

Teletriage Health Services

Background

Ontario's teletriage services provide callers with free, confidential telephone access to a registered nurse for health-care advice and information. The services comprise Telehealth Ontario, which was launched province-wide in 2001, and the Telephone Health Advisory Service (THAS), which was launched in 2003.

The objectives of Telehealth Ontario and THAS include:

- facilitate the use of the most appropriate health services;
- improve access to appropriate health information and advice;
- increase health education and improve decision-making by consumers; and
- improve satisfaction with access to quality health information.

Telehealth Ontario is available to all callers 24 hours a day, seven days a week. THAS is available Monday to Friday, 5 p.m. to 9 a.m., as well as all day on weekends and holidays, to the 8.4 million patients enrolled, as of March 2009, with physicians participating in various primary health-care arrangements, such as family health teams. With either program, the nurses use their clinical judgment in conjunction with medical decision support

software to assist callers (for example, by providing details on self-care, or by advising them to see their physician or go to the emergency department at their local hospital). Nurses can also provide callers with general health information or forward calls to poison control. As well, Telehealth Ontario callers can be linked to pharmacists at the Medication Information Service for drug-related inquiries. For THAS callers, nurses can access the on-call physician from the caller's physician's practice, and, if needed, the physician may speak directly with the caller.

The Ministry of Health and Long-Term Care (Ministry) contracts with a private service provider to deliver both Telehealth Ontario and THAS. The service provider employs almost 300 registered nurses at its five call centres located throughout Ontario. During the 2008/09 fiscal year, 905,000 calls were responded to by nurses, and payments to the service provider totalled \$35.1 million.

Audit Objective and Scope

Our audit objective was to assess whether teletriage services were providing confidential access to timely advice in an economical manner that met the health-care needs of Ontarians. Our audit focused on Telehealth Ontario and THAS, and excluded

other telemedicine services, such as physicians using telecommunications to provide health-care services.

Our audit work was conducted primarily at two of the service provider’s call centres, because all calls are handled in one virtual queue, with the first available nurse at any of the call centres answering the call. In conducting our audit, we reviewed relevant files and administrative policies and procedures, and met with appropriate staff from the service provider and the Ministry. In addition, using 2008 data from the service provider, we reviewed call volume and caller wait times. We also reviewed relevant research and obtained information from comparable teletriage services programs in other Canadian jurisdictions. As well, with the assistance of an independent survey firm, we surveyed 1,100 people across Ontario to obtain information on their awareness of and satisfaction with Telehealth Ontario’s services.

We did not rely on the Ministry’s internal audit service team to reduce the extent of our audit work because it had not recently conducted any audit work on teletriage services. The service provider did not have an internal audit function.

Summary

The Ministry appropriately contracted for the delivery of teletriage services based on a competitive process. The contract included a number of key performance requirements, focusing primarily on the timeliness of access to services, which the service provider reported that it met in the 2008/09 fiscal year. As well, our independent survey indicated that those who used Telehealth Ontario were generally satisfied. However, only a small portion of Ontario’s population uses the services. In addition, based on our analysis of information at the service provider, as well as practices in other jurisdictions, there are improvements that could be made to enhance the services for Ontarians—for example,

adopting an easily remembered telephone number such as “811”; ensuring that newly hired nurses have the required clinical experience; conducting independent reviews of the quality of the advice provided by nurses; and establishing performance requirements for the quality of that advice. Some of our more significant observations included the following:

- Not only has the number of calls to teletriage services been declining over the last few years, but the number of calls as a proportion of the population is significantly less in Ontario than is the case in Alberta and Quebec. Ontario had 905,000 calls to teletriage services in the 2008/09 fiscal year, out of Ontario’s population of 12.2 million, while Quebec’s Info-Santé received 2 million calls out of a population of 7.4 million and Health Link Alberta received 1 million calls out of a population of 3.3 million. One reason may be that the Ministry did minimal advertising of the services during 2007 and 2008. We also noted that the number of calls concerning seniors as a proportion of Ontario’s senior population was low—only 4% (72,000 calls out of a population of 1.6 million).
- Although over 60% of Ontario’s population was enrolled with physicians participating in various primary health care arrangements, and therefore eligible to use the Telephone Health Advisory Service (THAS), only 1% of eligible individuals used the service in 2008/09.
- British Columbia and Quebec use the easily remembered “811” phone number for their teletriage services, and certain other provinces are planning to adopt this phone number. Quebec reported a 15% increase in call volume following its implementation. At the time of our audit, Ontario had no plans to adopt the “811” phone number.
- The service provider does not track how long callers wait in the live queue before speaking to a nurse but indicated that about 25%

of callers waiting in the live queue hung up before their call was answered by a nurse. Of the callers in the live queue who continued to wait, we calculated that 85% spoke to a nurse within 23 minutes. Eighty-five percent of callers who left a call-back number spoke to a nurse within 34 minutes.

- Physicians who were on call to THAS had to be paged more than once in over 70% of calls requiring a page during 2008, and 9% of pages were never returned. Further, 10% of physician practices did not return at least one-third of the pages they received. Generally, the on-call physician is paged if the nurse would advise the caller to see their doctor within four hours or go to the emergency department.
- Although advice to callers deviated from the clinical guidelines and protocols only 5% of the time in the 2008/09 fiscal year, almost 30% of the deviations did not indicate the reason for not following the guidelines.
- Although the service provider had indicated in its proposal submitted to the Ministry in 2007 that its nurses would have at least three years of any type of nursing experience, its policies require nurses to have one to three years of clinical experience. We noted from our sample of nurses hired in 2008 that 23% had less than one year of acute-care experience, and 20% had less than three years of total nursing experience.
- Because callers are not asked to provide their Ontario health card number to the service provider, it is difficult to confirm whether callers actually followed the nurses' advice. If the health card number was requested, it would be possible in many instances to check Ontario Health Insurance Plan records to determine whether the caller followed the advice given, and therefore whether the teletriage services were influencing callers to use the most appropriate health service, as intended.
- Although there was no independent review of the quality of the advice provided to callers, the service provider estimated that the advice provided to about 95% of callers annually was appropriate. We noted that another Canadian jurisdiction uses mystery callers, with predetermined questions, to independently evaluate the quality of advice provided.
- Because calls are generally not taped, the service provider's quality assurance reviewers audited calls only as they were taking place. We found that 84% of the call audits sampled were completed during off-peak periods, rather than during peak periods (when nurses are under pressure to respond to waiting callers within established time frames). Most of the other provinces we spoke with indicated that they tape all calls, so that they can be reviewed at a later date to assess the appropriateness of the medical advice given, among other things.
- Our independent satisfaction survey indicated that 82% of callers were satisfied or very satisfied, which was slightly lower than the service provider's reported 98% satisfaction, based on callers it sampled. However, neither the Ministry nor the service provider had surveyed other stakeholders, such as family physicians and emergency departments, regarding their satisfaction. Other jurisdictions we spoke with indicated that health-care professionals' support and acceptance of teletriage services was critical to the success of their programs.
- In 2008/09, the Ministry paid the service provider about \$39 for each of the first 900,000 registered calls to teletriage services, and about \$27 per call after that. The three other provinces that shared cost information with us indicated that their teletriage services costs were about \$20 per call. The Ministry had not conducted any work aimed at determining the reason for the significant difference between Ontario's costs and the costs in other provinces.
- Although the Ministry had established several good performance measures, which the

service provider must meet in order to avoid financial penalties, the measures focused primarily on access to services. There were no performance standards relating to the quality of nurses' advice or to the length of time callers wait in the live queue.

OVERALL MINISTRY RESPONSE

The Ministry recognizes the importance of providing confidential, timely access to teletriage services in an economical manner that meets the health needs of Ontarians, and welcomes the recommendations made by the Auditor General. As indicated in the responses to each recommendation, the Ministry will follow up on the Auditor General's recommendations to enhance the existing safeguards and processes already in place.

Detailed Audit Observations

OVERVIEW

All calls to the toll-free numbers for Telehealth Ontario and for THAS are answered by an automated attendant that asks the caller to select a language (English or French). Callers are then placed into either the English or French centralized queue, which are answered directly by a nurse, if one is available, at any of the service provider's five Ontario call centres. If all of the nurses are busy, the call is routed to a receptionist, known as a patient assistance representative. The receptionist obtains information from the caller (for example, name, phone number, and nature of problem), although callers can choose to remain anonymous. The service provider's phone system is supposed to reject calls from outside Ontario and callers are not required to provide their Ontario health card number. The receptionist then gives the caller the option of remaining in the live queue to speak to a

nurse, or going into the call-back queue to have a nurse phone the caller back. If all the nurses and all the receptionists are busy, the caller reaches a voice message system that gives the caller the choice of remaining on the line or leaving contact information so a nurse can return the call. Receptionists pick up messages left in the voice-mail system and add them to the call-back queue. If a call is urgent, it may be placed in a priority call-back queue to be answered faster. Figure 1 illustrates the standard call-handling process.

A summary of monthly statistics reported to the Ministry by the service provider indicated that, in 2008/09, 34% of calls were answered directly by a nurse, 65% were answered by a receptionist, and 1% were answered by the voice message system. About 60% of callers reaching the receptionist requested a call back, rather than waiting in the live queue.

Once the caller reaches a nurse, the nurse uses decision support software, with medical algorithms that provide the nurse with guidelines and protocols for handling symptom-based calls. The nurses use the recommendations from this software in conjunction with their professional judgment to provide advice and information to the caller. In 2008, a little more than half the callers were calling about themselves; the remaining callers were calling about someone else (usually a child or spouse).

Where applicable, nurses obtain the caller's consent to forward call information (for example, to a hospital emergency department, or in the case of THAS callers, to their physician). For THAS callers with more urgent needs, the nurse pages the physician who is on call from the caller's physician's practice. If needed, the physician may decide to speak directly with the caller. All calls are logged in the service provider's system.

ACCESS TO TELETRIAGE SERVICES

Public Awareness

In 2001, when Telehealth Ontario was launched, the Ministry conducted a promotional campaign that

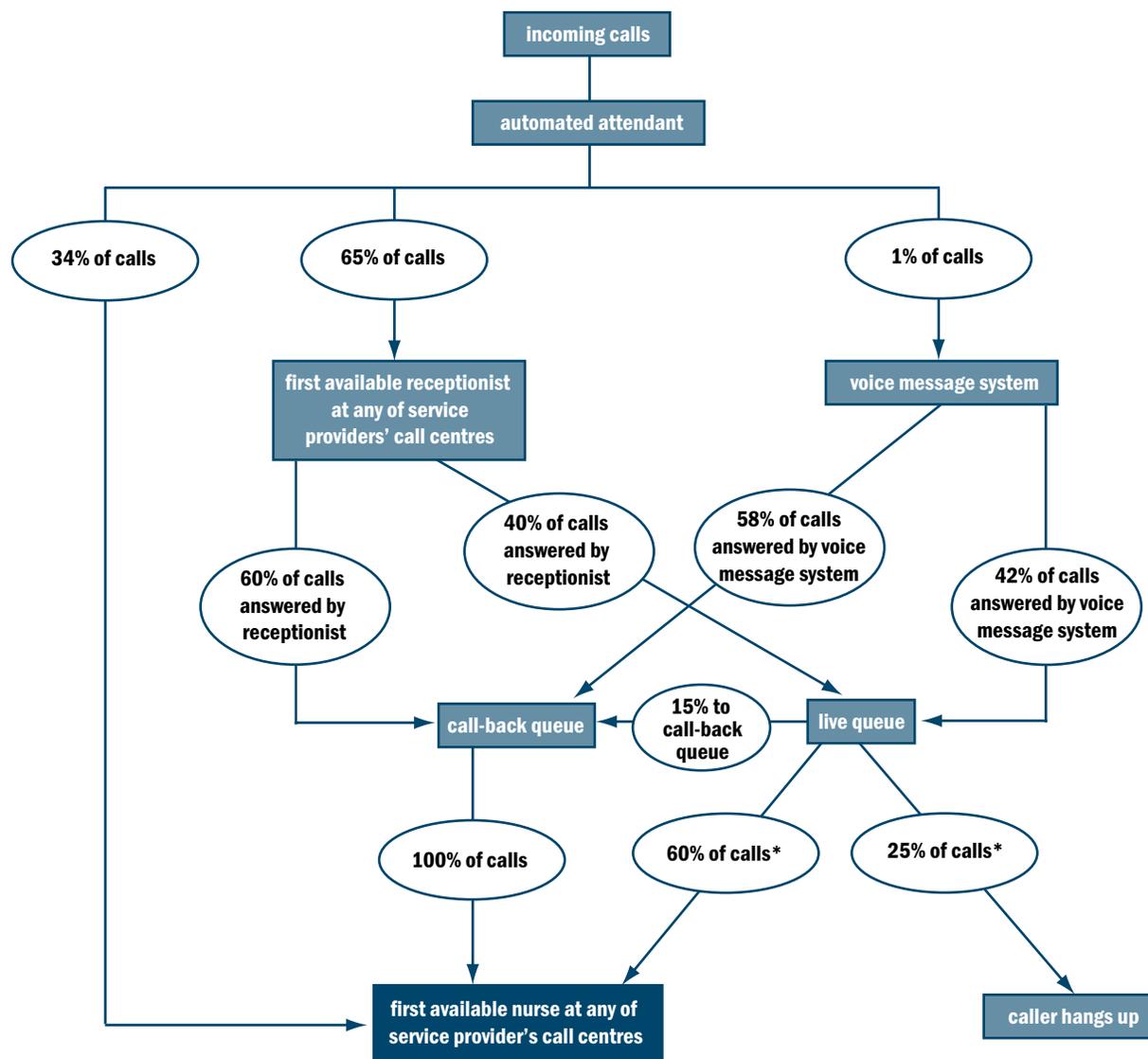
included media advertisements and distributing fridge magnets with the service’s phone number to each household in the province. Subsequent specific promotional activities were conducted, with the most recent being in 2006 when the Ministry distributed door hangers highlighting the availability of translators for non-English-speaking and non-French-speaking residents. As well, Telehealth Ontario is a component of the Ministry’s “Your Health Care Options” campaign. Starting in 2009, it was included in some advertisements for this

campaign. With respect to THAS, the Ministry’s contracts with the various physician practices state that promoting THAS is a joint responsibility and that physicians are to advise their patients about the service, for example, by prominently posting a notice in their office.

Between 2003 and 2006, the Ministry commissioned a number of public surveys to assess the public’s awareness of Telehealth Ontario. The surveys found that about two-thirds of respondents were aware of the service. No further public

Figure 1: Telerriage Services Standard Call-handling Process

Prepared by the Office of the Auditor General of Ontario based on information provided by the service provider



* Information to verify these numbers was not readily available from the service provider.

surveys have been commissioned by the Ministry since 2006.

As shown in Figure 2, in the 2008/09 fiscal year the teletriage services received more than 1.1 million calls, and nurses responded to 905,000 of those calls. Our analysis indicated that a maximum of 650,000 unique callers, or about 5% of Ontario's 12.2 million population, made those calls: that is, the total included about 250,000 calls made by individuals who had already called at least once before during that fiscal year. The service provider indicated that since the service's inception about 70% of callers have phoned more than once.

We noted that similar programs in other provinces were called more frequently. For example, Quebec's Info-Santé received 2 million calls in the 2008 calendar year from a population of 7.4 million, and Health Link Alberta received 1 million calls in 2008 from a population of 3.3 million.

We also noted that the number of Ontarians enrolled with physicians participating in various primary health-care arrangements, and therefore eligible to use THAS, tripled from 2.8 million in the 2004/05 fiscal year to 8.4 million in the 2008/09 fiscal year. As of March 31, 2009, THAS-eligible callers represented about 65% of Ontario's population. However, as shown in Figure 3, virtually none of these eligible callers used THAS, but they may have called Telehealth Ontario instead. In 2008, THAS received calls concerning only about 1% of eligible individuals.

As well, patients seem to use THAS more when their physicians support and promote the service. For example, we identified 18 primary health groups with more than 1,000 patients calling THAS, and almost 140 groups with fewer than 10 patients calling THAS. Practices sampled with more than

1,000 calls generally had an after-hours voice message system that referred patients to THAS. Practices with fewer than 10 calls generally did not refer patients on their after-hours voice message system.

The service provider indicated that the decline in calls to the teletriage services shown in Figure 2 was due to mild flu seasons and minimal promotion of the services. However, the service provider advised us that it would require additional nursing resources, which can be challenging to recruit, to answer the increased call volume that would result from additional promotion.

Telephone Number

To contact either Telehealth Ontario or THAS, callers dial each service's respective toll-free telephone number. The number for Telehealth Ontario is typically listed in local phone books, but not necessarily at the front with other important phone numbers. Eligible individuals receive the phone number for THAS from their physician's office.

In July 2005, the Canadian Radio-television and Telecommunications Commission set aside the phone number "811" for provinces to use for non-urgent health teletriage/telehealth services. At the time of our audit, British Columbia and Quebec had adopted "811" as the phone number for their telehealth services. Representatives from Quebec told us that their teletriage services experienced a 15% increase in call volume following the implementation of the "811" phone number. As well, we were informed that certain other provinces are moving toward using "811."

At the time of our audit, the Ministry indicated that there were no plans for Ontario to adopt the "811" phone number for its teletriage services.

Figure 2: Calls to Teletriage Services by Type, 2006/07–2008/09

Source of data: Service provider

Type of Call	Description	# of Calls		
		2006/07	2007/08	2008/09
incoming	automated attendant completed message	1,305,000	1,207,000	1,145,000
registered	nurse provided advice or information	1,094,000	986,000	905,000

Figure 3: Eligible Callers and Actual Calls to the Telephone Health Advisory Service, 2004/05–2008/09

Source of data: Service provider and Ministry of Health and Long-Term Care

	2004/05	2005/06	2006/07	2007/08	2008/09
# of registered calls to THAS	79,000	134,000	134,000	123,000	112,000
# of eligible THAS callers	2,875,000	5,722,000	7,005,000	7,731,000	8,386,000
registered calls to THAS as a % of eligible calls	2.7	2.3	1.9	1.6	1.3

Demographics

Based on our analysis of caller data for 2008, 37% of calls to the teletriage services concerned children, 51% concerned adults between 18 and 64 years old, and 8% concerned seniors aged 65 and older. The remaining 4% were anonymous. Although there are more than 1.6 million seniors in Ontario (about 14% of the province's population), fewer than 72,000 (about 4% of Ontario's seniors) of the calls to teletriage services concerned seniors. Of the seniors who responded to our independent survey and were aware of Telehealth Ontario, 44% indicated that they did not call it because they would rather contact a doctor directly.

We also noted that calls to the teletriage services in 2008 were relatively evenly distributed across the province in proportion to the population in each region, with the largest number of calls coming from the more populated areas of central and southwestern Ontario, as shown in Figure 4.

The service provider indicated that the telephone system is designed to block calls from outside Ontario. However, using 2008 data extracted from the service provider's information systems, we noted that almost 2,000 registered calls came from outside Ontario. These included calls from eight other provinces, as well as 19 U.S. states. The service provider told us that these calls are often either from persons using an Ontario cellphone from outside Ontario or visitors calling while vacationing in Ontario, who provide an out-of-province phone number. In addition, for about 10% of the calls, certain caller information (such as their address) was blank or incomplete. Because callers are not required to provide such information, we were unable to determine whether these callers were from Ontario.

Figure 4: Source of Calls to Teletriage Services by Region, 2008

Prepared by the Office of the Auditor General of Ontario

Region	Total Registered Calls	Registered Calls as a % of the Area's Population	Proportion of Registered Calls (%)
Central Ontario	287,000	6.4	32
Southwestern Ontario	169,000	6.9	19
Metropolitan Toronto	155,000	6.2	17
Eastern Ontario	136,000	7.3	15
Northern Ontario	63,000	7.5	7
outside Ontario	2,000	n/a	0
not specified or incomplete	93,000	n/a	10
Total	905,000	7.4	100

RECOMMENDATION 1

In order to provide more accessible teletriage health advice and information, the Ministry should:

- consider the continued need for a separate THAS service or options for increasing the level of awareness and acceptance of teletriage services, especially among individuals eligible to use the Telephone Health Advisory Service (THAS) and among those demographic groups, such as seniors, that underutilize the services; and
- explore the use of an easily remembered phone number, such as "811" (which is used or being

planned for in several other large provinces), for both Telehealth Ontario and THAS.

MINISTRY RESPONSE

The service contracts for Telehealth Ontario and the Telephone Health Advisory Service were combined into one contract in 2008. This facilitates combining the services, and the Ministry will explore this possibility.

In August 2009, refrigerator magnets advertising Telehealth Ontario were distributed in over 200 community newspapers province-wide. As well, in September 2009, the Ministry planned to distribute to each household in the province a pamphlet regarding flu prevention, which will advertise Telehealth Ontario as a resource for callers seeking health information and advice. Further, Telehealth Ontario continues to be part of the Ministry's Healthcare Options campaign, which includes television, online, and print advertisements. The longer-term impact on the public's awareness of teletriage services and usage will be measured to determine any additional investments necessary.

Past research by the Ministry has shown that low-use groups, such as seniors and youths, were not interested in using Telehealth Ontario. However, the Ministry will further investigate the feasibility of additional initiatives targeted towards these groups, as necessary. Ontario's possible use of 811 for teletriage services will also be explored.

CALL MANAGEMENT

Wait Times

According to the contract with the Ministry, the service provider is required to meet certain performance standards for responding to calls. To ensure that these standards are met, the service provider has individuals who monitor, among other things,

the time that individuals wait in the call-back queue. As shown in Figure 5, the service provider reported that it met all the performance standards for the 2008/09 fiscal year.

If the receptionist determines a call to be a high priority, that call is responded to more quickly. In 2008, about 14% of calls placed in the call-back queue were deemed high priority; in our sample, nurses phoned 90% of these callers within three minutes.

Other calls are generally handled in the order received, with a nurse answering the caller who has been waiting the longest, whether that caller is in the live queue or the call-back queue. However, once the wait time in the call-back queue reaches about 15 minutes, certain nurses—for example, all nurses at one call centre—are told to answer only calls in that queue. If necessary, certain call centres are directed to take specific calls to minimize the number of calls that will not meet the performance standards. For example, calls waiting 20 to 29 minutes would be taken before those waiting over 30 minutes. Such situations are more likely to happen when call volumes are highest. As shown in Figure 6, call volumes are generally highest on statutory holidays and weekends, as well as in the evenings. In addition, as shown in Figure 7, more

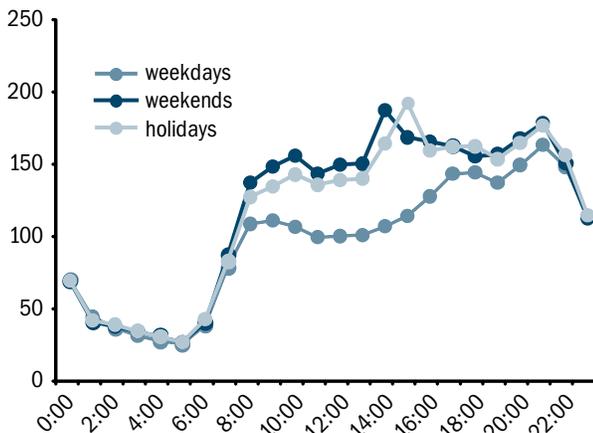
Figure 5: Teletriage Performance Standards Effective April 1, 2008, and Results for 2008/09

Source of data: Ministry of Health and Long-Term Care

Performance Standard	Result
80% of all calls in each month should be transferred from the automated attendant to a person (as opposed to a voice message system) within 20 seconds.	met
85% of callers who leave contact information for a call-back must receive the call-back from a teletriage nurse within 30 minutes	met
98% of callers who leave contact information for a call-back must receive the call-back from a teletriage nurse within 2 hours.	met
Abandoned calls (that is, caller hangs up after recorded greeting, but before speaking to a person or leaving a message) should not exceed 6% of all incoming calls per month.	met

Figure 6: Average Number of Registered Calls by Hour of Day, 2008

Prepared by the Office of the Auditor General of Ontario



calls are received during the winter months than at other times of the year.

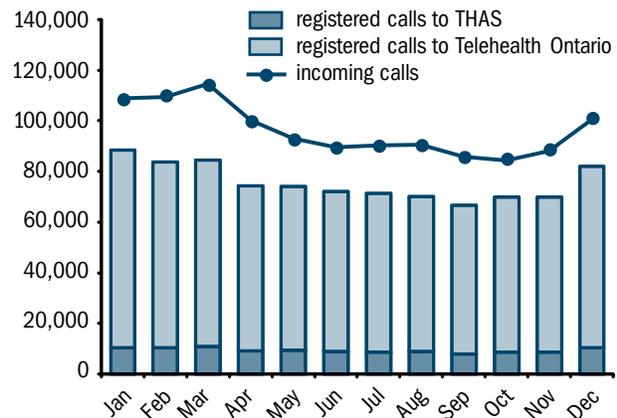
Using data from the service provider, we calculated wait times for callers waiting in the live queue and the call-back queue from the time the call was received for the period October through December 2008. We found:

- 85% of callers in the live queue spoke to a nurse in 23 minutes, and 90% spoke to a nurse in 36 minutes; and
- 85% of callers in the call-back queue spoke to a nurse within 34 minutes, and 90% of callers in the call-back queue spoke to a nurse within 49 minutes.

The time we calculated for the call-back queue is longer than that being reported by the service provider because we determined that the wait time for a call-back started when the incoming call was initially answered by the automated attendant. For its part, the service provider began measuring wait time from the time the caller was put into the queue. This approximates the time the caller's information was left, which, according to the service provider's contract with the Ministry, is the beginning of the caller's wait-time. As well, if a caller started to wait in the live queue and then decided to transfer to the call-back queue, the service provider would not capture the time spent

Figure 7: Number of Calls by Month, 2008

Source of data: Service provider



waiting in the live queue. The service provider did not track the time callers waited in the live queue.

Paging On-call Physicians

For individuals eligible to call THAS, the nurse may page the on-call physician from the caller's physician's practice. Physicians' practices are paid up to \$2,000 a month for being on-call, which is one of the services that physicians participating in various primary health-care arrangements agree to provide in their contract with the Ministry. The on-call physician is usually paged if the nurse, based on the caller's symptoms, would otherwise advise the caller to see their doctor within four hours or go to the emergency department. However, we noted that about 12% of pages to the on-call physician in 2008 were for less serious situations, such as the caller asking to speak with the physician. In cases where a physician is being paged, the nurse advises callers that either a nurse or the on-call physician will call them back with further instructions within 30 minutes, but that they should go to the emergency department if they do not hear back.

In 2008, over 20,000 calls (that is, roughly one in five calls) to THAS resulted in pages to on-call physicians. In over 70% of these cases, the on-call physician had to be paged more than once, and in 9% of cases, the pages were not returned. For returned pages, 81% were received within 30 minutes. We

noticed that about 10% of family practices did not return at least one-third of the pages they received in 2008. There is no financial penalty to the family practice if a page is not returned within a reasonable time frame or is not returned at all. As well, many of the pages were returned after the 30 minutes originally indicated to the caller, but no information was available on the total number of callers who received a return call or went to emergency because they had not received a call.

Information Requests

The service provider maintains an audiotape library of various health-related topics that callers may access if they are calling for health information rather than health advice, as well as a list of community services available around the province. According to the service provider, its medical advisers do not review the taped health topics because the tapes are not used to provide care advice. However, the service provider uses its medical advisers when new health topics need to be created (for example, in response to the listeriosis outbreak in Ontario). The service provider also had a process for updating its database on community resources.

We noted that 11% of registered calls related to health information requests, and 4% related to information about community services. Although the service provider's contract with the Ministry requires that a nurse speaks to all callers, we noted that over 99% of information requests were handled entirely by a nurse, rather than the nurse connecting the caller to the audiotape library. As well, all requests for information on community services were handled by nurses. Another jurisdiction we spoke with indicated that it does not require that nurses speak with callers who are just requesting information, in order to free up nurses to take symptom-based calls, which may reduce the wait times for other callers.

Confidentiality

The Ministry's contract with the service provider requires it to ensure the security and integrity of caller information and to keep that information in a physically secure location. In addition, the contract states that the service provider should restrict access to personal information to those who need to know in order to provide the service.

We noted that the service provider had policies and practices in place that focused on maintaining caller confidentiality and privacy. For example, employees required passwords to access computer records. As well, the service provider had a policy to conduct semi-annual reviews of access privileges to ensure that staff have access to necessary information only. Further, commencing December 2008, the service provider developed a policy to conduct quarterly password assessments to help ensure that passwords were appropriately strong (that is, not based on the user's biographical information) in accordance with policy, and to conduct semi-annual audits of computer devices to ensure that anti-virus software is operating as intended on all computers. The service provider indicated that it was in the process of implementing these policies.

The service provider indicated that it does not perform any vulnerability or penetration testing on its teletriage services' servers and network equipment. However, in May 2008, the Ministry conducted a Threat Risk Assessment on teletriage services. The assessment reviewed the risks associated with extracting and transmitting patient and physician data from the Ministry's data centre to the service provider for the THAS program. Issues noted included:

- a lack of separation of call information for Ontario's teletriage programs from similar programs run by the service provider for other provinces; and
- a lack of encryption of caller information.

The Ministry indicated that most of the issues had been remedied, and the remaining ones were expected to be resolved soon.

At the time of our audit, we noted that there was no agreement with the vendor providing off-site storage of call records and the agreement with the vendor providing translation services had not been updated since it was signed in 2001. In neither case had the service provider signed an agreement with these vendors to ensure that they comply with the confidentiality and privacy requirements set out in the service provider's 2008 contract with the Ministry. These requirements include restricting access to caller information and keeping it secure, in accordance with the *Personal Health Information Protection Act*.

RECOMMENDATION 2

To help ensure that all callers' questions are answered within a reasonable time frame, the Ministry should:

- ask the service provider to instruct its nurses to redirect information requests for phone numbers and addresses of community services to non-nursing staff;
- review alternative ways to promote timely physician responses to pages for Telephone Health Advisory Service callers, such as financial penalties when on-call physicians do not respond when paged or financial incentives for those physicians who consistently exceed standards; and
- require the service provider to measure the wait time for callers from the time the call was initially received for both the live and call-back queues.

As well, to ensure that caller information remains confidential:

- the service provider should sign agreements with its vendors that handle confidential caller information, such as those providing its translation and off-site storage services, to maintain appropriate physical and electronic security, in accordance with its contract with the Ministry; and

- the Ministry should ensure that periodic vulnerability and penetration testing is completed at the service provider to identify and correct any security weaknesses.

MINISTRY RESPONSE

The Ministry will review and analyze the feasibility of the recommended changes to how teletriage calls are handled. The review will explore options to minimize the number of "information only" calls that are directed to a nurse at the service provider.

The necessity of the current number of physicians supporting the Telephone Health Advisory Service is now being reviewed by the Ministry to ensure that this component of the service is cost-effective. This review will include ways to ensure that calls to physicians are responded to on a timely basis. The Ministry will also review the recommendation to measure the wait times for callers, as well as how calls in the call-back queue are managed, to ensure that the service provider is handling calls in a sequential and fair manner.

The service provider has now signed a service agreement with the off-site storage vendor. As well, the Ministry has required the service provider to execute with its subcontractors the *Personal Health Information Protection Act* sub-agent agreement, which addresses the confidentiality of caller information. Further, the Ministry will perform periodic vulnerability and penetration testing at the service provider to identify and correct any emerging weaknesses.

SERVICE PROVIDER RESPONSE

The Ministry and the service provider reached a consensus in September 2009 about the content for the sub-agent agreement that meets the requirements of the *Personal Health Information Protection Act* (PHIPA). The service provider indicated that it is in the process of engaging the

applicable vendors to sign the PHIPA sub-agent agreements. However, the service provider noted that it may be necessary to find a translation vendor located within Ontario, because the current vendor operates in another province and may not be able to meet certain provisions of the sub-agent agreement, such as maintaining personal health information from the service provider in a physically secure location in Ontario.

ADVICE TO CALLERS

Staffing

The quality of the advice provided to callers depends on the qualifications, experience, and training of the nurses providing the advice. As of December 31, 2008, the call centres were staffed with almost 300 nurses, including supervisors and site managers. Nurses had an average of four years of work experience with the service provider.

Although the service provider indicated in the proposal that it submitted to the Ministry in 2007 to secure the contract that its nurses have at least three years of any type of nursing experience, its policies require nurses to have only one to three years of clinical experience. From our sample of nurses hired in 2008, we noted that 23% had less than one year of acute-care experience, and 20% had less than three years of total nursing experience. Four other provinces with teletriage services indicated that their nurses were required to have at least three years of acute-care experience.

We noted that new nurses participate in initial classroom orientation training and one-on-one training. As well, every nurse is required to participate in ongoing training activities, including one case study based on common call scenarios and four coaching sessions per month. Although documents at the service provider indicated that nurses completed the required initial training and most of the ongoing training in 2008, some team managers often did not complete their monthly case studies.

In particular, we noted that over 25% of the team managers had completed less than half the required case studies in 2008.

Compliance With Clinical Guidelines

Nurses use decision support software, with medical algorithms, which provides them with guidelines and protocols for handling symptom-based calls. The clinical guidelines and protocols are updated annually by two U.S.-based medical doctors, and are reviewed by the service provider's medical advisers to ensure that they are consistent with medical practices in Ontario. The service provider also has a process in place for updating the clinical guidelines between the annual reviews, if the need arises.

In the 2008/09 fiscal year, 85% of callers to teletriage services were seeking advice for specific medical symptoms. Teletriage nurses obtain information from each caller on the nature and severity of the health symptoms he or she is calling about. This information is entered into a medical algorithm, which indicates the advice to give the caller. The nurses advise callers based on both the medical algorithm's clinical guidelines and their clinical judgment. Figure 8 shows the most common advice given to callers in the 2008/09 fiscal year.

The clinical guidelines used by the teletriage nurses are intended to provide quality patient care advice and to result in the most appropriate use of

Figure 8: Nurses' Advice To Callers, by Percentage of Calls Answered, 2008/09

Source of data: Service provider

Advice	Telehealth Ontario	Telephone Health Advisory Service
self-care	41	28
physician referral	37	53
emergency department	14	15
community service	4	1
911/ambulance dispatch	2	2
other	2	1

health-care services. According to the service provider, in the 2008/09 fiscal year, nurses' judgement led them to deviate from the clinical guidelines for 5% of callers requesting advice for their symptoms. However, for almost 30% of the deviations, the reason for the nurses' judgement was not included in the call documentation. As well, the service provider's call audit process noted that, based on both the clinical guidelines and the nurses' clinical judgement, the advice provided to about 95% of callers was appropriate. Similar results had been noted in previous years.

Callers' Compliance

One of the objectives of both Telehealth Ontario and THAS is to facilitate the use of the most appropriate health services by consumers. Although there are cost savings to the health system from directing callers away from an unnecessary visit to the emergency department, there are also health benefits for persons requiring emergency care who had not originally planned to go to the emergency department. Therefore, the service provider asks callers what they would have done if they had not called for advice (for example, self-treat, see a physician, go to the emergency department).

A 2004 study by the Institute for Clinical Evaluative Sciences examined changes in the utilization rates at emergency departments following the implementation of Telehealth Ontario, and found no significant impact on emergency department utilization rates in five of the six regions it examined. In the sixth region, the study noted slightly higher emergency department utilization rates following Telehealth Ontario's implementation. The study did not look at, amongst other things, the quality of care or clinical outcomes resulting from Telehealth Ontario. It also indicated that further research would be needed to assess these. At the time of our audit, no additional analysis had been done.

We analyzed the data documented by the service provider on callers' initially planned actions compared to the advice they were given by the nurse.

For our analysis, we considered the levels of care, from lowest to highest, to be self-treat, see a doctor, or go to the emergency department. We noted that 38% of callers were advised to use the same level of care as they originally planned, 33% were advised to use a lower level of care, and 29% were advised to use a higher level of care. Overall, about the same percentage of callers were advised to go to the emergency department as had originally intended to go there, but many of the callers who were referred to the emergency department were not the ones who had originally planned to go.

The service provider also asks callers whether they plan to follow the nurse's advice. In the 2008/09 fiscal year, 94% of callers indicated that they intended to comply. Since callers are not asked to provide their Ontario health card number to the service provider, it is difficult to confirm whether callers actually follow the nurses' advice. If the health card number were requested, it would be possible to check Ontario Health Insurance Plan records to determine whether the caller followed the advice given. A study (released in 2002) of one region in Ontario indicated that actual compliance was lower than callers' self-reported compliance. As well, a 2006 Alberta study indicated that only 75% of callers went to emergency when advised to go, and only 47% saw a physician within 24 hours when advised to do so.

RECOMMENDATION 3

To better ensure that callers to teletriage services receive and follow the most appropriate advice to address their health concerns, the service provider should:

- hire nurses who have at least three years of nursing experience, including at least one year of acute-care or clinical experience, in accordance with its proposal to secure the contract to provide teletriage services and its internal policies;
- ensure that nurses complete their ongoing training in accordance with policies; and

- require nurses to document the reason for providing advice that does not follow a clinical guideline or protocol.

As well, to better determine the impact of the advice provided to callers, the Ministry, in conjunction with the service provider, should develop a process (such as obtaining Ontario health card numbers and following up on a sample of the callers' subsequent actions) for periodically assessing the extent to which callers follow the nurses' advice.

SERVICE PROVIDER RESPONSE

Due to the nursing shortage in Ontario, the service provider has reviewed and redesigned its nurse recruitment and retention strategy. The service provider is now testing candidates to ensure that they possess critical thinking and clinical skills, which it noted were a better indicator of clinical competence than years of service. Further, in order to be hired by the service provider, the candidate must exceed an established score, which the service provider determined by testing its existing high performers who had at least three years of experience when hired. The service provider indicated that, although these changes have made a positive impact on its recruitment and retention efforts and have also increased quality outcomes, the availability and retention of nurses, regardless of years of experience, continue to be a challenge.

The service provider also noted that it employs nurses who work from home in order to minimize nurse turnover and mitigate the risks of call centre closures associated with a potential pandemic crisis. However, the service provider commented that a more aggressive work-from-home model would help ensure the uninterrupted supply of teletriage services. In the future, the service provider envisions a virtual telehealth call-centre environment throughout the province, which will increase the provider's ability to recruit high-quality nurse applicants

province-wide (because nurses do not have to live close to a call centre), reduce the level of nurse turnover, and provide a stronger business-continuity plan for disaster preparedness.

With respect to nurses completing their ongoing training, the service provider has reviewed its current policies requiring monthly case studies for team managers and determined that an alternative approach would be more appropriate. The new training requirements are expected to be implemented by January 1, 2010.

The service provider indicated that software changes, scheduled for completion by September 30, 2009, will make it mandatory for nurses to indicate the reason for not following the clinical guidelines before they can proceed further in the call. This ensures improved compliance with call-handling processes and improved accuracy in documenting the reason supporting the nurse's clinical decision to deviate from a clinical guideline that did not accurately reflect the circumstances.

The service provider noted that having to obtain Ontario health card numbers from every caller would increase its time handling each call because of the additional time needed for callers to locate their health cards. As well, the service provider indicated that obtaining the health card number must be optional to accommodate callers who wish to remain anonymous or cannot access an Ontario health card.

MINISTRY RESPONSE

The Ministry will ensure that the requirements established in the agreement with the service provider regarding the experience and ongoing training of teletriage nurses are adhered to. As well, the Ministry will ensure that requirements regarding the documentation of reasons for providing advice that does not follow a clinical guideline are adhered to.

The Ministry will work with the service provider to research and review ways to determine

the impact of the advice provided to callers. The possible collection of Ontario health card numbers will be reviewed to determine the impact on call time. In addition, because health card numbers are personal health information, their collection and use by the Ministry for the purpose of determining the impact of the advice provided to callers will require in-depth analysis, including an assessment of the protection of an individual's right to privacy.

QUALITY ASSURANCE

The service provider has developed a quality assurance program to monitor and revise the delivery of teletriage services. Components of the program include periodic review of the nurses' handling of calls, conducting caller satisfaction surveys, following up on complaints, and monitoring by a Quality Service Committee at each call centre location. The committees meet several times a year, and their members include, among others, a medical adviser, the manager responsible for clinical activities, the site educator, and a nurse.

Call Audits

The service provider has a call audit process that involves having reviewers listen to at least 15 calls per month for each call centre. The reviewers are generally selected by the Quality Service Committee at each call centre and often are either a clinical team manager or a senior nurse. The reviewers select which calls to audit and evaluate the advice provided by the nurse, as well as the nurses' clinical judgment and communication skills. They also ensure that the call information documented reflects what transpired. If improvements are required, the clinical team manager performs the appropriate follow-up with the nurse.

Results of the audits are summarized monthly and discussed by each call centre's Quality Service

Committee. The Quality Service Committees are responsible for making recommendations to address issues noted and for ensuring implementation of those recommendations.

We reviewed the call audit process and noted the following:

- As noted earlier, unlike calls to 911, calls to Ontario's teletriage services are generally not recorded. Therefore, reviewers can only monitor calls as they take place and when call volumes permit. As a result, most of the call audits (including 84% of the call audits we sampled) are performed during off-peak periods. Consequently, call audit results may not be indicative of performance during peak periods, when nurses are under pressure to respond to waiting callers within established time frames.
- Reviewers audit the calls of nurses who work at the same call centre that they do. As well, the nurse is sometimes the reviewer's subordinate, which means that poor performance by that nurse could reflect negatively on the reviewer. To determine whether reviewers were objective, in 2005 the service provider performed a one-time inter-site audit in which reviewers audited calls at another call centre as well as at their own. These audits indicated that reviewers generally rated nurses in their own call centre better than nurses in other call centres. For example, one call centre received a score of 87% from its own reviewer, but scored only 74% when evaluated by a reviewer from a different call centre. The service provider has not had reviewers audit calls at other call centres since 2005.
- Reviewers may not evaluate calls in a consistent manner. On a semi-annual basis, the reviewers at each call centre are all expected to review the same series of calls to help ensure that they will evaluate all calls in a consistent manner. We noted that these semi-annual evaluations were not done in 2008 at the two call centres that handle the most calls.

- During 2008, at one call centre, no call audits were conducted for three months and only five audits a month were conducted for another three months. We were informed that this situation had since been corrected.
- The service provider does not periodically analyze the results to determine whether there are any trends or systemic deficiencies in the call audit process or the quality of the advice provided.

If calls were taped, as is the practice of several other provinces we contacted, calls made during peak periods could be audited during less busy times of the day, and could be more easily audited by reviewers from other call centres to ensure a more objective evaluation.

One Canadian jurisdiction that runs a similar teletriage service informed us that it uses mystery callers on a regular basis to monitor the timeliness and quality of the teletriage services provided. Mystery callers place calls to the teletriage services with predetermined questions, and assess the appropriateness of the information and advice provided. The Ministry indicated that it does not use mystery callers. Most of the provinces we spoke with indicated that they tape all calls, so that they can be reviewed at a later date to ensure appropriateness, among other things. The Ministry's 2003 internal privacy impact assessment noted that calls should generally not be taped. In the absence of calls to Ontario's service provider being taped for periodic review, mystery callers could provide some assurance on the quality of the teletriage services. Alternatively, the Ministry could consult with the Information and Privacy Commissioner's Office regarding whether calls can be randomly taped for quality assurance purposes.

Caller Satisfaction Surveys

Receptionists at the service provider telephone selected callers to determine, among other things, their satisfaction with the advice they received from a teletriage service's nurse within the last 48 hours.

Most days, the computer generates a list of 150 eligible callers province-wide, and the receptionists survey as many callers as time permits that day. To be eligible for the survey, callers must have given consent during their original call and must not have been surveyed in the previous six months. Callers who respond negatively to certain questions may be contacted again by a clinical team manager at the service provider, to ensure that their concerns are addressed. In 2008, about 9,000 callers were surveyed.

A monthly summary of satisfaction survey results is reviewed by each call centre's Quality Service Committee, which recommends remedial action if warranted. In addition, every month the service provider reports to the Ministry the number of callers surveyed and the overall satisfaction rate.

We reviewed the results of caller satisfaction surveys completed by the service provider from 2006 through 2008 and noted a high satisfaction rate with the overall service. On average, 98% of callers surveyed reported that they were satisfied with the service and would use the service again if the need arose.

Because the satisfaction surveys are conducted by the service provider, our independent survey asked people who had previously called Telehealth Ontario about their satisfaction with the service. The results of our survey indicated that overall, 82% were either somewhat satisfied or very satisfied with the support and advice they received. However, almost 30% of Northern Ontario residents were either somewhat dissatisfied or very dissatisfied. This result should not be interpreted to mean that this issue is necessarily related to the northern call centre, because calls get routed to the call centre that can answer the fastest. Our survey did not inquire about the reason for callers' dissatisfaction.

We noted that the service provider does not survey other stakeholders, such as family physicians and emergency departments. In 2005, the Ministry commissioned a survey of family physicians and emergency department staff regarding THAS. About 50% of responding physicians indicated that

THAS resulted in more appropriate emergency department use by patients, although 15% believed that THAS referred too many patients to the emergency department. No similar survey has been completed for Telehealth Ontario.

We noted that other provinces periodically survey health-care providers to determine their awareness of the province's teletriage services as well as their opinion about the value of the services. The jurisdictions we spoke to indicated that health-care professionals' support and acceptance of the teletriage services was crucial to the success of their programs.

Complaints Process

Complaints concerning teletriage services may be made to either the Ministry or the service provider. Complaints received by the Ministry may be followed up directly or, with the complainant's permission, forwarded to the service provider for follow-up. During 2008, the Ministry logged only 12 complaints and the service provider logged 658 complaints.

Both the Ministry and the service provider have processes in place for handling complaints. We reviewed the complaints handling process at the Ministry and noted that the appropriate action was generally taken.

We also reviewed the complaints handling process at the service provider. We noted that complaints were generally about the attitude of nurses (26%), the length of the wait for a call-back (20%), and the quality of care advice (19%). According to the service provider, resolving a complaint took an average of 15 days in 2008, with 90% of the complaints being resolved within 30 days. Most complaints we sampled were investigated by senior staff, in accordance with the service provider's policies. However, because calls were not taped, it was not possible to know exactly what transpired during the calls: a call's documentation may reflect only the nurse's perception of events. Understandably, nurses may have difficulty recalling a specific call, because they handle about 30 calls per eight-hour shift.

Therefore, it was not possible to determine whether complaints were appropriately followed up on.

Quality Service Committees

As noted earlier, the service provider has a Quality Service Committee at each call centre to monitor and evaluate certain quality indicators, and recommend remedial action if needed.

The quality indicators evaluated by the committees include the following:

- call volume statistics;
- call duration and call-back time statistics;
- disposition of calls by type of advice;
- risk management outcomes, such as number and overall result of call audits, number of complaints, unusual incidents, and results of caller satisfaction surveys; and
- staff development, such as the number of coaching and training sessions.

We reviewed the Quality Service Committee's minutes for each site for the three years ending December 2008 and noted that they did identify certain issues. We were informed that follow-up action was taken, but due to a lack of documentation, we could not always tell whether the issues were resolved. As well, we noted that although call audits and complaints were being accumulated province-wide, there was no documented trend analysis by call centre or by nurse.

RECOMMENDATION 4

To better ensure the quality of teletriage services and identify areas for improvement:

- the service provider should have independent reviewers conduct an established number of random audits on calls received at different times of the day and on different days of the month, including weekends and holidays;
- the service provider should periodically analyze the overall issues noted in call audits and complaints by call centre and by nurse

- to determine whether there are any systemic issues or trends that warrant follow-up; and
- the Ministry should conduct periodic independent satisfaction surveys of individuals impacted by teletriage services, including callers, physicians, and emergency department staff.

The Ministry should request the Information and Privacy Commissioner's input on whether calls to the service provider can be taped for periodic review to determine the appropriateness of advice provided by teletriage nurses. If calls are not taped for periodic review, the Ministry should seek another way to obtain independent assurance on the appropriateness of advice provided by teletriage nurses (for example, through the use of mystery callers).

SERVICE PROVIDER RESPONSE

The service provider commented that peak periods or periods of unusually high call volume require “all hands on deck,” meaning every employee capable of getting on the phones at each site does so to manage the incoming call volumes. Therefore, calls during these periods are not monitored because reviewers are handling calls, and the service provider is not permitted to record these calls for review at a later time. The service provider indicated that it would be beneficial to record calls because they could be reviewed at a later time by an independent person. This would improve quality assurance and customer service when responding to complaints from any source, including the public and doctors. Further, the service provider recognizes the limitations of the current system for the selection of calls to be audited and is considering using computer-generated reports to randomly select these calls; however, this hinges on implementation of an automated system to record calls.

The service provider noted that issues arising from call audits and complaints are being reviewed for any issues or trends at each call centre, as well as province-wide monthly, with action taken when appropriate. However, these reviews are currently not documented. The service provider intends to perform monthly trend analyses on the issues arising from call audits and complaints, identify the contributing factors, develop an action plan, and communicate this to the appropriate individuals. Trend analysis will be completed on an individual, team, site, and province-wide basis and on parts of the call process where there are opportunities for improvement in call quality that would facilitate positive patient outcomes. The service provider would also like to implement an improved quality-services program that utilizes quality-services associates who would be independent of operations and sites to randomly audit the quality of calls 24 hours a day, seven days a week. This would increase the ability to identify and analyze trends without bias. This type of program would require an automated call-recording system.

MINISTRY RESPONSE

The Ministry will review and amend the agreement with the service provider, as necessary, to improve the quality-assurance process to identify any evolving systemic issues and trends related to teletriage services. The Ministry will also plan for and conduct, at appropriate intervals to ensure meaningful feedback, independent satisfaction surveys of individuals affected by teletriage services.

The Ministry was previously informed that taping calls was inadvisable. However, the Ministry will revisit this issue and consider the use of mystery callers to ensure that all aspects of the teletriage services can be monitored and managed as necessary.

PAYMENTS FOR TELETRIAGE SERVICES

The service provider was awarded the most recent teletriage services contract based on its response to a public procurement process, which resulted in its being evaluated as having the best bid of the three bids submitted. Under the contract, which was effective April 1, 2008, the service provider is paid based on the number of registered calls. Registered calls are those calls where a nurse provided advice or information to a caller, or tried unsuccessfully three times to reach a caller who had requested a call-back. For the 2008/09 fiscal year, the service provider was paid \$35.1 million for the teletriage services: a flat fee of \$35 million for the first 900,000 registered calls (or about \$39 per registered call) and about \$27 per registered call after that.

We noted that, as expected, the average cost per call handled by a nurse at the service provider, and paid to the service provider, was less than the approximately \$56 that physicians earn if the patient visits them in their office, or the approximately \$98 physicians earn if they see a patient in the emergency department. However, three of the other provinces that shared cost information with us indicated that their cost per call was about \$20. The Ministry had not investigated the reasons underlying the significant difference in costs per call between Ontario and other jurisdictions, but possible explanations could include different costing methodologies, such as not including all capital costs, and variances in nurses' salaries.

To help ensure that the service provider is billing the Ministry for the correct number of calls, the Ministry reviews reports on call volumes provided by the service provider. During the 2008/09 fiscal year, the service provider noted that it had incorrectly billed the Ministry for a number of months. The errors were brought to the Ministry's attention and corrected. To prevent similar problems in the future, in December 2008 the Ministry entered discussions with the service provider to obtain data on all calls. With this information, the

Ministry can verify the number of calls submitted for payment. At the time of our audit, discussions for the secure transfer of this information were ongoing, although a date to commence the transfer of information had yet to be finalized.

During the 2008/09 fiscal year, the Ministry also paid \$900,000 to the Ontario Pharmacists' Association (OPA) for calls to its Medication Information Service. The payments are made according to a pre-determined budget that is based primarily on call volume and is approved by the Ministry. We noted that in 2008 the OPA reported receiving about double the number of calls that the service provider said it made to them. We asked the Ministry about this during our audit, and it advised us at that time that it would investigate this difference.

RECOMMENDATION 5

To ensure that the amount paid for teletriage services is reasonable in comparison to other jurisdictions and in accordance with the Ministry's contract with the service provider, the Ministry should:

- obtain information on the delivery of teletriage services in other provinces to determine whether there are areas where Ontario's teletriage services could be delivered more economically; and
- confirm that payments made to the Ontario Pharmacists' Association's Medication Information Service are reasonable, based on the actual number of calls that the Telehealth Ontario service provider reports having referred to the Medication Information Service.

MINISTRY RESPONSE

The 2007 procurement process for teletriage services provided assurance that the amount being paid for the services is competitive within the Ontario market.

The Ministry is aware that there are differences in the way teletriage services are provided across the country and, therefore, possible variations in the way the services are costed. Ministry staff will consult with their provincial counterparts to determine what their cost per call represents and whether there are opportunities to deliver Ontario's services more economically.

The Ministry is satisfied that the payments made to the Ontario Pharmacists' Association (OPA) are correct based on the calls reported by the OPA. The Ministry confirmed that the actual number of calls the service provider reported as having referred to the OPA's Medication Information Service was incorrect. Actions are being taken by the service provider to ensure that the number of calls reported being referred to the Medication Information Service is correct and the Ministry will ensure that ongoing reporting from the service provider and the OPA are consistent.

EFFECTIVENESS OF TELETRIAGE SERVICES

The Ministry obtains information on a regular basis from the service provider. Monthly, the Ministry receives information on various items, such as achievement of the key performance standards, number of callers, caller demographics, caller satisfaction, and the most common symptoms for which advice was sought. On a quarterly basis, the Ministry receives information on other items, including caller acceptance of advice and any deviation of a nurse's advice from the clinical guidelines. Other provinces with teletriage services that we spoke to indicated that they generally collect similar information, although there were some variances (for example, one province obtained monthly information on all call audits).

Key Performance Standards

The Ministry's contract with the service provider requires that specified key performance standards be met for the teletriage services. If these standards are not met, the service provider incurs financial penalties. As shown earlier in Figure 5, the service provider met the standards for the 2008/09 fiscal year. Although the standards focus primarily on access to services, there are no performance standards relating to callers waiting in the live queue. As well, similar to other Canadian jurisdictions we spoke with, there are no standards with respect to the quality of nurses' advice.

With respect to abandoned calls, the service provider indicated that callers who hang up during the recorded greeting usually have called the wrong number or have changed their mind about using the service. Callers who end the call or hang up later in the call process (that is, after a call was answered by the receptionist or the voice message system) include those who do not wish to wait for a call back from a nurse and those who tire of waiting in the live queue to speak to a nurse. We noted that the contractual definition of abandoned calls excludes these callers. However, we noted that if callers who did not wish to wait for a call back or tired of waiting in the live queue were also included, the total rate of abandoned calls to the teletriage services during the 2008/09 fiscal year would increase from about 2% to almost 17%. Furthermore, according to the service provider, about 25% of callers waiting in the live queue hung up before the call was answered by a nurse. Information was not readily available to enable us to confirm this number.

Ministry Performance Measures

In order to measure achievement against the stated program objectives, the Ministry implemented performance measures for Telehealth Ontario in the 2005/06 fiscal year. Since then, the Ministry has reviewed and updated the performance measures

annually, and introduced similar measures for THAS. These are good initiatives, although we did note that this information is generally not reported publicly.

As shown in Figure 9, results for three of the 12 performance measures were not available in the 2008/09 fiscal year. According to the Ministry, a survey of the general public would be required to collect this information. As previously mentioned, the last such survey conducted by the Ministry, in 2006, indicated that about two-thirds of Ontario residents were aware of Telehealth Ontario. However, no questions were asked regarding whether callers believed that the advice received improved their health education or ability to take the most appropriate health-care action.

Although performance measures exist for all program objectives, there are no indicators to address the quality of the advice provided. Such measures could include the percentage of call audits where the nurse's advice was found to be inappropriate, and the percentage of callers who make repeat calls for the same symptoms. Other provinces indicated that they used some similar performance measures,

but the measures varied. For example, some other provinces had performance measures for average call length and for the percentages of callers who are given various categories of advice (i.e., go to emergency, see their doctor at the next possible opportunity, or conduct self-care).

Program Evaluations

Telehealth Ontario

Between 2001 and 2006, various reviews of Ontario's teletriage services were conducted. In particular, the Ministry commissioned an external consultant to conduct an evaluation of Telehealth Ontario, from April 2003 to June 2005, at a total cost of \$912,000. This evaluation was intended to assess the program's performance relative to its objectives; identify opportunities to increase its effectiveness; and assess its overall impact on the health-care system in Ontario. The evaluation, which involved a series of studies that were based on caller surveys, concluded that the program had been effective at directing callers to the most

Figure 9: Performance Measures and Targets (Where Established) for Teletriage Services, 2008/09

Source of data: Ministry of Health and Long-Term Care

Objective	Performance Measures and Associated Targets	Achievement
facilitate the use of the most appropriate health services	% of callers who were re-directed to a higher level of care than their original intent	29%
	% of callers who were re-directed to a lower level of care than their original intent	33%
	% of callers who intend to comply with nurse's advice	94%
improve access to appropriate health information and advice	% of Ontarians who are aware of the service	not reported
	% of population of each Local Health Integration Network (LHIN) utilizing the service	not reported
	80% of incoming calls to be answered by a live voice	97%
	85% of callbacks to be made within 30 minutes	88%
	98% of callbacks to be made within two hours	99%
	Rate of abandoned calls to be less than 6%	2%
increase health education and improve decision-making	% of callers who report increased confidence in health-care decision-making and administering self-care	not reported
improve satisfaction with access to quality health information and access to appropriate health services	% of callers who are satisfied with the service	98%
	% of negative feedback received	0.1%

appropriate level of care. As well, the evaluation indicated that, among other things, the percentage of repeat calls regarding the same symptoms had declined, indicating that nurse advice had become more appropriate.

Telephone Health Advisory Services

Although the Ministry has not recently reviewed the operations of THAS, in the 2004/05 fiscal year the Ministry commissioned an external consultant, at a total cost of \$127,000, to conduct a series of studies on THAS. These studies included an assessment of the program's performance; an assessment of the program's impact on patients, health-care providers, and the health system; and a comparison of the estimated cost of caller intentions before calling THAS and their intended actions after calling THAS.

The studies reached favourable conclusions on the program, showing a high level of satisfaction among callers and participating physicians. As well, the cost analysis of THAS indicated that almost \$90,000 was saved per 100,000 calls. The studies also noted that the proportion of callers who were advised to go to the emergency department was similar to the percentage of callers who had had that intention before calling, but many of the callers who were referred were not the ones who had originally planned to go.

RECOMMENDATION 6

To better ensure that teletriage services are meeting their objectives, the Ministry, in conjunction with the service provider, should expand the performance standards to include indicators on callers who wait in the live queue (including how long they wait and how many hang up before speaking to a nurse) and on the quality of the nurses' advice.

As well, because it has been almost five years since the effectiveness of the teletriage services in meeting their established objectives has been assessed, the Ministry should consider conducting a formal evaluation. One area to consider including in the evaluation is an assessment of whether using a teletriage service improves callers' health-related decision-making.

MINISTRY RESPONSE

The Ministry will work with the service provider to develop effective performance measures regarding callers who wait in the live queue. In addition, the ability to measure—and possible methods of measuring—the quality of nurses' advice will be investigated.

Further, the Ministry will conduct a formal, external evaluation of teletriage services to measure the effectiveness of the program against its identified objectives.