Office of the Registrar General

Background

The Office of the Registrar General (Office) is responsible for the administration of the *Vital Statistics Act*, the *Change of Name Act*, and the *Marriage Act*. The Office's main responsibilities are to register all births, deaths, marriages, stillbirths, adoptions, and changes of name and to provide certificates and certified copies of registrations to the public. Each year, approximately 300,000 events are registered and 400,000 certificates and certified copies are issued.

A person's birth certificate is a critical document required by government and businesses to validate that person's identity. It is required when applying for other vital documents and entitlements, including social insurance numbers, driver's licences, passports, and health cards. Similarly, death certificates are needed to settle estates and insurance claims, to discontinue government benefits, and to conduct genealogy searches. Marriage certificates are necessary proof to show marital status. The Office charges a fee for the issuance of certificates. Total service fees collected in the 2004/05 fiscal year amounted to $19.6 million.

The Office's head office is located in Thunder Bay, with an administrative office in Toronto. For the 2004/05 fiscal year, the Office had operating expenditures of $30.3 million. For the same year, the Office's staff levels fluctuated between 275 and 425 staff.

Audit Objective and Scope

Our audit objective was to assess whether the Office has adequate systems and procedures in place to effectively fulfill its key mandates of maintaining accurate vital statistics records and providing Ontarians with timely, accessible services in an efficient manner. Prior to commencement of the audit, we identified audit criteria to address our audit objective. These criteria were reviewed and accepted by senior management at the Office of the Registrar General.

The scope of our audit included interviews, inquiries, and discussions with relevant Office staff in Toronto and Thunder Bay. As well, we reviewed files and other documentation, the Office's policies and procedures, and relevant management and external consultants' reports. We also reviewed the work of the Ministry's internal auditors. The internal auditors and the Corporate Audit Cluster from Management Board Secretariat had also conducted

reviews of the security measures in place at the Office. As a result, we were able to rely on them and reduce the scope of our work on security controls, and their relevant concerns were incorporated into our audit.

Our audit was performed in accordance with the standards for assurance engagements, encompassing value for money and compliance, established by the Canadian Institute of Chartered Accountants, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

Summary

Until a few years ago, the Office, with a staff of 140, registered all vital events and provided the public with timely and reliable service for all document requests. However, due largely to significant and continuing problems with the implementation of a new computer system and human resources issues, service levels plummeted, and the turnaround time to get essential documents went from being about three weeks to several months, even a year or more, despite more than a doubling of staff. At the time of our audit, the Office indicated that the situation had improved and the certificate delivery time had been reduced to between six and eight weeks. However, we found that it often still took months to obtain certificates, and some people had not yet received documents requested more than a year before.

We concluded that significant improvements were required in a number of key areas. For instance:

- The Office's call centres were not effective in handling the public's inquiries and complaints—99% of the telephone calls to them either were blocked with busy signals or were disconnected

before callers could reach someone to help them.

- Prudent business and information technology practices were not being followed in the acquisition, development, and implementation of a new computer system. As of March 2005, the system had cost over $10 million—more than $6 million above the original estimate of $3.75 million. Furthermore, the system was implemented before it was ready, with numerous outstanding work orders and without many of the necessary capabilities in place. Processing applications for certificates was still being delayed as the result of system downtime and staff having to bypass automated functions in order to handle transactions manually.

- Staff morale was low and productivity declined significantly because of a poorly planned organization restructuring and questionable promotion practices. Specifically, a new level of managers was appointed, without competition or job specification. Clerical staff with relatively little experience in management were appointed to supervise existing managers to whom they used to report. None of the existing managers was given an opportunity to compete for the new positions.

- There were inadequate controls to safeguard registration information. For example, the Office did not have off-site storage of the tape backup for the computer system. The inability to recover data posed a high risk in the event of a disaster, such as a fire. In addition, controls restricting unauthorized access to confidential personal information were weak. These weaknesses included no firewall protection for registration data and inadequate tracking and monitoring of access to the computer systems.

In spite of the problems faced by the Office, it was apparent that staff were dedicated, concerned about the significant backlogs, and frustrated by the operational issues that had to be overcome to

improve service delivery. We were informed that, subsequent to the completion of our fieldwork, staff efforts had resulted in progress being made in improving service levels.

OVERALL MINISTRY RESPONSE

The Ministry recognizes that backlogs in a number of areas resulted in very significant service issues for the public throughout 2004. Fieldwork conducted by the Auditor General's staff was undertaken prior to the Ministry having completed implementation of its backlog reduction plan, or full implementation of its service improvement plan. The service issues identified by the Auditor General that were directly associated with certificate and registration backlogs have been largely resolved.

Faced with growing service challenges in early 2004, the Ministry developed and received approval for a backlog reduction plan based on the principle of focusing resources first on areas where longer processing times were creating the most significant impact on the public—starting with certificate requests. The Ministry achieved the backlog reduction targets that were established and is meeting its six-to-eight-week service standard for certificate application and registration processing. Issues raised by the Auditor General relating to handling of requests for additional information from clients when certificate applications had not been completed correctly, as well as the processing of that additional information, were also largely either backlog- or transition-related and have since been resolved. The Ministry, however, acknowledges that the processing time for returned correspondence remains too high and has a plan to improve this service by the end of November 2005.

The handling of customer inquiries and complaints remains of significant concern to the Ministry, and it fully accepts the need to substantially improve service in this area. Steps are being taken to better utilize existing call-centre infrastructure and answer more calls, including the addition of several more operators and improved access to the system, which has already significantly reduced the number of callers getting a busy signal. To further improve on this, the Office of the Registrar General (Office) is accelerating implementation of its new call-centre technology so that the public can expect a more positive client experience by December 2005. In addition, self-serve application status checking over the telephone will be available to the public by March 2006.

In parallel with the implementation of its backlog reduction plan, the Ministry developed, secured approval for, and is on track with the implementation of its long-term service improvement plan for the Office. From a service delivery perspective, key elements of the service improvement plan include making all birth, death, and marriage certificate applications available on-line, with a 15-day processing-and-delivery service standard, by March 2006. Early successes include the implementation of an on-line birth certificate application for children eight years of age and under. Electronic registration for births (including integration of birth registration and certificate applications) and deaths will be progressively implemented, commencing with the introduction of an Integrated Birth Registration "Smart Form" by February 2006.

The service improvement plan also includes investments in strengthening the Office's organizational capacity to manage both ongoing operations and future change. This includes targeted investments in strengthening management capacity and training, quality assurance, and security.

Detailed Audit Observations

REGISTERING VITAL EVENTS AND ISSUING CERTIFICATES

The issuing of a birth, death, or marriage certificate in Ontario is a two-stage process. First, the vital event itself must be registered. For instance, when a birth or death occurs, the appropriate form must be completed and forwarded to the Division Registrar's office in the municipality in which the event occurred. The Division Registrar (a municipal office) then forwards the form to the Office so that the event can be registered with the province. In the case of a marriage, the person who performed the marriage must forward the appropriate documentation directly to the Office for registration.

This first stage must be completed before one can proceed to the second stage, which is obtaining a certificate. To obtain a certificate, an applicant must submit a completed application form with the required fee payment. Individuals may obtain birth, death, and marriage certificates by applying either through the Office's head office in Thunder Bay or through one of the Ministry's land registry offices.

Recent Issues

Following the terrorist attacks in the United States on September 11, 2001 (9/11), the issue of identity theft became a heightened concern. In response, the Office implemented tighter security measures in October 2001. It also hired about 50 more staff to handle the additional security requirements and was thus able to maintain timely services to the public in the following two years.

In November 2003, Ontarians began experiencing delays in the services provided by the Office. By early 2004, Ontarians who had applied for certificates were complaining—to the Office, to the media, and to their Members of Provincial Parliament—that they were not receiving their certificates and, furthermore, that they had not been able to get through to the Office. The Office responded by saying that delays were being caused by a significant increase in demand for services and by the new security measures.
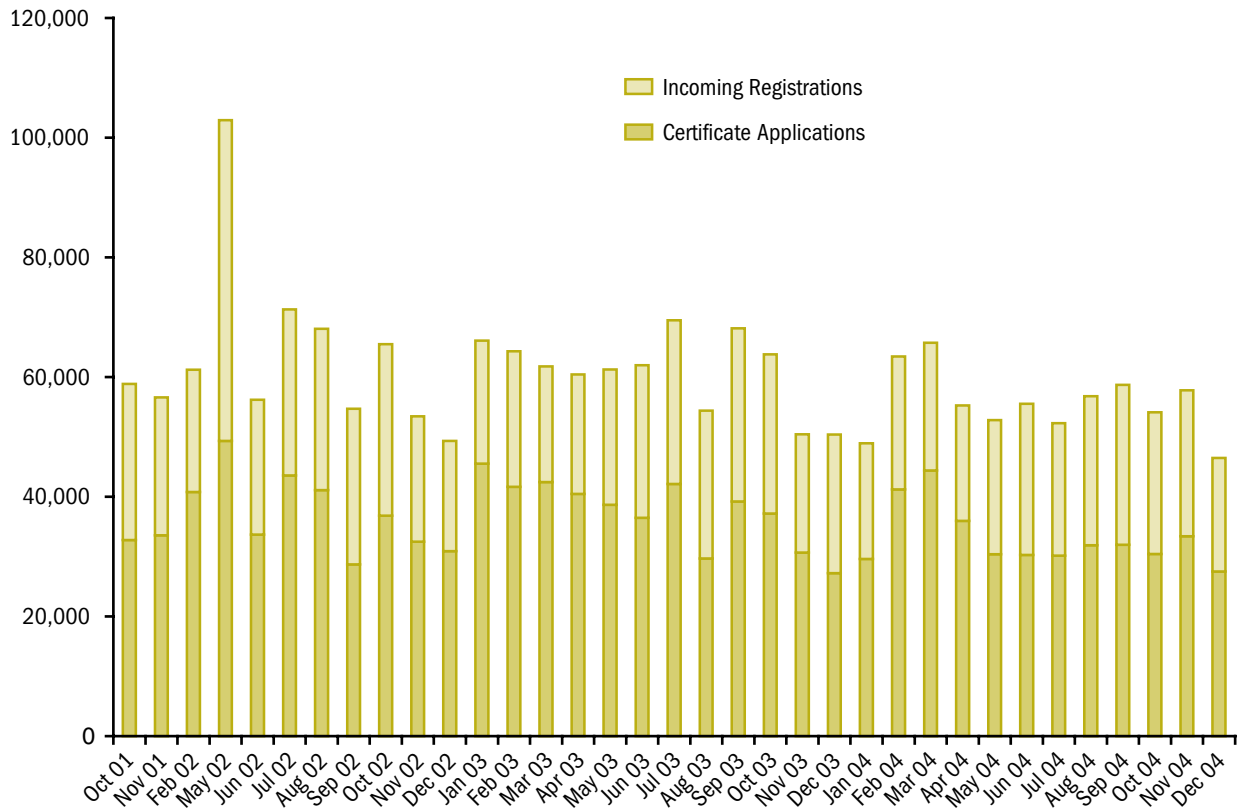
However, our audit indicated that Ontario, like other Canadian jurisdictions, had not experienced a significant increase in the demand for services in recent years. In fact, since November 2003, the overall demand for services—including both registrations of vital events and applications for certificates—had remained relatively stable, as demonstrated in Figure 1.

With respect to the impact of the new security measures on the turnaround time for processing certificates, the Office informed us that even with additional staff, it was not able to handle the increased workload that resulted. While staffing levels may have contributed to the problem, our audit indicated that two internal issues were primarily responsible for the delays in providing certificates: inefficiencies created by the implementation of a computer system that was not ready to be implemented and a management reorganization that contributed to low morale and reduced productivity. Our specific concerns related to these two areas are discussed later in this report in the sections titled "VISION: A New Computer System" and "Managing Human Resources."

At the time of our audit, the Office indicated that since July 2004 it had reduced its inventory of outstanding certificate applications to 30,000 and could deliver a certificate within a six-to-eight-week period. However, we noted that this number of applications represented less than about one-third of all outstanding certificate applications. As well, the stated turnaround time applied only in cases where the vital event had been properly processed. As there was a significant backlog in registering vital events, many applicants would have placed undue reliance on getting their certificates

Figure 1: Incoming Registrations and Certificate Applications, October 2001–December 2004

Source of data: Office of the Registrar General

Note: Data are not available for December 2001, January 2002, March 2002, and April 2002.

in a timely manner. The following two sections outline more specifically the nature of the delays in processing both registrations and applications for certificates.
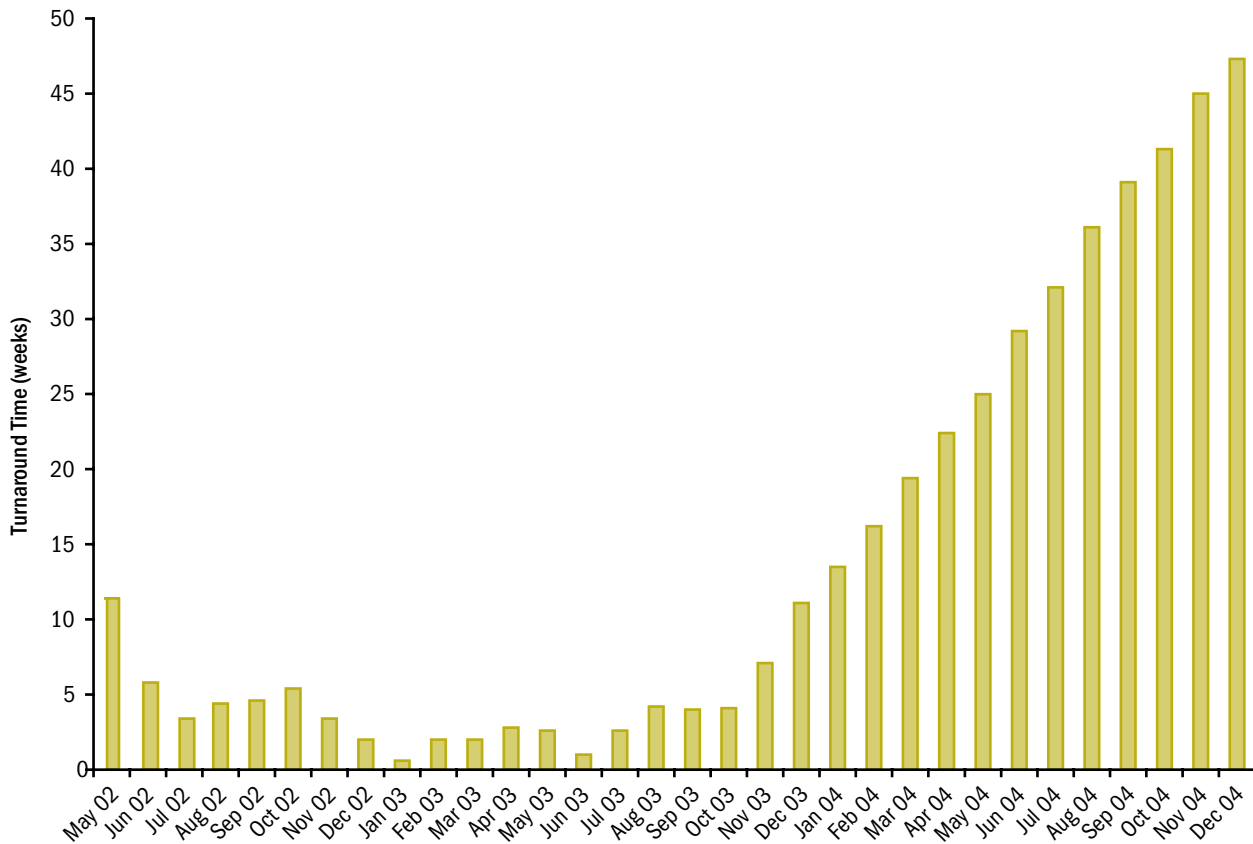
Delays in Registrations

Illustrated in Figure 2 are the results of our review of the turnaround time for registering vital events in Ontario, as taken from the Office's production records. Until November 2003, the average registration turnaround time was about two and a half weeks. After that, the turnaround time increased until, by the end of December 2004, many registrations were taking almost a year to be fully processed. During that time, the Office's priority was to register births, but even for births it often took months after the Office received the informa-

tion before the event was registered. As well, as of December 31, 2004, there were more than 178,000 vital events outstanding that were awaiting registration, as shown in Figure 3. By comparison, between September 2001 and November 2003, the Office had an average outstanding balance of fewer than 20,000 registrations.

In addition to the 178,000 unprocessed registrations, there were another 8,000 registrations that required correcting because of errors in the original registrations. The errors were usually brought to the Office's attention when citizens were sent the registration data and asked to confirm the accuracy of this information or when applications for certificates didn't match the Office's records. However, the required corrections were not made unless applicants followed up and complained. We noted

Figure 2: Vital Events Registration Turnaround Time, May 2002–December 2004
Source of data: Office of the Registrar General

one case, for example, where the Office received an application for a certificate in September 2003, and staff realized in April 2004 that the applicant's name was misspelled in the registration record because of a data input error; but the information was not corrected until January 2005 and only after the applicant complained.

We also found 3,000 cases where applications for certificates had been submitted but the Office had no record of the registration data having ever been received. In these cases, the Office should have informed applicants that they needed to file a registration form to register the vital event before the certificate application could be processed. However, many of these applications were over a year old, and the Office had still not advised the applicants of the problem. For example, we found an application for a birth certificate that was submitted in January 2004 for which the Office did not have registration information. The Office took no action to inform the applicant of the problem, even though the applicant submitted two more applications in March 2004 and July 2004 and paid for the service three times. As of February 2005—over a year after the initial application was submitted—this individual still had not been informed of the reason why their application was not being processed.

Figure 3: Vital Events Not Registered, as of December 31, 2004

Source of data: Office of the Registrar General

Vital Event	Outstanding Registrations
birth	43,000
death	80,000
marriage	50,000
other	5,000
Total	**178,000**

RECOMMENDATION

To properly discharge its legislative responsibilities in registering vital events, the Office of the Registrar General should:

- take steps to bring all outstanding registrations up to date and process incoming registrations when notification of the vital events is received;
- correct all errors in the original registration records promptly once they have been brought to the Office's attention; and
- inform certificate applicants on a timely basis in cases when the vital event has not been registered and specify what, if any, action is required on their part.

OFFICE RESPONSE

The Office supports this recommendation.

The Office confirms that it is meeting published service standards for both registration and certification services.

In 2004, the Office did experience longer processing times for certificates and registration services, and it recognizes that these had a significant impact on its clients. In response, the government approved and funded recovery plans to eliminate delays in each area based on the impact on clients. Since spring 2005, the Office has been meeting service standards for birth, marriage, and death registrations of six to eight weeks if documents are complete and accurate. Throughout 2004 and early 2005, the Office had procedures in place to handle requests to expedite registrations in urgent situations (for example, marriage certificates required for immigration purposes or parents needing birth certificates for their children in order to apply for RESPs).

Pending registrations have been reduced from a high of 178,000 to approximately 50,000, which reflects the six-to-eight-week service standard. Work is underway to register births (including integration of birth registration and birth certificate applications) and deaths electronically, commencing with the implementation of an Integrated Birth Registration "Smart Form" in early 2006. This will not only improve the convenience and speed of service for clients but also further increase the quality of registrations, thereby reducing registration errors made by the Office.

As a result of staff being deployed to eliminate cerficate and registration processing delays, the Office was not able to correct records promptly in 2004. This situation has been rectified, and errors are now corrected promptly when brought to the Office's attention. The Office has begun the process of establishing an enhanced quality-service program that, when complete, will result in fewer records with errors and improve service to clients. Additional registration data entry edits were implemented in November 2003, in order to reduce the incidence of errors and reduce the requirement for corrections.

By early November 2005, the Office will be notifying applicants on a timely basis should they request a certificate for an event that has not been registered and will continue to send

out Delayed Registration Forms in cases where the vital events occurred more than a year ago. The Office is also implementing a number of proactive measures to better inform clients about the registration and certificate application process, including providing information to parents of newborns at birthing hospitals and advising parents using the on-line birth certificate application about estimated time frames for registrations. Work is underway to give parents of newborns the choice of registering the birth and applying for a certificate at the same time as part of the Office's service improvement plan. Integrated birth registration will be phased in, beginning with an electronic "Smart Form" for birth registration, in early 2006.

Delays in Certificates

During our audit, the Office stated that it was able to issue certificates within six to eight weeks based on an inventory of 30,000 outstanding certificate applications. We noted that the 30,000 represented less than one-third of over 90,000 applications outstanding. Specifically, this total did not include over 63,000 applications that the Office had not completed processing for a variety of reasons. For 47,000 of these applications, the Office indicated that it was awaiting reponses from the applicants. Many of these 47,000 files had been outstanding for more than 300 days. As of the end of December 2004, the status of these 47,000 outstanding files was as follows:

- About 15,000 applicants had been informed that additional information was required, but we noted that the Office was slow in contacting the applicants. In one case, for example, the Office did not inform an applicant until October 2004 that additional information about their guarantor was required, even though the application had been received and the fee paid a year

earlier, in October 2003. At the completion of our audit, five months later, the Office was still awaiting a response from the applicant and had not done any follow-up on the status of its request.

- Another 10,000 applicants the Office had contacted for more information had responded to the Office's request for information, but the Office had yet to process their applications. In one case we reviewed, for an application that was received in October 2003 without a required signature and phone number, a request for the missing information was sent out in April 2004; and although the applicant responded in the same month, the application was not reviewed again until seven months later, in November 2004. The printed certificate was returned in January 2005 by the post office indicating that the applicant had moved.

- The remaining 22,000 outstanding applications were labelled as awaiting applicant responses, but the Office could not determine whether applicants had ever been informed that more information was required of them. We noted instances where applicants had been waiting for well over a year and the Office did not inform them that certain information was missing— even for minor omissions—until we brought these 22,000 applications to the Office's attention in February 2005. When we raised this issue with the Office, staff indicated that they had not been able to send out electronically generated requests for additional information between November 2003 and June 2004 because the computer system had malfunctioned. Some requests were sent out manually when complaints were received from applicants in following up on their applications.

After our audit, the Office informed us that it had reviewed applications where it was unclear if applicants had been informed that responses were required from them. Office staff indicated

that, as of April 2005, the number of applications requiring follow-up action to assess whether correspondence had been sent out had been reduced from 22,000 to about 16,000.

Taking all certificate applications into account, the inventory of unprocessed certificates was much higher than the 30,000 reported by the Office. The six-to-eight-week promised turnaround time was made possible only by excluding more than half the applications.

Because certificates issued by the Office (such as birth certificates) are required when applying for other important documents and forms of identification (such as social insurance numbers, health cards, and passports), because of the delays in processing already discussed, and because of problems getting through to the Office to inquire about the status of their applications (see the "Call Centres" section later in this report), many applicants submitted multiple applications and payments in order to be sure their applications had been received. These multiple applications led to duplicate work for staff to process and the need to send out refunds. The Office did not have information on the extent of multiple applications and payments, but our examination identified a minimum of 18,000 refunds pending at the end of our audit in March 2005.

RECOMMENDATION

To provide more timely and effective customer service, the Office of the Registrar General should:

- provide a more reliable estimate to applicants on the turnaround time for birth, death, and marriage certificates;
- track incoming applications for certificates better and, if information is missing, promptly advise applicants and follow up when the information is not forthcoming; and

- promptly process the applications where additional information has been provided as requested.

OFFICE RESPONSE

The Office supports this recommendation.

In 2004, the Office experienced delays in processing times in certificate services and registration services, and it recognizes that these had a significant impact on its clients. In response, the Office developed targeted recovery plans to eliminate delays in each area, focusing first on those areas where backlogs resulted in the greatest inconvenience to clients.

The Ministry is achieving its published service standard of six to eight weeks for the processing of most properly completed and correct regular birth, death, and marriage certificate requests where events have been registered. The Office meets these standards for certificate processing for over 90% of these applications: emergency, 48 hours; expedited, 10 business days; and regular service, six to eight weeks. The Office will continue to work through initiatives such as the enhanced quality-service plan that was started in August 2005 to increase the percentages of applications processed within published service standards.

The introduction of on-line certificate applications is enabling the Office to deliver substantially enhanced service. Starting with birth certificates, which represent 80% of all certificate requests, the Office introduced an on-line application for children eight years of age and under in June 2005. This new on-line application is already handling over 50% of child applications, or about 25% of all birth certificate applications. The service standard for processing on-line applications is 15 days, which is currently being achieved over 99% of the time. In November 2005, adults and children over age nine will be

able to apply for a birth certificate on-line. On-line applications will be available for other certificate types by March 2006.

The Office has reported processing/wait times for certificates and registrations via the ministry website and on its 1-800 system since 2004 and will continue to do so.

Currently, any necessary correspondence is being sent within six to eight weeks for regular applications (less for emergency, expedited, and on-line applications). The Ministry has taken steps to reduce the time it takes to process returned correspondence to six to eight weeks or less by the end of November 2005. On-line applications are substantially reducing the need for additional correspondence by addressing possible errors at source. Files requiring correspondence have been reduced to less than 5% for on-line applications (compared to at least 15% for mailed-in applications).

The Office tracks all files requiring refunds. Outstanding refunds have been reduced from approximately 18,000 to 1,500.

HANDLING INQUIRIES AND COMPLAINTS

Call Centres

The Office has two call centres—one in Thunder Bay and one in Toronto—with 38 staff to handle phone and email inquiries in both French and English. The call centres operate between the hours of 8:30 a.m. and 5 p.m. from Monday to Friday.

We noted that the call centres were not effective in addressing the needs of callers. Specifically, a report prepared by Bell Canada in June 2004—at the Office's request—indicated that 97% of the 130,000 calls made each day to the call centres were blocked by busy signals. Many of these calls would be from the same callers, who were trying to get through. Our review of office call logs for the

year ended December 31, 2004 indicated that the situation had not improved since June. Even for the small percentage of callers who were able to access one of the phone lines, we found that:

- 80% would eventually be disconnected after an extended period of time waiting for the call to be answered;
- 4% would get through to an automated answering queue and abandon their calls before an operator could reach them; and
- 16% would speak to an operator, but would often find out that the Office could not provide information about the status of their applications if it had not started to work on or had not completed the registration.

Ultimately, less than one-half of 1% of callers received any useful information.

MPP Inquiries Unit

The Office has a unit dedicated to handling Member of Provincial Parliament (MPP) inquiries on behalf of their constitutents. In response to the large number of public complaints to MPPs, in February 2004 the Office increased its staff for the MPP inquiries unit from two to 15 to respond to the approximately 4,000 MPP inquiries that came in monthly. We noted that:

- The MPP unit staff were able to answer inquiries within 48 hours of receiving a call through lines specifically designated for them.
- Many requests to the unit were resolved directly by staff in the unit. In those cases, they would process the applications by performing the procedures necessary to issue the certificate.

The MPP unit was effective in handling complaints made to MPPs' offices. However, this practice essentially established two levels of service with respect to handling public inquiries. Those applicants who did not complain to MPPs could see this practice as being unfair. Clearly, the optimal solution would be to have the call centres handle all public inquiries in a satisfactory manner.

At the time of our audit, the Office was considering increasing the resources of the call centres. However, there were already more than 50 staff members working in the call centres and the MPP unit combined to deal with complaints. This number of staff was needed only because far too many applicants had not been receiving a satisfactory level of service; and even with this number of staff, they could not handle the call volume, with the exception of the calls referred through MPPs' offices.

Call-centre staff indicated to us that they spent much of the day apologizing to callers for unacceptable delays. Methods used in the call-centre industry to address calls and minimize customer complaints should be considered. These could include more automated telephone lines informing the public about the volume of calls, and messages that indicate the estimated waiting time according to call volume and the estimated turn-around time for each type of service.

RECOMMENDATION

To deal more effectively and efficiently with applicant inquiries and complaints, the Office of the Registrar General should:

- consider providing automated prerecorded messages to inform applicants of the delays and estimated times for delivery of various types of certificates; and
- review the current deployment of staff with a view to increasing the efficiency of the Office's operations.

OFFICE RESPONSE

The Office supports this recommendation.

The Office recognizes that the public's expectations for access to information via the telephone channel exceed the current technology and that call-centre services need to be improved. The Office, in partnership with ServiceOntario, is taking a number of steps to improve service in both the short and long term:

- In October 2005, the Office will strengthen the capacity of its existing call centre and simplify/improve recorded messaging in order to answer more calls and enable more people to access general information without operator assistance.
- The Office and ServiceOntario will also begin implementation of its long-term solution, new telephone technology, to drastically reduce the number of callers who get a busy signal and improve access to general information with integrated voice recognition (IVR). Implementation of this long-term solution is being accelerated, with the benefit of these service improvements expected to be felt in December 2005. Callers will be able to check the status of their certificate applications over the phone, without speaking to an operator, by March 2006.

In addition to expanding and improving the capacity of the call centre itself, the Office is implementing a number of initiatives to both reduce and divert call volume. On-line self-service status checking, available by December 2005, will provide a fast and convenient alternative for the upwards of 75% of callers who are seeking information on the status of their applications. The expansion of on-line certificate applications is also expected to result in significant reductions in call volumes as processing times are reduced by at least 75% and files requiring additional communication/correspondence with clients are reduced by over 60%. Reductions in return correspondence will also result in fewer calls.

As part of the Office's program review completed in 2004/05, an external consultant recommended specific increases in staffing to address historic shortages and to properly support the

business. This staffing model is now being implemented. The Office will continue to perform daily monitoring of productivity and staff deployment in order to seize opportunities to further improve service to clients.
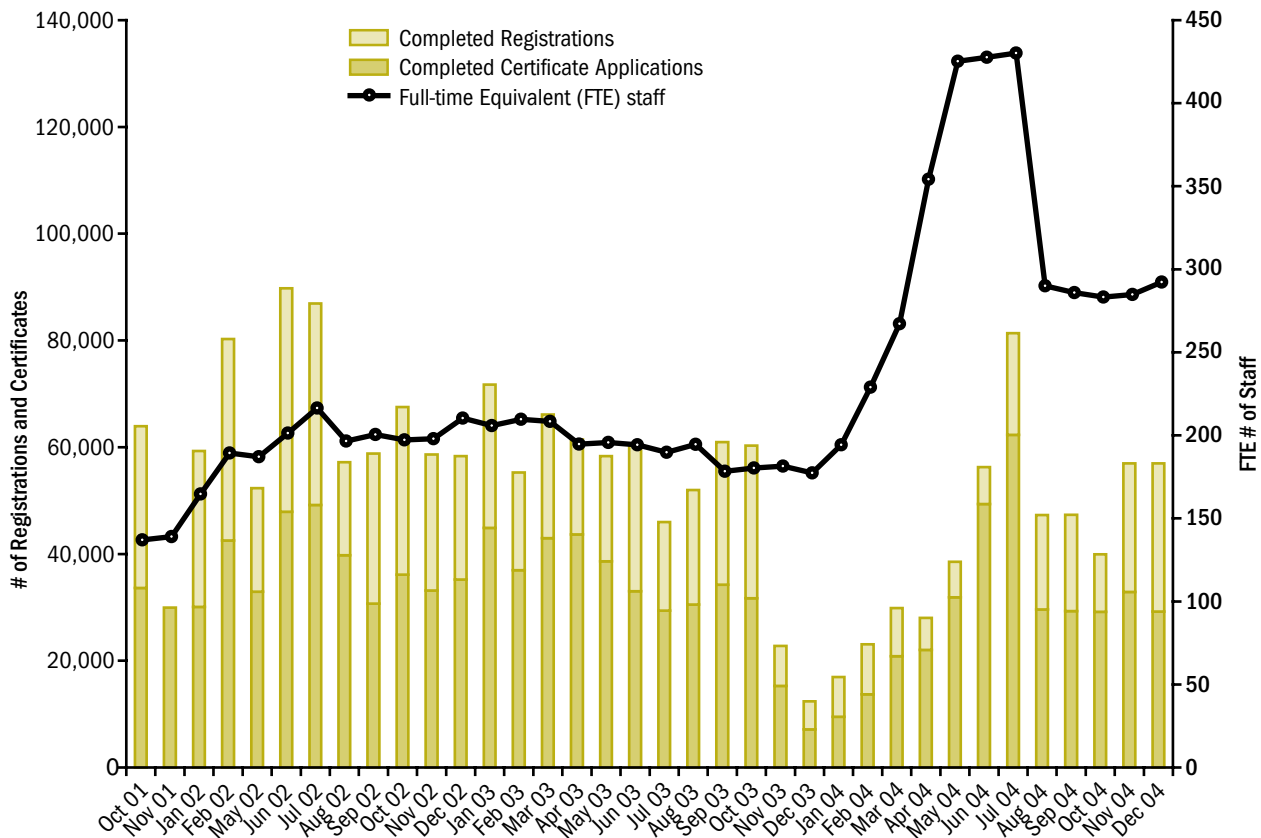
VISION: A NEW COMPUTER SYSTEM

As indicated earlier, in our view, inefficiencies created by the hasty implementation of a new computer system called VISION (Vital Statistics Information Ontario System) for processing certificates in November 2003 was the main reason for the decline in staff productivity and the resulting large number of outstanding certificate applications. This view is supported by a significant decline in the number of registrations and certificates being processed beginning at the time that VISION was first being implemented, as illustrated in Figure 4. Although the Office had more than doubled the number of staff since then to deal with this accumulation of work, it still had not managed to process as many registrations and certificate applications as before.

We have significant concerns that prudent business and information technology practices were not followed in the procurement, development, and implementation of the new system, and these concerns are outlined in detail in the following sections.

Figure 4: Total Registrations and Certificate Applications Processed, October 2001 – December 2004
Source of data: Office of the Registrar General

Note: Data are not available for December 2001, March 2002, and April 2002.

System Procurement

In March 1998, the Office obtained approval from the Management Board of Cabinet (MBC) to spend up to $7.8 million to replace its old information system within five years. The business case used to obtain MBC approval was based on a detailed analysis of the projected costs for hardware, software, and applications to replace the existing computer system. Of the approved amount, $4.4 million was to be used for one-time acquisition and implementation of the new system and $3.4 million was for ongoing maintenance and support. Confirmation of projected costs was done through preliminary quotations from vendors and discussion with other jurisdictions that were in the process of replacing their vital statistics information system (including other Canadian provinces, the United States, and Australia).

The projected operational benefit was a staff saving of about 48 FTEs (full-time-equivalent staff), about 35% of the Office's staff, after implementation of the new system. The submission to the MBC indicated that the ongoing quantifiable direct cost savings would grow to $2.9 million per year based on a detailed analysis of office workforce allocation by activity and function. The new system would perform electronic registrations for births, deaths, and marriages and reduce the time needed to register events from weeks to days, with higher-quality registration data.

The business case recommended purchasing "a package that has been successfully implemented in other vital statistics jurisdictions. This will deliver a system that is proven, standards-based, supportable, less costly, and in a more timely fashion." The normal procurement procedure with a request for proposals (RFP) was to be used for the selection of the package, with customization, to ensure that core functionalities and requirements would be met.

In fall 2001, a consultant was engaged by the Office to survey vendors of vital statistics information system programs. The survey results indicated that the cost to purchase such a program would be up to $1.5 million, plus customization costs to revise the software to meet the Office's specific needs. However, in December 2001, the Office decided that it would develop the system internally.

In an October 2001 submission to the MBC, the Ministry estimated the cost of building the system to be less than purchasing an existing system. It stated that in "evaluating the validity of this estimate, the Ministry recognizes that an RFP or formal negotiation with a vendor would provide the most validity. However, an RFP process could stretch the procurement process to between three and four months." The Ministry requested that it be given flexibility in procurement to pick a vendor from the vendor-of-record (VOR) listing to deliver the system. VOR arrangements are part of a government-wide policy for the ongoing acquisition of commonly purchased goods and services, including IT consulting services, over a specified term and for specified amounts. In making this request, the Ministry recognized that its proposal involved "exceeding the current ceiling for utilizing the VOR."

The minutes from the MBC's November 2001 meeting noted the approximate cost of $1.5 million for the system and directed the Ministry to follow normal procurement procedures. In addition, the MBC directed the Ministry to report on the project by providing implementation details and milestones completed and the associated revised staff-reduction plan in the Ministry's 2002/03 Business Plan. The Ministry indicated to us that it interpreted the direction from the MBC as granting it the flexibility it requested for procurement by VOR rather than through a competitive RFP. However, given that government procurement directives state that ministries can use the VOR for IT projects only when the estimated cost is $500,000 or less (the system's cost was then estimated to be $1.5 million), the normal procurement procedure to follow would have been an open tender through an RFP.

The only documentation to support the change in approach was an internal presentation made to the then–Deputy Minister. It stated that despite increased costs and substantially expanded business requirements since 9/11 relating to security and fraud detection, the $3.75-million estimate associated with planning and implementing the new computer system remained fundamentally sound. However, the $650,000 (of the $4.4 million) that had originally been approved would not be enough to implement electronic registration. In addition, the Office would be able to achieve a staff saving of only 19.5 FTEs, instead of the 48 originally envisioned, through automation of fraud detection/prevention measures. The presentation stated further that building the system internally would:

- allow the Office to expand existing capabilities;
- cost an estimated $4.2 million (with a risk that this figure could reach $4.7 million if there were unexpected circumstances)—buying was now estimated to have a one-time cost of $4 million to $6 million (and would require an RFP to confirm); and
- allow for implementation in November 2002, whereas buying would allow for a spring 2003 implementation at the earliest.

The presentation recommended building internally because buying risked unknown costs, time, and capability. This view, however, contradicted the original detailed business case submission that purchasing a packaged system would be less costly and more reliable, and would provide opportunities for the Office to adopt procedures that had been successful in other vital statistics jurisdictions.

We also noted that the Office did not have proper analysis and information to support the projection of time and costs for developing the system internally. Furthermore, with the decision to not issue an RFP, the Office did not know what costs, timing, and abilities outside vendors could offer for meeting the Office's requirements. The Office also had not reported back on the project as directed by the MBC with implementation details and milestones completed and the associated revised staff-reduction plan in the Ministry's 2002/03 Business Plan.

Our examination indicated that in December 2001, when the decision to build or buy had to be made, there were good opportunities to benefit from the experiences of other jurisdictions. For instance, both British Columbia and Manitoba had already successfully implemented their vital statistics information system. Manitoba took only about 10 months to complete the development, conversion, and implementation of its new system—an external package that it purchased and customized for its requirements. The system developed and implemented by B.C. was subsequently purchased by a number of U.S. states. These states, including Alaska, Michigan, Ohio, and Pennsylvania (which adopted only the births component) had all successfully implemented the system, with customizations, by the time of our audit.

RECOMMENDATION

To promote better value for money for taxpayers when acquiring any major computer system, the Office of the Registrar General should:

- ensure that sound project-planning practices for information technology are followed when deciding whether to buy the system or build it internally, giving due consideration to the capacity and experience of staff as well as objectively considering whether proven solutions exist in the marketplace;
- ensure that timelines and project costs for acquiring the system, whether it is built internally or bought from outside vendors, are based on a sound and objective analysis; and
- ensure that specific Management Board of Cabinet approval is obtained when there

are significant changes to the originally approved business case and approach.

OFFICE RESPONSE

The Office supports this recommendation.

The Ministry's original 1998 business case and submission to the Management Board of Cabinet (MBC) indicated an intent to "acquire" a new system. However, with the fundamental re-scoping of the project in 2001 to focus on the implementation of enhanced security, the Ministry revised its approach to one of developing the system rather than acquiring an "off-the-shelf" solution. The decision to build rather than buy was based upon an analysis of the Office's legislated enhanced security requirements (substantially more rigorous than those in place at the time in the other jurisdictions cited in the Auditor General's report) and the solutions available in the marketplace at the time.

In its October 2001 report to the MBC, the Ministry indicated its intent to build versus buy the new system in order to achieve the Office's enhanced security objectives as rapidly as possible. Having informed the MBC of its intention, the Ministry believed that its approach to resourcing the project was fully in compliance with normal government procurement practices, as directed by the MBC.

It is recognized that large-scale information and information technology projects are complex in nature and that the Office, like many organizations, faced challenges, particularly in regard to fully understanding the scope of the task and the complexity, risk, and accompanying degree of business transformation affecting the initial estimation and management of this project. These types of challenges were noted in the *Report of Ontario's Special Task Force on the Management of Large-Scale Information and*

Information Technology Projects (July 2005). The government supports, in principle, the recommendations set out in the report and has committed to responding in full within 90 days.

System Development

Our audit showed that the Office was too optimistic in attempting to develop a system internally in a short time using its existing resources and did not follow accepted system development methodology in developing the new VISION system.

Defining of Roles, Business Requirements, and System Design

A critical first step in the development of a system project is to obtain approval through a project charter at the planning phase. The charter is to be based on a thorough assessment of user requirements and is usually produced prior to commencing a project in order to establish and confirm each party's commitment to meeting specific timelines, providing the resources needed, and being accountable for meeting all project deliverables. We were provided with a draft copy of the charter but were informed that a signed copy had never existed. Also, the draft charter indicated that the respective roles of the Office's users, the project team, and the technical staff were to be defined in a service-level agreement. We were informed that no such agreement existed.

Development of a clear understanding of business requirements is critical to the success of any computer development project. Accordingly, the first deliverable identified in the unsigned project charter was to be the definition of requirements by March 2002 and the completion of system design by May 2002. Our discussion with users and project development staff indicated that both groups had significant concerns with the business requirements definition and the system design processes. Specifically:

- The communication of business requirements was largely informal, either verbal or through an exchange of emails, and was done without a formal document that laid out in detail what the users of the system required before proceeding to the design phase. Staff indicated that throughout the entire project, business requirements were often communicated to developers with only two weeks to complete the required programming.
- Without a clear definition of and sign-off on business requirements, even basic requirements were open to interpretation by users and the project design team.
- Pressure to complete the project frequently overrode the needs of the users. For instance, because of time pressures, project staff were forced to move into the design phase before requirements were finalized and approved. This led the project team to make assumptions about the requirements that later had to be revised at a significant cost in time and resources.

Testing Standards and Methodology

Our review identified a number of weaknesses in the quality-assurance process that was designed to ensure that the system was adequately tested before implementation. Specifically:

- System-testing activities were done on an ad hoc basis without a proper testing plan and cases, standard testing tools, and quality-assurance checklists.
- Testing staff often indicated that they were not sure what was expected of them because they were not involved in the original requirements development. According to testers, this resulted in things being "lost in translation" in terms of expected results.
- Testing staff indicated that they did not have enough time to complete their testing prior to the system being implemented. For example, the security architecture was not tested because the necessary master reference table was not available before implementation.
- For those areas where they were able to complete testing just prior to implementation, most tests failed. However, the system was implemented despite the expressed concerns of the testing staff.
- Significant work orders that should have been addressed were often ignored in the development phase. In fact, new program code was built on code that was known to have problems—a situation that made it even more costly in time and resources to fix problems after implementation.

System Implementation

VISION was implemented on November 22, 2003, but according to the line managers (users), system testers, system staff, and developers we interviewed, the system was not ready. Many functions—change of name, stillbirth, parentage, and amendments—were either partly working or not working. Other problems included the system's inability to print correspondence, process credit-card payments, process refunds, and determine correct payments.

We also noted that there were more than 300 work orders outstanding at the time of implementation. Of these, 28 were identified as critical. An additional 800 work orders were created after the system was implemented: 200 were identified by production staff and the other 600 by testers. In total, approximately 1,600 work orders had been requested, and as of March 31, 2005, about 380 of these had still not been dealt with: 128 of these had been identified as critical.

To ensure that operations are not disrupted, it is prudent to require a parallel run of both the old and new systems for a short time to support implementation of the new system. We noted that, despite the fact that numerous critical work orders had not been dealt with, the old system was not maintained

while VISION was implemented: we were informed that this was because there were not enough staff to run both.

Staff who processed certificates at the Office complained that the new system was very unstable and had frequent downtimes due to system crashes. We noted recent downtimes during our audit that showed that the system had still not stabilized:

> November 2004 – 590 minutes
> December 2004 – 1,480 minutes
> January 2005 – 1,666 minutes
> February 2005 – 2,660 minutes

The Office indicated that VISION was down in February mainly due to problems with the configuration between its server application and its operating system. Our review of the downtime log for February 2005 indicated that the system was down 52 times on 14 different days, which clearly impeded the staff's ability to perform the main functions of their job.

During our audit, we witnessed first-hand, over a period of one week, the system being shut down for two full days and, on the three other days, staff having to wait for hours for the system to start working again in the late afternoon. Our review of production records showed that registration production was down by two-thirds and certificate production by one-fifth, when compared to the previous week.

As the system was hurried into production with many outstanding work orders and without all the functionalities, user staff had to correct those problems at various times by working around them manually.

Our audit found that instead of VISION being implemented, as planned, in November 2002 at a one-time cost of $3.75 million, the system was implemented a year later, it was implemented before it was ready, and as of the end of our audit, it had cost over $10.2 million. In March 2005, at the completion of our fieldwork, the system still had close to 380 work orders outstanding. Furthermore,

instead of being able to reduce staff by 19.5 FTEs as originally proposed, the Office had to hire significantly more staff to process transactions manually because of the problems being experienced with the new system. As of March 2005, the Office had a staffing level of 326 FTEs, compared to 175 FTEs in October 2003.

In summary, we identified concerns with the supporting business case, the definition of business requirements, the accountability for system development, and the conducting of testing. Most of these concerns were also identified in the recent *Report of Ontario's Special Task Force on the Management of Large-Scale Information and Information Technology Projects* as being common challenges facing government ministries.

RECOMMENDATION

To ensure the delivery of timely service to the public and to help achieve the original objectives of the project in making the Office of the Registrar General more effective and efficient, the Ministry should:

- establish accountability for development and implementation of the project to make sure that the roles of respective stakeholders are clearly understood and fulfilled; and
- expedite efforts to fix all critical outstanding work orders to ensure that the system functions properly and provides a stable environment for staff to work with.

OFFICE RESPONSE

Due to the overriding need to implement enhanced security in a tight time frame, the Ministry recognizes that some aspects of project documentation were less formal than best practices would recommend. Subsequent phases of the project have been planned to ensure that all documentation requirements and best practices are followed. The Office will ensure that all

major systems initiatives have properly prepared and approved project charters, service-level agreements, and memoranda of understanding.

It is recognized that large-scale information and information technology projects are complex in nature and that the Office, like many organizations, faced challenges, particularly in regard to fully understanding the scope of the task and the complexity, risk, and accompanying degree of business transformation affecting the initial estimation and management of this project. These types of challenges were noted in the *Report of Ontario's Special Task Force on the Management of Large-Scale Information and Information Technology Projects* (July 2005). The government supports, in principle, the recommendations set out in the report and has committed to responding in full within 90 days.

Work orders deemed critical will continue to be implemented on a priority basis. Low-priority work orders will be addressed as appropriate based on business need. The Office was registering events and was successfully and securely processing certificate requests from Day 1 of implementation. Over 1.25 million registrations and certificate applications have subsequently been securely processed through the new system. While the Office did require additional production staff to address backlogs, by September 2005, a similar number of staff were processing registrations and certificate applications compared to fall 2003, despite the implementation of substantially increased security measures (which had been clearly established as the primary objective of the new system) and increased certificate application volumes. In August 2005, downtime related to the new VISION system was 0.3%. The new system and processes form the foundation for service improvements such as the successful on-line certificate service for children eight years

of age and under. A third-party review of the Office's information technology system will be conducted to validate that the system successfully meets its business requirements.

MANAGING HUMAN RESOURCES

Our review indicated that a poorly planned and carried out organization restructuring that took place in October 2003 contributed to low morale and a resulting decline in staff productivity.
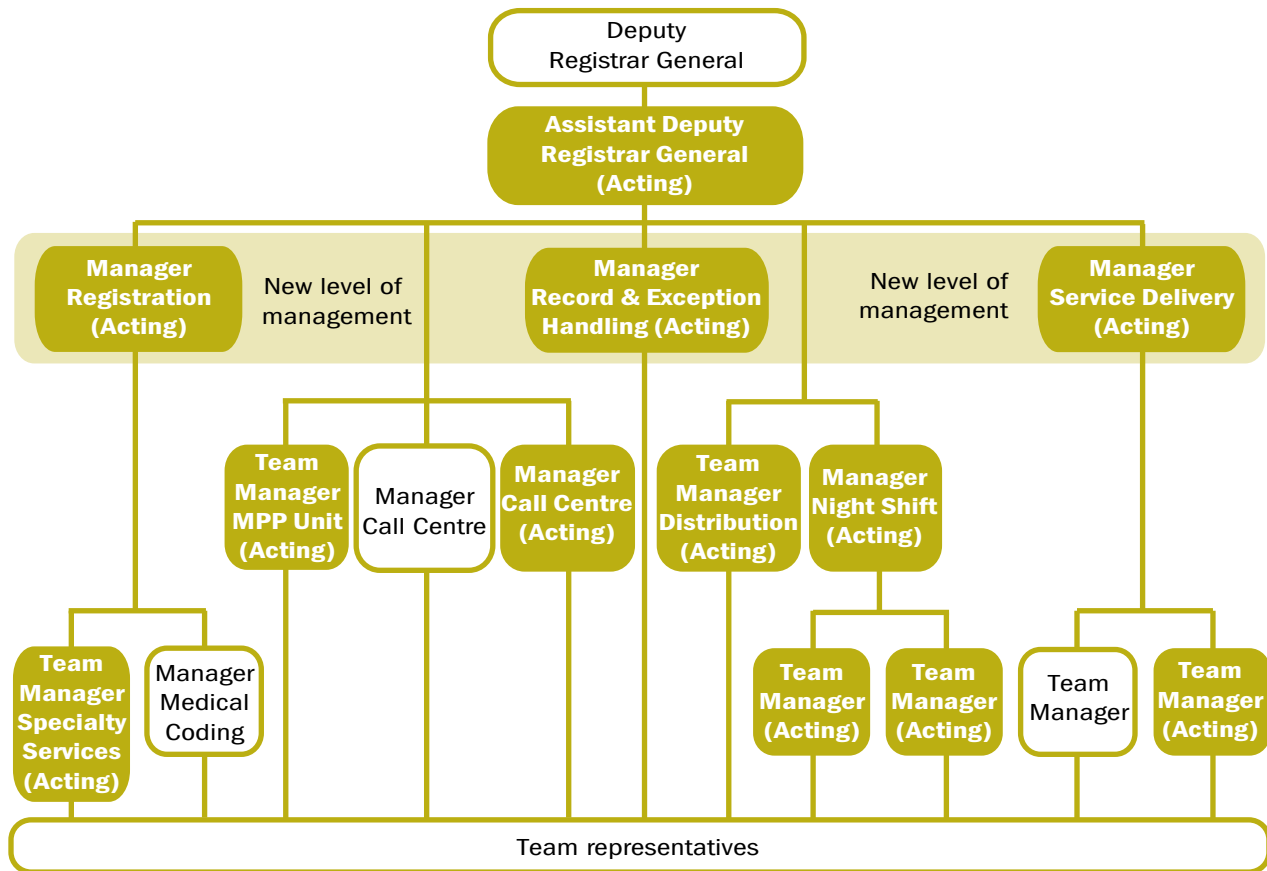
The work at the Office is performed in an assembly-line type of processing. Clerical staff involved in registration or in the production of certificates are known as team representatives, and the skill sets required to process both registrations and certificates are similar and relatively interchangeable. Team representatives' responsibilities include opening and batching mail; scanning in registration documents or certificate applications received; entering data for registration or certificate applications received; verifying the accuracy of registration data input or matching certificate application data with registration records to ensure that only persons eligible to receive certificates are issued them; and sending out printed registration confirmations or certificates.

The Office traditionally had a relatively stable workforce, with minimum turnover. For instance, many of the team managers, who were responsible for overseeing the work of team representatives, had been with the Office for more than 10 years. Each team manager was responsible for managing and providing guidance to a team of about 10 team representatives.

However, in October 2003, the Office created a new level of management above the existing team managers. Our review of the process of implementing this change identified a number of questionable practices. As an example of what we discovered, Figure 5 outlines the effect of the organizational

Figure 5: Production Staff, Thunder Bay, October 2003

Source of data: Office of the Registrar General

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                              Deputy
                         Registrar General
                                │
                         Assistant Deputy
                         Registrar General
                             (Acting)
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Deputy Registrar General → Assistant Deputy Registrar General (Acting)

- Manager Registration (Acting)
- New level of management
- Manager Record & Exception Handling (Acting)
- New level of management
- Manager Service Delivery (Acting)

- Team Manager MPP Unit (Acting)
- Manager Call Centre
- Manager Call Centre (Acting)
- Team Manager Distribution (Acting)
- Manager Night Shift (Acting)

- Team Manager Specialty Services (Acting)
- Manager Medical Coding
- Team Manager (Acting)
- Team Manager (Acting)
- Team Manager
- Team Manager (Acting)

Team representatives

Note: Shaded boxes with white type indicate individuals whose previous or home position was team representative.

restructuring of staff in Thunder Bay who were responsible for registration and the production of certificates.

All the shaded management positions in Figure 5 were filled by staff who had previously been team representatives. The new managers were designated as acting. We noted that all the new managers were appointed without advertisement or internal competition. These clerical staff were promoted into the most senior management positions, where they were responsible for supervising the team managers.
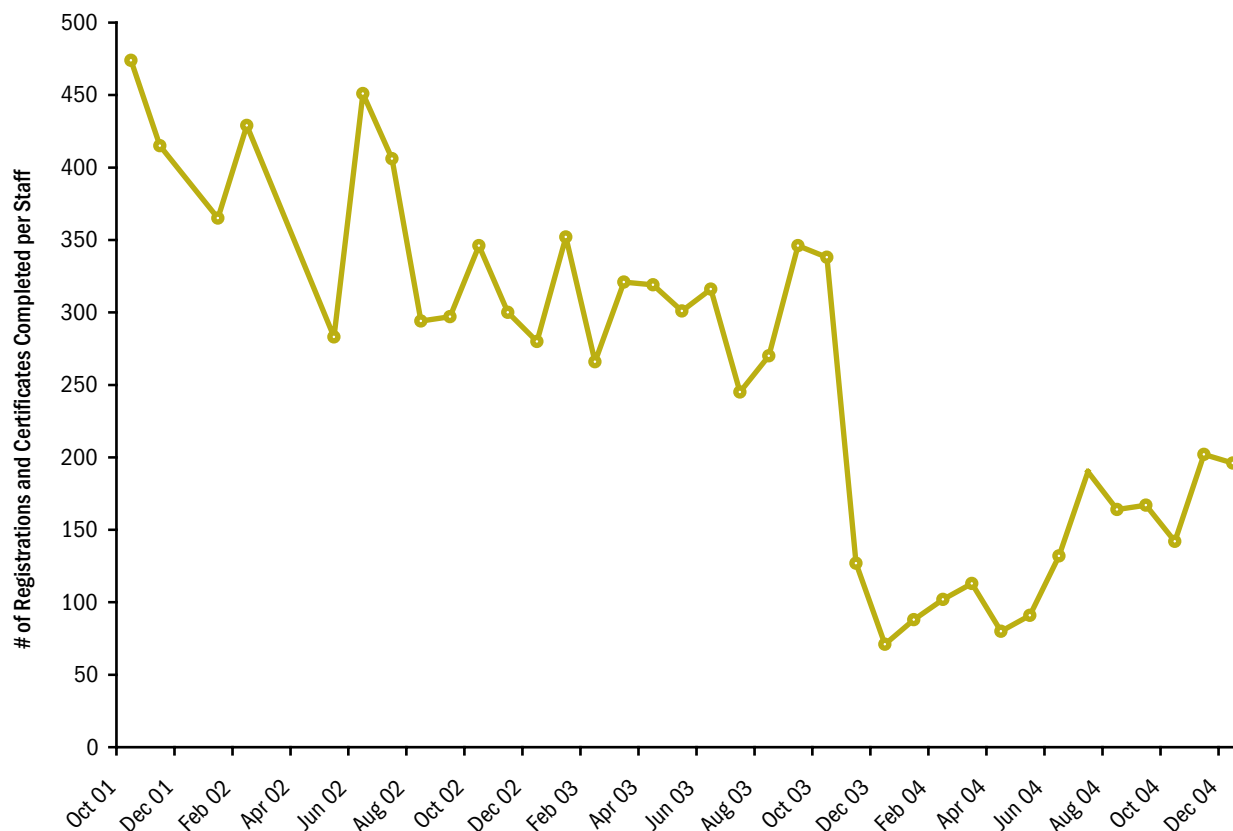
We noted that in one case, a contract employee who had no management experience was appointed team manager to supervise permanent staff. The *Public Service Act* stipulates that contract staff are not permitted to supervise permanent employees unless prior approval is obtained from the Public Service Commision. While such approval had been delegated to the Deputy Minister, we found that the required approval was still not obtained until six months after the appointment.

Some new managers found themselves now supervising managers who used to be their superiors; yet none of the existing managers was given the opportunity to compete for the new positions. At the time of the appointment, there were about 10 team managers in existing permanent positions, but none of them was promoted to the new level and several were transferred to a non-production environment even though they had years of experience in producing certificates. We also noted that:

Figure 6: Production of Registrations and Certificates per Staff, October 2001–December 2004
Source of data: Office of the Registrar General

- There was no job specification for the new level of managers, although there was a generic description for team managers and other staff reporting to them.
- The appointment of the new level of managers in October 2003 did not comply with the Ontario government's direction in August 2003 that no new position should be created without the Deputy Minister's prior approval.
- The new managers were all unionized staff in an acting capacity. A number of them were themselves concerned about their effectiveness as managers. Because they were expected to manage fellow workers, these acting managers were concerned about what might happen should they not retain their acting position and rejoin those workers as peers in the future.

- Until 2003, on average there had been fewer than 10 employee grievances a year; by 2004, that number had grown to 35.

The perception of unfair employment practices and the absence of a fair and objective promotion process led to morale issues among staff, and this in turn adversely affected the operation of the Office. Figure 6 illustrates how the average number of registrations and certificates produced per staff declined significantly. It also shows that although there were some improvements beginning in February 2004, the average numbers produced per staff were still significantly lower than the numbers produced in the previous two years.

We noted that there was a sudden decline in staff productivity around October 2003, when the new computer system was implemented and the Office's management structure was reorganized.

Although about 250 more staff were hired in the ensuing months to deal with the delays in issuing certificates, this number was not sufficient to eliminate the delays.

At the completion of our fieldwork in March 2005, all of the new managers appointed in October 2003 were still in their positions in an acting capacity.

RECOMMENDATION

To improve staff productivity and morale, the Office of the Registrar General should comply with prudent human resources management practices that include:

- proper planning and approvals before proceeding with an organizational restructuring;
- the development of clear job specifications to ensure that staff are fully aware of their duties and responsibilities;
- a proper assessment of staff qualifications before appointing anyone to a position, including an assessment of the required education, experience, and skills of the position;
- the advertising of and competition for job openings to ensure fairness and accessibility unless extenuating circumstances warrant otherwise; and
- the proper approval for any departure from *Public Service Act* requirements or Management Board of Cabinet directives.

OFFICE RESPONSE

The Office supports this recommendation and agrees that a properly trained management team and workforce are essential, not only to maintain regular operational activities, but especially throughout a time of large-scale change.

The two new management positions offered in 2004 were designed to oversee the alignment of four teams and manage workflow. In response

to a chronic lack of learning opportunities (and the requests of some staff), these positions were offered to internal candidates as temporary acting assignments. The initial plan was for these assignments to last through the transition phase of the technology replacement project (an estimated six months). Because of the processing-time delays in 2004, the length of these assignments exceeded the Office's expectation. It would have created more risk and inefficiency to bring in managers with no program knowledge during this period.

Based on an external consultant's review, new permanent management positions were approved for 2005, and recruitment through a competitive process (with advertising, open competition, etc.) is complete. Recruitment included following selection criteria for interviews and having a structured interview by panel and structured reference checks. Existing job specifications were used for the vast majority of staff (for example, team representatives and team managers). New job specifications have been developed to support recruitment for all new permanent positions in areas such as operational support.

The Office recently advertised and recruited for team manager positions as well as administrative assistant positions. The Office will continue to follow all human resources policies and practices with respect to recruitment. As a part of the new Ministry of Government Services, the Ministry that is responsible for corporate training, the Office is committed to identifying developmental and training opportunities and providing them to staff.

The Office agrees with the need for approval for departure from the *Public Service Act* or any Management Board of Cabinet directives.

SAFEGUARDING VITAL EVENTS INFORMATION

Both the Ministry's internal auditors and the Corporate Audit Cluster from the then–Management Board Secretariat had conducted reviews of security controls in place to protect and safeguard access to confidential personal information maintained in the Office's computer systems. We reviewed their work and agreed with their concerns, including the following more significant ones:

- There was no off-site storage of the tape backup for the computer system. The inability to recover data posed a high risk in the event of a disaster, such as a fire.
- There was no firewall protection to prevent unauthorized access to the document management system, workstations, network and image servers, and other system components in Thunder Bay.
- There was no formal policy that ensured proper segregation of duties and proper authority to grant access to the system.
- The account lockout settings were weak. For instance, the system configuration that limited the number of failed log-ins allowed was disabled, so that hackers could have as many attempts as they needed to guess a password.
- There was no system-generated tracking or monitoring of access to the system database. The system had an audit-trail mechanism but it was not enabled, resulting in the inability to track access. The Office indicated that system audit trails would cause significant performance degradation and would not normally be enabled unless specifically requested by management.
- Employees had the ability to print screen contents to printers within the office. A person with malicious intent who worked as an employee could easily print confidential information for later use in building false identities.

Our audit identified the following additional concerns:

- Although approximately 300 contract staff were hired to help address the problem of service delays, there was no background check for these staff, who were given access to confidential client information.
- Public-key infrastructure (PKI) is a common method for authenticating a message sender/receiver or encrypting a message. The Office indicated that PKI authentication had been put in place for the processing of certificates. However, it did not protect vital events registration data from unauthorized access.
- The Office had introduced an on-line certificate application form that applicants could complete and print to mail in. At the time of our fieldwork, applicants were able to view personal information of other applicants that had been entered on-line. The Office was not aware of the problem until the public complained to the Minister. The Office informed us that the problem has since been corrected.

RECOMMENDATION

To ensure that confidential data are adequately protected against unauthorized access and tampering, the Office of the Registrar General should implement appropriate access and security controls, including promptly addressing the security concerns already identified.

OFFICE RESPONSE

Ontario has one of the most secure vital statistics organizations in North America. Vital Statistics Council for Canada security protocols have been developed based on Ontario's security measures and experiences.

The Office has implemented several phases of enhanced security measures addressing security concerns and emerging threats. It continues

to monitor the effectiveness of those measures, as well as emerging risks and issues, making changes accordingly.

In 2003, the Office established the position of Chief Security Officer and Investigator, whose responsibilities include monitoring and improving security in the Office.

With respect to specific concerns highlighted in the Auditor General's report, the Ministry is moving or has moved to implement solutions. For example, the Ministry has already implemented off-site tape backup storage, and the Office's IT provider will have implemented enhanced firewall protection by the end of November 2005.

The Ministry takes security very seriously and will continue to develop appropriate security measures to ensure the integrity of Ontario's vital event data and documents.

INTEGRATING REGISTRATION AND CERTIFICATE ISSUANCE

Registration and certificate issuance involve similar work using the same data. In registration, the information received by the Office is scanned and data are entered into the computer. Registration information is then printed and sent out to related parties for confirmation of accuracy and for subsequent correction of any registration errors. In certificate issuance, certificate applications are scanned and data are entered, and data are then matched to the original registration records. Once the data are matched, a printed certificate is sent out to the applicant.

Since the two stages use the same data following almost identical procedures, we believe that integrating the two has the potential to enhance productivity and service to the public. For instance, a certificate could be issued to an individual once their registration data was complete and entered instead of requiring that the individual first confirm the accuracy of the information processed. Corrections could still be made in the small number of instances where information is found to be inaccurate. Combining registration with certificate issuance could save the time now needed for subsequent matching and shorten the turnaround time in providing services to the public.

RECOMMENDATION

To meet its mandate of registering vital events and providing certificates more efficiently, the Office of the Registrar General should formally assess the option of integrating the registration and certificate issuance processes into one combined process.

OFFICE RESPONSE

The Office agrees with this recommendation and has been given approval for a new integrated birth registration and birth certificate application process. This will simplify the registration process by allowing parents to register the birth and apply for a birth certificate, online, at the same time. The first phase of integrated birth registration (pilots) will be implemented in early 2006 with the introduction of the Integrated Birth Registration "Smart Form."