



**AUDITOR GENERAL'S
REPORT
ACTION REQUIRED**

**Emergency Medical Services - Payroll and Scheduling
Processes Require Strengthening**

Date:	October 3, 2013
To:	Audit Committee
From:	Auditor General
Wards:	All
Reference Number:	

SUMMARY

The Auditor General's 2013 Audit Work Plan included a review of controls over payroll and scheduling processes at the City Emergency Medical Services Division (EMS). This review was selected due to:

- the significant amount of funds involved
- the number of complaints received by the Auditor General's Fraud and Waste Hotline

This report identifies a number of opportunities to strengthen payroll processes. Implementation of the 12 recommendations contained in this report will improve controls over the administration and management of EMS scheduling, payroll and information technology processes.

RECOMMENDATIONS

The Auditor General recommends that:

1. City Council request the Chief and General Manager, Emergency Medical Services, develop a process for timely review and adjustment of outstanding payroll variances. The process should be documented and communicated to respective staff. Further, documentation should be updated to include staff responsibilities and time lines to ensure required pay variance adjustments are performed on a timely basis.

2. City Council request the Chief and General Manager, Emergency Medical Services, develop an action plan with timelines to expedite the implementation of the Internal Audit report recommendation to review and adjust existing accumulated pay variances.
3. City Council request the Chief and General Manager, Emergency Medical Services, develop a process to ensure divisional consistency in attendance management procedures. Attendance records including overtime and time off requests should be adequately supported with documentation reflecting supervisory review and approval, and maintained in accordance with legislated record retention requirements.
4. City Council request the Chief and General Manager, Emergency Medical Services, develop a process for periodic analysis and reporting of staff overtime and absenteeism.
5. City Council request the Chief and General Manager, Emergency Medical Services, to review scheduling staff turnover and develop policies and guidelines to retain experienced schedulers. Where and if appropriate, new schedulers should be selected based on their ability to perform on a long term basis.
6. City Council request the Chief and General Manager, Emergency Medical Services, to develop a process for periodic review and reporting of shift exchanges, particularly staff with a high shift exchange frequency.
7. City Council request the Chief and General Manager, Emergency Medical Services, to expand monitoring processes to new paramedic schedules in relation to emergency service call volume patterns and make scheduling modifications as needed.
8. City Council request the Chief and General Manager, Emergency Medical Services, develop a process for periodic review of information technology user access to ensure system access aligns with related job duties.
9. City Council request the Chief and General Manager, Emergency Medical Services, evaluate whether transactions entered using shared IDs or by system users not authorized to enter transactions identified during the audit require further analysis to determine if transactions were valid and properly authorized. Reports should be developed to identify such transactions on an ongoing basis for review and action.
10. City Council request the Chief and General Manager, Emergency Medical Services, to communicate information technology policies and procedures relating to user ID and password confidentiality. In addition, the practice of using generic or shared IDs should be discontinued. Valid users should have a unique information technology user ID.
11. City Council request the Chief and General Manager, Emergency Medical Services, develop a process to log user access changes with respective effective dates.

12. City Council request the Chief and General Manager, Emergency Medical Services, upgrade the history log in the scheduling module to track deletions and changes by user ID, date and time.

Financial Impact

Implementation of recommendations contained in this report will improve controls over the administration and management of EMS scheduling and payroll processes. The extent of any resources required or potential cost savings resulting from implementing the recommendations in this report is not determinable at this time.

DECISION HISTORY

The Auditor General's 2013 Audit Work Plan included a review of the controls over payroll and scheduling processes at the City's Emergency Medical Services Division.

This review was selected due to the significant amount of funds involved and the fact that the Auditor General had received a number of complaints through the Fraud and Waste Hotline.

COMMENTS

Toronto EMS is operationally divided into five City districts. Each district covers a specific geographic area. The Division is staffed 365 days a year, 24 hours a day and maintains a fleet of over 200 emergency response vehicles.

The 2013 EMS Division operating budget is approximately \$180 million. The Province funds approximately 50 per cent of the operating budget. Salaries and wages account for \$147 million of the Division's budget. EMS employs over 1,200 staff including approximately 900 paramedics.

In 2012, EMS received over 258,000 calls for emergency medical services resulting in over 190,000 patient transports to City hospitals. In 2012, EMS Division salaries and benefits were approximately \$139 million or 80 per cent of the total expenditure of \$173 million. Overtime and standby pay costs were approximately \$9 million.

This report identifies areas where the management and administration of EMS staff scheduling and payroll processes can be further strengthened. Key issues identified in our report relate to the following areas:

- Payroll Processes
- Overtime and Absenteeism
- Scheduling Processes
- Information Technology Controls

In addition, the Auditor General has issued a separate letter to management detailing other less significant issues that came to our attention during the audit. These issues related to standardization of IT system access request documentation, scheduling manual updates and certain overtime pay.

The audit report entitled “Emergency Medical Services - Payroll and Scheduling Processes Require Strengthening” is attached as Appendix 1. Management’s response to the audit recommendations is attached as Appendix 2.

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SIGNATURE

Jeff Griffiths, Auditor General

13-EMS-01

ATTACHMENTS

- Appendix 1: Emergency Medical Services - Payroll and Scheduling Processes Require Strengthening
- Appendix 2: Management’s Response to Emergency Medical Services - Payroll and Scheduling Processes Require Strengthening

AUDITOR GENERAL'S REPORT

**EMERGENCY MEDICAL SERVICES -
PAYROLL AND SCHEDULING PROCESSES
REQUIRE STRENGTHENING**

August 2, 2013

Jeffrey Griffiths, CPA, CA, CFE
Auditor General



TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
BACKGROUND.....	7
AUDIT OBJECTIVES, SCOPE AND METHODOLOGY.....	8
AUDIT RESULTS	9
PAYROLL PROCESSES.....	10
Lack of Timely Reconciliation of Employee Payroll Variances.....	10
Attendance Management Procedures Require Strengthening.....	12
EMS OVERTIME AND ABSENTEEISM	14
EMS Staff With Higher Overtime Incurred Higher Absenteeism	14
EMS DIVISION SCHEDULING PROCESSES.....	15
High Turnover of EMS Scheduling Staff.....	15
Controls Over Shift Exchanges Should Be Strengthened	16
Performance Monitoring Reports for New Scheduling System.....	16
INFORMATION TECHNOLOGY CONTROLS REVIEW	17
Information Technology System Access Controls Need Strengthening.....	17
Lack of Adequate Controls on Record Deletions and Edits.....	20
CONCLUSION.....	21

EXECUTIVE SUMMARY

EMS payroll and scheduling processes review included in 2013 Work Plan

The Auditor General's 2013 Work Plan included a review of controls over payroll and scheduling processes at the City Emergency Medical Services Division (EMS).

This review was selected due to:

- the significant amount of funds involved
- the number of complaints received by the Auditor General's Fraud and Waste Hotline

The 2013 EMS Division operating budget is approximately \$180 million. The Province funds approximately 50 per cent of the operating budget. Salaries and wages account for \$147 million of the Division's budget. EMS employs over 1,200 staff including approximately 900 paramedics.

In 2012, over 258,000 calls were received for emergency medical services

In 2012, over 258,000 calls were received for emergency medical services. Approximately 190,000 or 74 per cent of these calls resulted in patient transports to hospitals. The Division is staffed 24 hours a day, 365 days a year and is equipped with approximately 200 emergency response vehicles.

Demand for emergency medical services in Toronto has steadily increased over recent years and is expected to continue

Demand for emergency medical services in Toronto has steadily increased over recent years and is expected to continue to increase due to an aging and growing population.

According to management, EMS responds to 90 per cent of life-threatening calls within 12 minutes and 24 seconds. The Divisional target response time is 8 minutes and 59 seconds. In a recent report tabled at the July 16, 2013, Council meeting, an external consultant indicated that the City will require approximately 220 more paramedics to achieve the target response time.

EMS has undergone several external and internal reviews

In the past number of years EMS has undergone several external and internal reviews relating to operational efficiencies, scheduling and payroll. These reviews include:

- A Service and Organizational Review of Toronto Emergency Medical Services and Fire Services by an external consultant in 2013
- EMS Toronto Scheduling Options review by an external consultant in 2010
- Internal Audit Review relating to Payroll Variances in 2009

A Continuous Controls Monitoring Program initiated in 2011

In 2011, the Auditor General initiated a City-wide Continuous Controls Monitoring Program for payroll and related expenses. The objective of the Continuous Controls Monitoring Program is to provide periodic reports to management which assist in proactively monitoring financial transactions, detecting unusual expenses and identifying areas where internal controls could be strengthened.

Overtime decreased by \$1.5 million

As part of this program, EMS staff overtime and other payroll related expenses have been reported to EMS management on an ongoing basis since 2011. As a result of ongoing monitoring, the Division's overtime costs have declined by approximately 15 per cent from \$10.5 million in 2010 to \$9 million in 2012.

Key Issues

This report identifies areas where the management and administration of EMS staff scheduling and payroll processes can be further strengthened. Key issues identified in our review are summarized below.

1. Payroll Administration

Our review identified the following issues related to EMS payroll transactions:

Lack of Controls over Payroll Variances

Payroll variances occur for a variety of reasons

Payroll variances are differences between payments made to staff for scheduled hours of work and actual hours worked and are inherent in 24/7 operations where there is a need to balance an 80-hour bi-weekly pay period with 12-hour shifts. Payroll variances occur for a number of reasons including staff members exchanging shifts, 12-hour staff being assigned to other unanticipated job duties on 8-hour days, or data entry errors in the system.

In spite of previous reviews relating to payroll variances, the issues relating to adjustment of payroll variances still exist.

Backlog of over 20,000 hours of outstanding payroll variances for over 900 staff members

As of June 30, 2013, the Division has a backlog of over 20,000 hours in outstanding variances relating to over 900 staff members that have not been processed.

At an average hourly rate of \$40, this amount represents approximately \$800,000 in payroll amounts which have not been reconciled.

Delays in making appropriate adjustments to payroll records result in the risk of employee overpayment or underpayment for work performed. Long term accumulated variances also require additional staff resources to investigate, identify and reconcile the differences.

Attendance Management Procedures Require Strengthening

In some instances attendance managed through exception reporting

Our review of attendance management processes at EMS identified some inconsistencies and weaknesses in managing staff attendance. In certain instances we noted attendance is managed through exception reporting. Exception reporting involves reporting only for staff time off. Staff provides no payroll information if normally scheduled hours are worked.

The process of reporting attendance on an exception basis is inadequate as it increases the risk of payroll errors which may go undetected.

250 modified duty staff paid for over 2,300 shifts without timesheet records

We identified over 250 staff on modified duty paid over 2,300 shifts without timesheet records.

We also noted in some cases there was a lack of supervisory review and approval for staff overtime and other payroll related payments.

Review of Staff Overtime compared to Absenteeism Needed

Approximately 150 staff members work over 200 hours overtime annually

The results of our overtime analysis indicate staff with higher overtime incurred higher absenteeism. Approximately 150 staff members work annual overtime over 200 hours and 60 per cent of these staff members were absent 100 or more hours in the same year.

EMS does not periodically analyze and report on overtime in relation to absenteeism. Periodic review of overtime in relation to absenteeism will assist management in analyzing the impact of high overtime on staff absenteeism.

2. Scheduling Process Administration

New schedules are expected to improve use of EMS paramedic resources

Staff scheduling at EMS is a complex process. In 2010, EMS hired an external consultant to review scheduling processes to improve existing resource use to respond to increasing emergency call volumes at peak demand times. According to management, new shift schedules recommended by the consultant and implemented in January 2013 will improve the utilization of EMS paramedic staff resources.

Our review identified the following issues regarding scheduling administration:

High Turnover of Scheduling Staff

EMS scheduling staff have a 50 per cent annual turnover rate

As EMS scheduling processes are complex, efforts should be made to train and maintain qualified scheduling staff. Our analysis indicates a 50 per cent annual turnover rate in scheduling staff since 2011.

Temporary assignment of modified duty staff to EMS scheduling duty is a major contributor to the high turnover rate. For efficient and cost effective scheduling, staff stability should be a priority.

Controls over Shift Exchanges Should be Strengthened

Shift exchanges can result in payroll variances and require additional resources for reconciliation

EMS permits shift exchanges for staff who work 12-hour shifts for a variety of reasons, including maintaining staffing levels and minimizing overtime costs. The number of shift exchanges by an individual staff member can be as high as 30 times per year. Shift exchanges result in payroll variances that require additional resources for reconciliation and adjustment. A process for review and reporting staff shift exchanges needs to be developed.

Performance Monitoring Reports for New Schedules

Continuous performance measurement needed

EMS implemented new paramedic shift schedules in January 2013. According to an external consultant's report, EMS staff utilization to respond to emergency call volumes will improve from an estimated 84 per cent to 89 per cent as a result of the new schedules.

Management needs to expand existing monitoring processes in relation to the new schedules to include EMS staff utilization in relation to emergency service call volumes.

3. Information Technology Controls Review

EMS uses a Time Management System (TMS) for scheduling resources and managing attendance. The City SAP system is used to process the EMS payroll. User access and data entered into both systems require ongoing review. Lack of adequate controls could result in unauthorized or erroneous transactions. Information technology control weaknesses identified during our review include the following:

Payroll Information Access and Tracking Require Strengthening

Division does not have a process to periodically review user access to its payroll systems

EMS does not have a process in place to periodically review user access and transactions entered by unauthorized information system users. Our review identified over 2,000 payroll related transactions performed by users not authorized to enter records into the Time Management System including 1,600 transactions by an external system vendor. While we understand the system vendor may have been provided with access to the system for maintenance purposes, management should review the activity and transactions performed by such users.

Unauthorized or inappropriate attendance or payroll transactions could potentially have a significant financial impact.

Some EMS staff share user IDs and passwords

We also noted some EMS staff share user IDs and passwords. Over 8,000 transactions from January 2011 to June 2013 were entered using shared IDs and passwords. Shared IDs and passwords present a risk that unauthorized or erroneous transactions cannot be tracked or identified to a specific user.

Lack of Adequate Controls on Payroll Record Deletions and Edits

Our review of the EMS Time Management System identified the following issues:

- Deletion of records without a Deletion Log
- User record changes not tracked

Although we found no evidence of intentional wrongdoing in our sample review, we identified issues that could result in financial loss, operational inefficiencies and loss of data integrity.

Conclusion

Report recommendations will improve controls in EMS scheduling, payroll and information technology processes

This report identifies a number of opportunities to strengthen payroll processes. Implementation of the 12 recommendations contained in this report will improve controls over the administration and management of EMS scheduling, payroll and information technology processes.

In addition, the Auditor General has issued a separate letter to management detailing other less significant issues that came to our attention during the audit. These issues related to standardization of IT system access request documentation, scheduling manual updates and payment of hours worked during vacation and other time-off.

BACKGROUND

Toronto EMS is the City's sole emergency medical services provider

Toronto EMS is the City's sole emergency medical services provider. The Division consists of four major units:

- Operations
- Operational Support
- Central Ambulance Communications Centre (CACC)
- Program Development and Service Quality

EMS operationally divided into five districts

Toronto EMS is operationally divided into five City districts. Each district covers a specific geographic area. The Operational Support Unit provides staff scheduling, payroll and fleet operations, stores and equipment services to all five districts. The scheduling operation is currently decentralized and housed in each of the districts with a number of staff working from the EMS Head Office.

The Division is currently in the process of centralizing the scheduling operation at the EMS Head Office for better coordination and consistency in implementing EMS policies and procedures.

The Division is staffed 365 days a year, 24 hours a day, 7 days a week and maintains a fleet of approximately 200 emergency response vehicles. The Division employs approximately 1,200 staff with over 900 paramedics.

Over 258,000 calls received for emergency medical services during 2012

In 2012, EMS received over 258,000 calls for emergency medical services resulting in approximately 190,000 patient transports to City hospitals. Public demand for emergency medical services in Toronto has steadily increased over the past several years. The number of EMS transports increased an estimated 35 per cent from 2005 to 2012 from 141,400 to 190,700 respectively.

EMS salaries and benefits were \$139 million

In 2012, EMS Division salaries and benefits were approximately \$139 million or 80 per cent of the total expenditure of \$173 million. Overtime and standby pay costs were approximately \$9 million.

EMS uses a Time Management System (TMS) for scheduling resources and managing attendance. The City SAP system processes the EMS payroll.

TMS was custom developed in 1998 by an outside vendor. Since then the system has been maintained with ongoing upgrades, as and when needed. EMS is in the process of acquiring a new Time and Attendance Management System (TAMS) to replace the current system.

According to management, SAP was considered as a potential solution however it was determined that SAP does not have the capability to accommodate the complex scheduling requirements of the Division.

AUDIT OBJECTIVES, SCOPE AND METHODOLOGY

Why we conducted this review

The Auditor General's 2013 Audit Work Plan included a review of the management of payroll and scheduling processes at the City Emergency Medical Services Division.

This review was selected due to the significant amount of funds involved and the fact that the Auditor General's Office has received a number of complaints through the Fraud and Waste Hotline.

***Audit Objectives
and Scope***

The objective of our review was to assess controls over EMS staff scheduling and payroll related processes.

The audit covered the period from January 2011 to June 2013.

Steps in the review

Our audit methodology included:

- Review of policies and procedures related to scheduling and payroll processes
- Interviews with EMS staff
- Review of related legislation and collective bargaining information
- Review of controls over related SAP Payroll processes
- Review of access controls over TMS and SAP
- Review of process and controls over manual attendance management
- Analysis of data from TMS and SAP applications
- Review of EMS schedules and payroll adjustments
- Review of previous internal and external reports and recommendations

***Audit conducted in
accordance with
generally accepted
government
auditing standards***

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

AUDIT RESULTS

***The review focused
on internal
controls over
payroll and
scheduling related
processes***

We reviewed internal controls and various payroll and scheduling related transactions during the period January 1, 2011 to June 30, 2013.

Issues identified in our report relate to the following areas:

- Payroll Processes
- Overtime and Absenteeism
- Scheduling Processes
- Information Technology Controls Review

PAYROLL PROCESSES

Lack of Timely Reconciliation of Employee Payroll Variances

Out of 1,200 staff, 1,100 work on rotational shifts

EMS staff work in one of two general categories, those working rotational 12-hour shifts, and those working regular Monday to Friday business hours. Rotational shifts are 12-hour shifts that start at different times. The purpose of rotational shifts is to allocate resources efficiently to support 24 hour, 7 day a week operations and to minimize overtime. Out of approximately 1,200 staff employed by EMS, approximately 1,100 employees work on rotational shifts.

Regular shift staff are paid every two weeks for hours worked based on attendance records submitted to payroll.

Staff working on rotational shifts are paid every two weeks for 80 hours. Payroll payments for rotational shift staff are based on a bi-weekly average of 80 scheduled hours irrespective of whether scheduled hours were worked.

Actual hours worked by EMS staff may vary from scheduled hours

Actual hours worked may vary with the 80 hours paid bi-weekly due to various shift patterns, shift exchanges and other reasons. Differences between scheduled hours paid and actual hours worked are required to be adjusted within six weeks of occurrence. Any unadjusted variances remaining beyond six weeks are reported through a variance report produced every six weeks. The report summarizes any existing variances between the hours paid and actual hours worked.

Backlog of over 20,000 hours of outstanding variances representing \$800,000 in unreconciled payroll amounts

Our review indicates that as of June 30, 2013, the Division has a backlog of over 20,000 hours of outstanding variances relating to over 900 staff members.

At an average hourly rate of \$40, this amount represents approximately \$800,000 in payroll amounts which have not been reconciled

60% of variances are potential overpayments

These variances include both over and under paid staff hours. Based on our review of accumulated variances as of June 30, 2013, over 60 per cent of outstanding variance hours may be related to overpayment of staff hours.

According to management, these variances have accumulated over the past number of years due to a lack of adequate resources available to review and adjust outstanding payroll variances. Further, the variance review process is not formally documented in the EMS procedures manual. Lack of documentation makes it difficult for new and existing staff to stay current with performance expectations.

2008 Internal Audit Review of Payroll Variances

Internal Audit provided recommendations related to EMS' plan for writing off payroll variances

As far back as 2008 the City Internal Audit Division of the City Manager's Office performed a review of EMS payroll variances and recommended a review of variance processing along with a number of specific recommendations. To date, these recommendations have not been implemented.

According to management, EMS is evaluating options for implementing the Internal Audit report recommendation and is coordinating with the City Legal Services and Human Resources Divisions for implementing the recommendation.

Delays in making appropriate adjustments to payroll variances result in over or underpayments to staff. Further, accumulated variances require additional staff resources and time to investigate and reconcile differences.

Recommendations:

- 1. City Council request the Chief and General Manager, Emergency Medical Services, develop a process for timely review and adjustment of outstanding payroll variances. The process should be documented and communicated to respective staff. Further, documentation should be updated to include staff responsibilities and time lines to ensure required pay variance adjustments are performed on a timely basis.**
- 2. City Council request the Chief and General Manager, Emergency Medical Services, develop an action plan with timelines to expedite the implementation of the Internal Audit report recommendation to review and adjust existing accumulated pay variances.**

Attendance Management Procedures Require Strengthening

Our review of attendance management processes at EMS identified the following issues:

- Lack of adequate staff attendance tracking
- Lack of supervisory review and approval of overtime, time-off requests and other payroll transactions

Lack of adequate staff attendance tracking

In certain instances, attendance is tracked using exception reporting

In general EMS staff attendance is processed through electronic swipe cards and manually prepared timesheets. However, in certain instances records were not maintained and attendance was managed through exception reporting. Exception reporting provides payroll information only when time off is taken.

The instances where attendance is managed through exception reporting include staff assigned to modified duty. Modified duty staff are paramedics who are unable to perform normal job duties due to injury or other health issues, and assigned other responsibilities. These assignments depend on medical assessments and can extend several months or longer.

Attendance reporting on an exception basis may result in payroll inaccuracies

Regular duty paramedics use swipe cards to record attendance. When on modified duty, swipe cards are not always used and attendance is managed through exception reporting.

Attendance reporting on an exception basis is not appropriate and may result in incorrect payroll entries and payment inaccuracies as it increases the risk that unreported staff absences remain undetected. Without timesheet records, it is difficult to identify payroll inaccuracies.

250 staff on modified duty were paid over 2,300 shifts without timesheet records

Our analysis of payroll data indicates that many modified duty staff members were paid shifts without supporting timesheet records.

From January 2011 to June 2013 over 250 staff on modified duty were paid over 2,300 shifts without timesheet records.

In addition, we noted a similar practice during 2013 in one of the five service districts for staff working on non-rotational shifts.

Lack of supervisory review and approval of overtime, time-off requests and other payroll transactions

Issues related to staff overtime, shift exchanges and time-off

We noted the following issues relating to staff overtime, shift exchanges and time off requests:

- Staff overtime, meal allowances, shift exchanges, vacations and sick leave were taken without documentation reflecting supervisory review and approval. In addition, payroll documentation was not maintained appropriately.
- EMS procedures require TMS system input detailing the need for overtime including the approver's name and position. However, authorization of overtime shifts was not documented in the system.
- According to management, payroll data in TMS is reviewed and authorized by supervisors on a random basis. We found no evidence that such reviews occur. Lack of adequate supervisory review can result in inaccurate or unauthorized entries that may go undetected.

Recommendation:

- 3. City Council request the Chief and General Manager, Emergency Medical Services, develop a process to ensure divisional consistency in attendance management procedures. Attendance records including overtime and time off requests should be adequately supported with documentation reflecting supervisory review and approval, and maintained in accordance with legislated record retention requirements.**

EMS OVERTIME AND ABSENTEEISM

EMS Staff With Higher Overtime Incurred Higher Absenteeism

150 staff members worked annual overtime over 200 hours, a majority were absent over 100 hours

EMS staff with higher overtime generally incurred higher absenteeism when compared to those working less overtime.

Our analysis of data from January 2011 to June 2013 indicates that approximately 150 staff members work annual overtime over 200 hours and 60 per cent of these staff members were absent 100 or more hours in the same year.

EMS does not periodically analyze and report on overtime in relation to absenteeism. Periodic review of overtime in relation to absenteeism will assist management in analyzing the impact of high overtime on staff absenteeism.

Recommendation:

- 4. City Council request the Chief and General Manager, Emergency Medical Services, develop a process for periodic analysis and reporting of staff overtime and absenteeism.**

EMS DIVISION SCHEDULING PROCESSES

The scheduling process at EMS is complex. Schedulers are required to consider and become familiar with the following operational elements:

- 24/7 EMS operation
- 7 shift schedules starting at different times
- Allocation of staff in 5 districts consisting of 58 stations
- Update of ongoing scheduling changes for shift exchanges and overtime.

In 2010 external consultant provided recommendations to improve resource utilization

Efficient scheduling practices are necessary in order to maintain productive EMS operations. In 2010, the Division hired an external consultant to review operating schedules to improve existing staff resource utilization to respond to increasing emergency call volumes at peak demand times. According to management, after a survey of all paramedics and a review of recommendations made by an external consultant, EMS implemented a new scheduling framework in January 2013.

Our review of the scheduling processes at EMS identified certain areas that require improvement. These areas are discussed in the following sections.

High Turnover of EMS Scheduling Staff

50% turnover of EMS scheduling staff

Since 2011, EMS scheduling staff has experienced a turnover rate of 50 per cent.

Modified duty staff assigned to EMS scheduling duty

Allocation of modified duty staff assigned to scheduling duty is a major contributor to the high turnover. As scheduling is a complex process and requires significant training and experience, retention of trained and experienced staff is important in maintaining effective and efficient scheduling practices.

High staff turnover could result in increased scheduling errors, increased cost related to correcting errors made by inexperienced staff members and additional training time.

Recommendation:

- 5. City Council request the Chief and General Manager, Emergency Medical Services, to review scheduling staff turnover and develop policies and guidelines to retain experienced schedulers. Where and if appropriate, new schedulers should be selected based on their ability to perform on a long term basis.**

Controls Over Shift Exchanges Should Be Strengthened

Approximately 500 shift changes during a year

As EMS is a year round, 24 hour a day, 7 day a week operation, staff are permitted to exchange shifts for a variety of reasons. There are approximately 500 shift changes during a year. The number of annual shift exchanges can be as high as 30 for certain staff members.

The number of annual shift exchanges can be as high as 30 for certain staff

Staff is paid every two weeks for 80 hours. Shift exchanges cause payroll variances due to differences in scheduled hours paid and the actual hours worked. Reconciliation and adjustment of these variances require additional resources.

Recommendation:

- 6. City Council request the Chief and General Manager, Emergency Medical Services, to develop a process for periodic review and reporting of shift exchanges, particularly staff with a high shift exchange frequency.**

Performance Monitoring Reports for New Scheduling System

New scheduling system to increase staff resource utilization from 84% to 89%

EMS implemented new paramedic shift schedules in January 2013 in order to improve existing paramedic resource utilization to respond to emergency call volumes at peak demand times.

Management has advised that they expect staff resource utilization to increase from approximately 84 per cent to 89 per cent by better aligning available paramedic resources with emergency call volume patterns.

No performance monitoring of new schedules in relation to call volume pattern

Management needs to expand existing monitoring processes in relation to the new schedules to include EMS staff utilization in relation to emergency service call volumes and measure ongoing resource utilization on a periodic basis.

Recommendation:

- 7. City Council request the Chief and General Manager, Emergency Medical Services, to expand monitoring processes to new paramedic schedules in relation to emergency service call volume patterns and make scheduling modifications as needed.**

INFORMATION TECHNOLOGY CONTROLS REVIEW

Information Technology System Access Controls Need Strengthening

Controls on user access and data entered into SAP and TMS require strengthening

In 2012, EMS processed approximately \$139 million in payroll expenses. EMS uses the City SAP system to process payroll and the EMS Time Management System (TMS) for scheduling and attendance management. Staff attendance data from TMS is electronically updated in SAP on a daily basis.

User access and data entered into both systems require ongoing review. Transactions entered into both systems should be tracked and documented. Lack of adequate controls could result in unauthorized or erroneous transactions.

We noted the following issues related to payroll system access controls:

- Lack of controls over scheduling and payroll systems
- Sharing of user IDs and passwords
- Changes to user access records not documented

Lack of Controls over Scheduling and Payroll Systems

2,000 transactions made by users who should not have write access to the system

Our review of user access to the EMS scheduling and payroll systems identified certain employees with access to these systems that did not align with their related job responsibilities. Due to system limitations, read-only access is not available in the TMS scheduling module. As a result, users requiring read-only access are by default provided write access to the system as well. Write access provides the user with the ability to enter new data or change existing data.

Identified users who shouldn't have write access

Our review identified transactions made by users who should not have write access to the system. We noted over 2,000 payroll related transactions performed by such users including 1,600 transactions by an external system vendor.

While we understand the system vendor may have been provided with access to the system for trouble shooting purposes, management should review the activity and transactions performed by such users.

Inaccurate or unauthorized data could affect data integrity

EMS does not have a process in place to periodically review user access and transactions entered by unauthorized system users. Inaccurate or unauthorized payroll transactions could affect data integrity and result in financial loss to the City.

A review of transactions entered by unauthorized system users should be undertaken to determine the validity of the information entered. Further, periodic review of authorized TMS and SAP users should be conducted to determine if access is still appropriate for each user.

Some staff share user IDs and passwords

Sharing of User ID's and Passwords

We noted that some EMS staff share user IDs and passwords. For example, a generic user name is used for training new schedulers. This is a generally accepted practice when training new users on "non-live" data. However generic User IDs are shared by multiple users in the Division to process live transactions in TMS.

8,000 transactions entered using the shared user ID by different users

There were over 8,000 transactions from January 2011 to June 2013 that were entered using the shared user ID.

Transactions entered with shared User IDs cannot be attributed to a specific staff member

Transactions made by different individuals with shared User IDs cannot be attributed to a specific staff member resulting in the risk that unauthorized or erroneous transactions cannot be tracked to a specific user.

Changes to User Access Records not Documented

TMS does not capture dates of changes made to user access

TMS does not capture dates of changes made to user access records in the system, such as effective date of granting or removal of user access from the system. Without recording dates to user access changes, it is not possible to determine the effectiveness of user access management in the system. Record authenticity, accuracy and validity are directly related to user access rights and related effective dates.

Management has advised that they have been working with the appropriate City divisions and are engaged in the process of purchasing new software that is expected to address many of the current system's limitations.

As the new time management system is not expected to be fully implemented until 2015, EMS should consider maintaining a log of TMS user access updates using available technology.

Recommendations:

- 8. City Council request the Chief and General Manager, Emergency Medical Services, develop a process for periodic review of information technology user access to ensure system access aligns with related job duties.**
- 9. City Council request the Chief and General Manager, Emergency Medical Services, evaluate whether transactions entered using shared IDs or by system users not authorized to enter transactions identified during the audit require further analysis to determine if transactions were valid and properly authorized. Reports should be developed to identify such transactions on an ongoing basis for review and action.**

- 10. City Council request the Chief and General Manager, Emergency Medical Services, to communicate information technology policies and procedures relating to user ID and password confidentiality. In addition, the practice of using generic or shared IDs should be discontinued. Valid users should have a unique information technology user ID.**
- 11. City Council request the Chief and General Manager, Emergency Medical Services, develop a process to log user access changes with respective effective dates.**

Lack of Adequate Controls on Record Deletions and Edits

The EMS Time Management System (TMS) was implemented in 1998 and since then the system has undergone several upgrades. There are still a number of areas where improvements are needed. EMS management is currently in the process of acquiring a new scheduling and time management system.

Although some issues may not be resolved until the new system is in place, controls should be implemented in the existing system to reduce exposures associated with the issues identified below:

Deletion of Records without a Deletion Log

Scheduling data can be deleted without a record of the deletion

Our review of TMS scheduling processes identified that data can be deleted from the scheduling system without a record of the deletion. The inability to track deleted records can result in unauthorized or unintentional deletion of scheduling records resulting in payroll errors, operational inefficiencies and have a negative impact on data integrity.

Our review of sample data did not identify intentional wrongdoing, however as scheduling and payroll data form the basis for staff pay, controls should be in place to ensure transactions deleted from the system are properly tracked and reviewed.

User Record Changes Not Tracked

***Payroll
transaction
changes are not
tracked by specific
users***

TMS does not have the capability to track changes made by specific users. When record changes are made in the scheduling module, the entire transaction history is reassigned to the user making the most recent change. Identifying transaction edit history by specific user is only possible through a long and cumbersome review of the system transaction log.

Recommendation:

- 12. City Council request the Chief and General Manager, Emergency Medical Services, upgrade the history log in the scheduling module to track deletions and changes by user ID, date and time.**

CONCLUSION

The 2013 total payroll processed for EMS staff amounts to approximately \$147 million. Strengthening information technology and other documentation controls will minimize payroll errors and potential overpayments.

Implementation of the 12 recommendations contained in this report will improve controls over the administration and management of EMS scheduling and payroll processes.

**Management's Response to the Auditor General's Review of
Emergency Medical Services – Payroll and Scheduling Processes Require Strengthening**

Rec No.	Recommendations	Agree (X)	Disagree (X)	Management Comments: <i>(Comments are required only for recommendations where there is disagreement.)</i>	Action Plan/Time Frame
1.	<p>City Council request the Chief and General Manager, Emergency Medical Services, develop a process for timely review and adjustment of outstanding payroll variances. The process should be documented and communicated to respective staff. Further, documentation should be updated to include staff responsibilities and time lines to ensure required pay variance adjustments are performed on a timely basis.</p>	X			<p>EMS has revised its process for resolving variances. The new process was implemented on July 20, 2013.</p> <p>Every 6 weeks, a Variance report is prepared. Each variance is investigated and verified by management and submitted to Payroll for Pay Period Adjustments, as required.</p> <p>The revised process will be documented and training provided to all respective staff no later than June 2014.</p> <p>Existing Process: When employees terminate employment, variances are reconciled on a timely basis and this includes any longstanding variances.</p>

Rec No.	Recommendations	Agree (X)	Disagree (X)	Management Comments: <i>(Comments are required only for recommendations where there is disagreement.)</i>	Action Plan/Time Frame
2.	City Council request the Chief and General Manager, Emergency Medical Services, develop an action plan with timelines to expedite the implementation of the Internal Audit report recommendation to review and adjust existing accumulated pay variances.	X			By Q2 2014, EMS will develop an action plan with timelines to expedite the implementation of the Internal Audit report recommendation to review and adjust existing accumulated pay variances.
3.	City Council request the Chief and General Manager, Emergency Medical Services, develop a process to ensure divisional consistency in attendance management procedures. Attendance records including overtime and time off requests should be adequately supported with documentation reflecting supervisory review and approval, and maintained in accordance with legislated record retention requirements.	X			Effective October 16, 2013, management staff are required to complete manual timesheets for modified duty staff, who will also continue to swipe on electronically. Staff who do not work rotating shifts and who have not booked their time off through the formal annual vacation booking process, are now required to submit an Absence Request Form documenting supervisory review and approval.
4.	City Council request the Chief and General Manager, Emergency Medical Services, develop a process for periodic analysis and reporting of staff overtime and absenteeism.	X			Effective February 2014, EMS will, as part of its attendance monitoring processes, commence tracking employees who incur high overtime hours and high absenteeism due to illness and ill dependent leave.

Rec No.	Recommendations	Agree (X)	Disagree (X)	Management Comments: <i>(Comments are required only for recommendations where there is disagreement.)</i>	Action Plan/Time Frame
5.	<p>City Council request the Chief and General Manager, Emergency Medical Services, to review scheduling staff turnover and develop policies and guidelines to retain experienced schedulers. Where and if appropriate, new schedulers should be selected based on their ability to perform on a long term basis.</p>	X			<p>In consultation with Human Resources, EMS will re-evaluate its assessment tools for selecting Scheduler candidates with the appropriate skill sets. We anticipate having an assessment tool in place, effective March 31, 2014.</p> <p>In addition, we are now attempting to utilize modified duty staff in Scheduling who are anticipated to require modified work for extended periods of time.</p> <p>However, the re-assignment of permanently injured paramedic staff to modified duties as Schedulers is done in consultation with Human Resources staff and is dependent on the employee's medical restrictions and the number of modified duty positions available. Legislative and collective agreement obligations must also be considered.</p>

Rec No.	Recommendations	Agree (X)	Disagree (X)	Management Comments: <i>(Comments are required only for recommendations where there is disagreement.)</i>	Action Plan/Time Frame
6.	City Council request the Chief and General Manager, Emergency Medical Services, to develop a process for periodic review and reporting of shift exchanges, particularly staff with a high shift exchange frequency.	X			<p>Staff shift changes are for valid reasons and reduce the potential for overtime. However, shift changes can create variances.</p> <p>EMS will re-evaluate the existing criteria and processes surrounding shift changes no later than March 31, 2014.</p> <p>Depending on the outcome, further action may be taken with Labour Relations regarding any collective agreement requirements.</p>

Rec No.	Recommendations	Agree (X)	Disagree (X)	Management Comments: <i>(Comments are required only for recommendations where there is disagreement.)</i>	Action Plan/Time Frame
7.	<p>City Council request the Chief and General Manager, Emergency Medical Services, to expand monitoring processes to new paramedic schedules in relation to emergency service call volume patterns and make scheduling modifications as needed.</p>	X			<p>Currently, EMS tracks its performance daily, monthly, quarterly and annually. These measures include call volumes, patient transport rates, staff absenteeism, overtime, and response time performance.</p> <p>These key performance indicators measure the effectiveness of the new shift schedules and the reduced risk to patients.</p> <p>Despite increasing call volumes and patient transport rates, since the new schedules have been implemented, overtime has been reduced, response time performance has improved, and absenteeism has remained stable.</p> <p>Effective January 31, 2014, EMS will develop an annual review to report on paramedic resource utilization in relation to emergency call demand patterns.</p>
8.	<p>City Council request the Chief and General Manager, Emergency Medical Services, develop a process for periodic review of information technology user access to ensure system access aligns with related job duties.</p>	X			<p>Effective November 30, 2013, the Lists of Users who have been granted access to TMS and/or SAP will be reviewed every six months and as required.</p> <p>The review will ensure that their access is reflective of their current job requirements.</p>

Rec No.	Recommendations	Agree (X)	Disagree (X)	Management Comments: <i>(Comments are required only for recommendations where there is disagreement.)</i>	Action Plan/Time Frame
9.	<p>City Council request the Chief and General Manager, Emergency Medical Services, evaluate whether transactions entered using shared IDs or by system users not authorized to enter transactions identified during the audit require further analysis to determine if transactions were valid and properly authorized. Reports should be developed to identify such transactions on an ongoing basis for review and action.</p>	X			<p><u>For the Current Time Management System (TMS):</u></p> <p>Upon request, the AG has provided EMS with the list of transactions entered using shared IDs or made by system users who may not be authorized to enter transactions. EMS will conduct a preliminary evaluation to determine if these transactions were valid and properly authorized.</p> <p>Effective November 30, 2013, EMS will periodically run reports and spot check the movement logs for a sampling of the 200 TMS users every pay period and investigate any anomalies.</p> <p>If we find any questionable entries that are tracked to a shared user ID, then movement logs will be used to validate all entries made under that ID for an identified period of time.</p>

Rec No.	Recommendations	Agree (X)	Disagree (X)	Management Comments: <i>(Comments are required only for recommendations where there is disagreement.)</i>	Action Plan/Time Frame
10.	<p>City Council request the Chief and General Manager, Emergency Medical Services, to communicate information technology policies and procedures relating to user ID and password confidentiality. In addition, the practice of using generic or shared IDs should be discontinued. Valid users should have a unique information technology user ID.</p>	X			<p><u>For TMS:</u> The use of a single user ID by more than one employee at the same time has been discontinued.</p> <p>A generic ID will only be assigned to one person at a time (while their profile is being built) and a log will be kept to track those who used the generic ID over which timeframe.</p> <p>When the generic ID is re-issued, the password will be reset.</p> <p><u>For SAP:</u> The sharing of user IDs for SAP has been discontinued. This occurred in only one instance. It was an authorized sharing of an ID between two administrative staff for backfill purposes as assigned by their supervisor.</p> <p>EMS will issue a memorandum cautioning all staff about user ID, password confidentiality and the sharing of passwords and advise/remind staff of the consequences if this requirement is breached.</p>

Rec No.	Recommendations	Agree (X)	Disagree (X)	Management Comments: <i>(Comments are required only for recommendations where there is disagreement.)</i>	Action Plan/Time Frame
11.	City Council request the Chief and General Manager, Emergency Medical Services, develop a process to log user access changes with respective effective dates.	X			<p>EMS agrees with this recommendation. This requirement, however, cannot be met by the current TMS system. The new scheduling software is currently projected to go live on November 1st, 2015, and this feature will be included in the RFP.</p> <p>In the interim, an Excel log will be kept to track the issuing and discontinuation of user access and the applicable timeframe.</p>
12.	City Council request the Chief and General Manager, Emergency Medical Services, upgrade the history log in the scheduling module to track deletions and changes by user ID, date and time.	X			<p>EMS agrees with this recommendation. This requirement, however, cannot be met by the current TMS system. The new scheduling software is currently projected to go live on November 1st, 2015, and this feature will be included in the RFP.</p> <p>There is no interim solution for tracking deletions by user ID. Only changes are captured by the TMS movement log.</p>