitor quality continuously and take corrective action when needed. For instance:

- Case files of the examination, analysis, and reporting of evidence undergo a technical peer review to ensure that errors are identified and corrected prior to the release of a report.
- The Centre's two laboratories in Toronto and Sault Ste. Marie were accredited by an

American accrediting agency as having met its quality assurance requirements for crime laboratories. The Centre is preparing to have both facilities accredited in December 2008 according to an international standard.

- A team of six staff conducted regular quality assurance audits of the Centre's operations, including making recommendations for improvement, as needed.
- Scientists and technologists were required to complete an annual proficiency test.
- Scientists providing court testimony were monitored at least annually to ensure that their testimony was accurate, objective, clear, and understandable. Crown attorneys and defence counsel were given an opportunity to provide feedback.

Our review of these controls indicated that they were operating as intended. Where the control process identified deficiencies or a complaint was received from the Centre's clients, we noted that appropriate measures were taken to address or resolve the issue and monitor the implementation of any corrective actions.

Other key factors as well led us to favourable conclusions about the Centre's quality assurance programs. The Ministry conducted a survey of the Centre's clients in October 2004; this is discussed in more detail later in this report, and overall the quality of service provided by the Centre was rated high. In addition, during our interviews with the Centre's clients and stakeholders, they consistently informed us that they were very pleased with the quality and calibre of services they received and staff they dealt with.

PROVIDING SERVICE TO CLIENTS

The number of requests made by the Centre's clients is the primary determinant of the Centre's workload. As a service provider to the justice sector, the Centre has little influence on the number of

cases that are brought to it. However, the Centre has some control over the types of services it offers, and hence, the types of cases it will accept, the number of samples it is willing to accept for each case, and the time it takes to conduct its analyses (within the time limitations needed for the technological processes it employs) and to issue the resulting reports. Factors that influence the Centre in its ability to offer good service to its clients include its financial resources, its ability to attract, train, and retain high-calibre specialized staff, the outreach programs it conducts with its clients, and its policies and procedures for managing its workload.

The Centre has experienced significant increases in its workload over the last seven years, primarily owing to increases in police resources and efforts to reduce crime during the same period, and increased use of forensic sciences in investigations and prosecutions. The number of funded staff positions at the Centre increased from 187 in 2000/01 to 260 in 2006/07. Figure 2 shows the trend in the Centre's workload over the past seven years, that is, from the date that the Centre first implemented its computerized case-tracking system.

The demand for the different types of services provided by the Centre has also changed over the last seven years, mostly as a result of the greater use of DNA profiling in police investigations, as Figure 3 indicates.

The Centre told us that the increased demand for its services and the changing nature of the demand have presented challenges in the recruitment and training of scientists and technologists because months—and in some cases, years—of experience and training are often needed before new employees reach the required proficiency level.

MONITORING REPORT TURNAROUND TIMES

The need by the police for fast turnaround times for forensic science analysis reports varies with each

request; as a rule, quick results help the police manage their investigative resources and solve crimes more quickly. Urgent forensic science analysis is needed to support large-scale investigations of unsolved serious crimes in which the criminal is still at large and likely to reoffend. When a suspect is apprehended after a crime, timely completion of forensic science analysis can help to confirm or eliminate suspicion of that person. Longer turnaround times may be justifiable in instances when there is no personal safety risk to the public, when a police investigation has largely been concluded, and when additional forensic science work is requested well before the start of a trial.

The Centre uses two measures to monitor its turnaround times: the average number of days from the time it receives a case to the time it issues its report; and the percentage of reports it completes within 90 days of receipt of a case. Figure 4 shows the Centre's calculations of its turnaround times for the last seven years.

Although the Centre has demonstrated progress in reducing its turnaround times in recent years, we believe that considerable improvement is still necessary to achieve a level of service that better meets police needs and to match the performance levels of forensic science laboratories in

other jurisdictions that report significantly faster turnaround times.

For the Auditor General of Canada's May 2007 report on the Forensic Laboratory Services (FLS) of the Royal Canadian Mounted Police (RCMP), staff of the Auditor General of Canada researched the turnaround times for DNA testing at several forensic science laboratories in North America and Europe and noted the following:

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).

The Centre's reports indicate that its turnaround times have improved since this information was

Figure 2: Workload of the Centre of Forensic Sciences, 2000/01–2006/07

Source of data: Centre of Forensic Sciences

	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	Increase 2006/07 over 2000/01 (%)
# of Case Requests								
Toronto lab	6,356	5,985	7,400	8,179	7,695	8,253	9,512	50
Sault Ste. Marie lab	715	686	855	991	928	917	942	32
Total	7,071	6,671	8,255	9,170	8,623	9,170	10,454	48
# of Reports Issued								
Toronto lab	6,888	7,347	7,771	9,336	10,659	10,674	11,495	57
Sault Ste. Marie lab	598	792	855	1,219	1,271	1,254	1,198	100
Total	7,486	8,139	8,626	10,555	11,930	11,928	12,693	70

Figure 3: Demand for Services Provided by the Centre of Forensic Sciences, 2000/01 and 2006/07

Source of data: Centre of Forensic Sciences

	# of Reports Issued		% Increase/ (Decrease)
	2000/01	2006/07	
toxicology	4,462	5,534	24
biology (incl. DNA)	1,447	4,692	224
firearms and toolmarks	462	1,163	152
chemistry	815	999	23
documents and photoanalysis	300	248	(17)
electronics	n/a	57	n/a
Total	7,486	12,693	70

made available to staff of the Auditor General of Canada: for the period January to March 2007, its average turnaround time for DNA analyses was 73 days (excluding break-and-enter samples).

The most recently available annual survey by the Ministry's Corporate Evaluation and Analysis Branch of the Centre's clients, conducted in 2004/05, noted, overall, that more than 90% of clients were satisfied or very satisfied with services received. However, about 50% of the comments received on the survey identified the amount of time it took the Centre to complete a written report of its analyses as an area for improvement. This criticism singled out toxicology and firearms in particular. Subsequent to the survey, the average turnaround time in toxicology investigations increased from 43 days in 2004/05 to 64 days in 2006/07. In contrast, in firearms analyses, senior management made significant changes, such as addressing staffing issues and rationalizing the types of cases the Centre receives. As a result, the average turnaround time was reduced from over 500 days in 2004/05 to 75 days in 2006/07.

Figure 4: Centre of Forensic Sciences Turnaround Times, 2000/01–2006/07

Source of data: Centre of Forensic Sciences

	Average # of Days to Issue Reports	Reports Completed within 90 Days (%)
2000/01	92	59
2001/02	107	59
2002/03	92	65
2003/04	86	71
2004/05	112	74
2005/06	85	74
2006/07	64	79

RECOMMENDATION 1

In order to ensure that it better meets the needs of its clients for investigating and prosecuting crime, the Centre of Forensic Sciences should conduct a review of its practices and resources on an area-by-area basis, with a focus on achieving improvements in its turnaround times for completing case analyses, especially for the more urgent cases.

MINISTRY RESPONSE

We were pleased that the report confirms that the use of forensic science evidence plays a vital role in helping investigating officers investigate crimes efficiently and effectively. We are acutely aware from our numerous interactions with users of our services that it is important to shorten the turnaround time as much as is practicable. The Centre is committed to continuous improvement in all areas of service delivery, including turnaround times. While much progress has already been made, we will conduct a review of our practices and resources.

SETTING TARGETS FOR REPORT TURNAROUND TIMES

As noted earlier, the Centre uses two measures to monitor the turnaround time of its reports: average completion times and the percentage of reports completed within 90 days. The Centre does not set a target for average turnaround time, although at the time of our audit its target for reports completed within 90 days was 80%. It does not set target dates for completing individual cases or record a backlog of reports pending completion. Nor does it set turnaround targets according to the type of investigative services it provides (for example, biological, toxicological, chemical, and so on) or according to their priority.

Our research did not find any other jurisdiction with a target for turnaround times as long as the Centre's regular-priority turnaround target of 90 days. Centre staff informed us that its 90-day standard was generally more reflective of the Centre's capabilities than of the service levels required by its clients.

Our research and that of the Auditor General of Canada found that in other jurisdictions, targets for the completion of cases are usually stated as a certain number of days and are set on the basis of a desired service level. For example, the Auditor General of Canada reported her observations on the RCMP FLS as follows:

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.

We also noted that the forensic science laboratory in the United Kingdom—a for-profit laboratory operating 24 hours a day, seven days per week—had the best turnaround times. It had publicly stated targets of two, five, eight, and 10 days for completing DNA analysis, depending on the type of test performed; for other types of forensic science work, its target was a completion rate of 95% of cases within 33 days.

The report of the Auditor General of Canada did note that for the most part, the RCMP FLS was not yet meeting its turnaround-time targets. At the time of the audit by the Auditor General of Canada, we noted that the Centre's actual average turnaround times were roughly comparable to the turnaround times being achieved by the RCMP FLS.

In the mid-1990s, the Centre had a turnaround objective of 30 days for completing 90% of its cases—including DNA cases—which it never met. However, following the Bernardo Investigation Review report prepared by Mr. Justice Archie Campbell in June 1996, the Centre discontinued this turnaround-time objective, as it was unable to meet it, while at the same time making needed improvements to the quality of its services. In 2002/03, the Centre's target was as high as 90 days for completion of 60% of all reports. This low standard was indicative of the challenges the Centre faced in reducing its turnaround times at that time.

We noted that the Centre had not conducted research to identify turnaround targets that would

be acceptable to its clients. Police officers we interviewed were satisfied with the improved service they had been receiving from the Centre recently, particularly for major crimes, and recalled those years when test results had taken much longer. However, a number of police officers told us that their expectations were reduced as a result of having had to put up with slow turnaround times and they indicated that further reductions in turnaround times would allow them to investigate crimes more efficiently and effectively, including non-urgent cases where long delays remained.

In this regard, we noted that two key resources available to the Centre that have the potential to gather input from clients into their desired turnaround times were not being used for that purpose:

- The Centre conducts an annual survey among its clients, which are asked to rate and comment on existing service levels, although the survey omits questions regarding desired turnaround times.
- The Centre did not ask for recommendations on desired turnaround times from its advisory committee, which comprises 19 members representing client groups from various regions of the province that meet twice a year.

RECOMMENDATION 2

To ensure that the Centre of Forensic Sciences' target turnaround times for completing case analyses are meeting the needs of its clients and the administration of justice, the Centre should establish processes, involving its clients, to:

- set turnaround-time targets for the various types of investigative services it provides, and segregate these between urgent and non-urgent cases;
- assess actual performance against targets; and

- compare its turnaround times and methods of achieving them with those of other jurisdictions.

MINISTRY RESPONSE

We agree to more formally assess clients' needs regarding the turnaround times desired. We acknowledge that the Centre's Advisory Committee, since it is knowledgeable in the variety of scenarios that the Centre faces, is the appropriate group from which to solicit input. This committee will also assist in identifying the appropriate clients to be consulted. An expectation of a short turnaround time for all cases may require additional resources that would need to be appropriately evaluated.

TRACKING CASES BY PRIORITY

The Centre's staff do not set estimated completion dates for cases received. Instead, staff in each investigative section will normally complete the examination of submitted items and issue reports summarizing the results in the order in which submissions are received. Upon receipt of the items, submitters are given a "Client Information Sheet" that shows the turnaround times for the last quarter for each section; this sheet provides the submitters with an estimate of recent turnaround times that they may expect for completion of their requests. In instances where investigational imperatives, court deadlines, or other operational contingencies require that the examination be given priority, this is done in consultation with the client. Submissions received are recorded in the Centre's Laboratory Information Management System (LIMS), which is used for tracking and managing cases and workloads. Each section's management monitors the age of the cases in LIMS and uses that as a criterion in prioritizing cases and workloads.

When a client presents an urgent request and Centre staff agree that the request is urgent, the work can be completed in significantly less time than average. DNA tests, for example, can be completed in as little as 48 hours. However, Centre staff inform us that acceptance of urgent cases is kept to a minimum because greater efficiencies are achieved when cases flow through normal work processes.

The Centre has not established systems to monitor its turnaround times according to the priority assigned. The priority of cases as assigned by each section is not recorded in LIMS, which could have been used to report on turnaround times by priority. We did note that the Centre does record in LIMS the type of crime associated with the case, such as homicide, sexual assault, and robbery, and reports are regularly produced on turnaround times by type of crime. However, this type of reporting does not adequately reflect the priority of cases, since the circumstances of different cases in the same category of crime may differ greatly and their urgency may be very different. For instance, the public risk would be higher for unsolved homicides and sexual assaults than those where a suspect has been apprehended.

As a result, no statistics were available on the number of urgent cases that were assigned, either overall or by each investigative section, or on the turnaround times for urgent requests.

RECOMMENDATION 3

The Centre of Forensic Sciences should ensure that its information systems capture information on urgent cases that allows the monitoring and assessment of:

- each investigative section's success in responding to urgent cases;
- the impact of urgent cases on each investigative section's workload; and
- the turnaround times achieved.

MINISTRY RESPONSE

The preferred practice for dealing with all casework is that each case be processed in order of receipt. In reality, there are situations that require that some cases be moved forward in the queue.

The Centre has mechanisms to deal with urgent situations that arise from factors such as investigative imperatives, concern for public safety, or the need to meet established court dates. We agree that it would be useful to capture information to allow us to identify and monitor response to those cases that are deemed urgent.

MONITORING CAUSES OF DELAYS

Regular analysis of case-processing could potentially identify, for each of the Centre's investigative sections, where delays are occurring in its processes, how frequently they are occurring, the extent of the delays, and their causes. The collection and reporting of this information could assist management in setting priorities and taking corrective action to address bottlenecks and improve turnaround times for producing case analyses.

Discussions with staff have revealed delays caused, for example, by insufficient or inexperienced staff, equipment breakdown, procedural errors that require tests to be repeated, and high workload volumes. Staff shortages and high workload volumes could be indicative of inadequate funding, but reliable information regarding their impact on case-processing times would be needed to support any requests for additional resources. No reporting of such information is available, however.

In the absence of such reporting, we sampled a number of recent similar cases with varying turnaround times processed by the Centre's staff.

We tried to determine the causes of the long delays and to discover whether LIMS was useful for identifying bottlenecks in the processes used. Although information recorded in LIMS can document the key dates and activities associated with each case, the reasons for any delays were not evident from the information that must be recorded.

For example, one toxicology case assigned as a high-priority homicide took 84 days to complete, and a second homicide assigned as regular priority took 194 days, more than twice the targeted turnaround time of 90 days. A review of information in LIMS and the case file on the regular-priority case and discussions with toxicology staff did not provide a definite explanation for the delay in completing that case.

We sampled four cases submitted to the firearms and toolmarks section for testing of ammunition that had been fired from firearms. The shortest turnaround time was 14 days; the other three cases took 94, 99, and 232 days. A review of the case files showed no documentation related to the delays. However, in further discussions with us, firearms and toolmarks section staff recalled details about the causes of delays for two of these case reports. In one case the technologist was not working at an acceptable pace and the case was reassigned. The other case was incorrectly assigned within the section, and the error was not realized immediately.

In another example, we selected examinations of two stun guns carried out by electronics section staff, in which one examination took 39 days and the second 111 days. In the second case, the device had not been retrieved for analysis until 100 days after submission, after which it took 11 days to complete the case report. The cause for delay was not noted in the case file.

An assessment of the causes of delays was also made difficult because each section had not established time standards for each key activity in its processes, such as the time needed to conduct specific types of analyses and tests and to prepare reports.

RECOMMENDATION 4

To ensure that the causes of delays in processing cases are monitored and assessed so that any systemic issues can be addressed, the Centre of Forensic Sciences should:

- ensure that its information systems record the reasons for any significant delays in each case it investigates;
- set standards for the processes used by each investigative section and monitor variances between expected and actual times;
- conduct regular evaluations where delays in completing cases appear high to identify the reasons and determine what steps can be taken to mitigate the likelihood of the same delays arising in the future.

MINISTRY RESPONSE

Delays in case-reporting can result from a variety of operational factors, such as staffing, technical concerns, or workload volumes.

We agree that an appropriate mechanism to develop reliable data on the reasons for delays in reporting would provide valuable management information and will work towards its development.

MEASURING PERFORMANCE

There is no legislated requirement for the Centre to report publicly on its performance in achieving program objectives or its efficiency in delivering its services. As part of the Ministry's internal results-based performance reporting system, however, the Centre is required to report on two key measures: percentage of submissions completed in 90 days or less and percentage of client-survey respondents indicating that they are satisfied or very satisfied with the Centre's services.

Since 2000/01, the Centre has reported gradual improvements in both of these measures. Targets for completing reports within 90 days have risen since a baseline of 55% was achieved in 2000/01. They now stand at 80%. The client satisfaction baseline was established in 2000/01 at 82%. The target remains at 82%, although client satisfaction achieved has exceeded 90% in each of the last two years.

While these are two key performance measures, we believe that cost-effectiveness of operations should also be measured and that the Centre's performance in key areas should be compared with that of forensic science laboratories in other jurisdictions. With respect to these two additional performance measures, we note the following:

- In the absence of any measures of the cost-effectiveness of operations established by the Centre, we compared the average staffing cost per report produced in each of the investigative sections at the Toronto Laboratory for the 2000/01 fiscal year to that for the 2006/07 fiscal year and identified the variances shown in Figure 5.

As Figure 5 shows, the annual increase in staff costs in most sections over the last seven years has been significantly higher than the inflation rate. These increases were offset,

however, by savings resulting from automation and other efficiencies achieved in DNA testing in the biology section. The Centre had conducted no formal analysis or monitoring of staff costs compared to the relative workload of each section. Regular monitoring of staffing costs could be used to help control and possibly reduce these costs, freeing up resources to improve client service. In addition, tracking the amount of time spent by staff in key non-report-generating activities, such as testifying in court, research, and outreach, would provide management with a better understanding of staff utilization and service demands, and provide support for resource allocation decisions.

- The Centre does not benchmark and compare its performance with the other two forensic science laboratories in Canada or those in other jurisdictions. Benchmarking could help the Centre determine whether its financial and operational performance is comparable to that of similar organizations, and help identify forensic science laboratories that employ best practices that may be applicable to Ontario.

As previously mentioned, the Centre provides submitters with an information sheet informing clients of its average turnaround times by offence

Figure 5: Average Staffing Costs per Report Issued by the Centre's Toronto Laboratory, 2000/01 and 2006/07

Source of data: Centre of Forensic Sciences

	Average Staffing Cost per Report Issued (\$)		7-year % Increase/ (Decrease)	Annual % Increase/ (Decrease)
	2000/01	2006/07		
biology	1,906	1,107	(42)	(6)
chemistry	1,943	2,675	38	6
firearms and toolmarks	792	1,103	39	6
documents and photoanalysis	1,861	3,406	83	12
toxicology	399	620	55	8
all reports*	946	1,135	20	3

* Salaries and wages divided by total number of reports produced for the year.

type and by number of reports issued by each section during the last quarter. These reports are made available to update clients on current expected turnaround times. Our interviews of front-line police investigators determined that few were aware of the quarterly reports and none were receiving them regularly. Accordingly, obtaining information on how this process could be improved—perhaps by including this issue in their annual survey—should be considered.

RECOMMENDATION 5

In order to better monitor and report on its financial and operational performance, the Centre of Forensic Sciences should:

- establish measures to monitor the cost-effectiveness of its operations;
- benchmark its performance against that of other forensic laboratories; and
- investigate whether its quarterly reports on average turnaround times are reaching those clients who would best benefit from them and consider distributing these reports directly to them.

MINISTRY RESPONSE

As the Auditor notes, ministry funding for the provision of forensic science services has been significantly higher than the rate of inflation. This has been the case in order to meet increasing demands for our services and invest the additional resources in the quality management system required for acting on the recommendations of the *Report of the Kaufman Commission on Proceedings Involving Guy Paul Morin*. The Centre will explore mechanisms to monitor the cost-effectiveness of its operations.

The Centre routinely consults with other laboratories in order to remain informed of their activities and best practices. Benchmarking our services and turnaround times will require discussions with other laboratories to determine the comparisons that are possible for similar activities. We plan to explore these opportunities and, with the co-operation of other laboratories, develop mechanisms for meaningful inter-laboratory comparisons.

We will consult our clients to determine who is the appropriate representative to receive the quarterly report and will explore other mechanisms, such as electronic solutions, to bring this information to the appropriate personnel.