
Report on the Audit of Emergency Medical Services

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EXECUTIVE SUMMARY

The Emergency Medical Services (EMS) branch of the Yukon Government is part of the Protective Services Division of the Department of Community Services and plays a critical role in Yukon's healthcare system. EMS is staffed by employees and community volunteers who are responsible for providing pre-hospital care, and transporting the sick and injured to the nearest health care facility capable of delivering the required level of care. EMS provides both ground ambulance and medevac services throughout Yukon.

In 2010-11 Community Services spent \$8.0 million on operations and \$297,000 in capital, which was primarily divided between the purchase of a new ambulance and planning for a permanent additional EMS station. One-third of its current operating budget is allocated to services in the rural communities, and two-thirds on management activities and operations in Whitehorse.

WHAT WE EXAMINED

The objectives of the audit were to determine whether the transfer of EMS achieved the intended result, broadly defined as enhancing the coordinated response for ambulance, fire and other emergencies, and whether EMS had implemented an appropriate governance structure to support its operations.

We focused on the organization's governance, risk management and planning processes, the economy and efficiency of operations, and the processes for effectively controlling operations and reporting on performance.

Our audit work was substantially completed in March 2011.

MAIN POINTS

- EMS has made a number of operational changes to better serve communities. For example, it has raised the training standard for volunteers; upgraded vehicles and radio communications; hired full-time paramedics in the larger communities; enhanced compensation for volunteers; and established a second ambulance station in Whitehorse.
- EMS has recognized the need to review its operational policies and procedures. It has also taken preliminary steps to develop strategic planning, risk management, and performance measurement processes. However, considerable work remains to integrate these business practices into the organization's ongoing operations.

- While headquarters personnel have made efforts to communicate operational and organizational changes, there is evidence that front-line EMS staff have not always interpreted and adapted to these changes, as intended. There is also evidence that EMS staff have concerns relating to their work environment, including staffing arrangements, health and safety issues, and access to supplies. This disconnect with staff suggests room for improvement in corporate communication, which is critical in ensuring that organizational objectives are better understood and ultimately met.
- We were unable to perform a meaningful assessment of whether transferring EMS from Health and Social Services to Community Services in 2007 realized the intended benefits, because there were a limited number of baseline performance measures. The intended benefits were expressed in general terms rather than in measurable objectives and there are limitations in the performance information being collected. EMS has recognized the need to build governance, operational planning and communication capacities in order to move forward.
- EMS operates in a complex, multi-jurisdictional environment, and has taken steps to build relationships with key service delivery partners. There are opportunities for EMS to formalize and expand its working relationships to identify and address issues of mutual concern that impact on the delivery of care.
- While the finance group has taken steps to institute mechanisms aimed at enhancing budgetary control, there is evidence that further efforts are required to improve management's ability to control expenditures.
- Paramedics who practice in Yukon must be certified, but there is no requirement for recertification. Although some staff members are getting recertified to meet the requirements of paramedic or nursing associations in other regions, others are not. This creates the risk of inconsistency in care. We note that EMS has the opportunity to draw on standards in other regions, and to implement a policy that fosters the development of equivalent skills within the service.
- EMS relies on a dispatch system that has reportedly been subject to failure. In the absence of a mechanism for reporting on critical incidents, the organization lacks information on the number and impact of these critical incidents on operations. The organization needs to be able to quantify the risk to determine whether corrective actions or compensating controls are required.

We have made 13 recommendations to address the identified areas for improvement. Community Services has indicated that it agrees with these recommendations and has outlined the actions it plans to take in the appropriate sections of this report.

We would like to recognize the high level of cooperation provided by EMS personnel, whose cooperation was crucial to the success of this audit.

INTRODUCTION

Emergency medical services constitute a critical component of the healthcare system in Canada. Emergency medical services employ personnel trained in the rescue, stabilization, transportation, and advanced treatment of traumatic or medical emergencies. Ideally linked by communication systems that operate on local and regional levels, the emergency medical services function is generally initiated by citizen action in the form of a telephone call to an emergency number. Subsequent stages include emergency medical dispatch, EMS crew response and assistance from other response specialists, if necessary.

EMS staffing models, training programs, and certification requirements vary across Canada based on provincial legislation and by-laws, where these exist. In Yukon, the primary responsibility of Emergency Medical Services is to provide basic life support and to transport the sick and injured to the nearest health care facility capable of delivering the required level of care. Critical care transport services are staffed and coordinated from EMS in Whitehorse. EMS is part of the Protective Services Division of the Department of Community Services.

In Whitehorse, EMS operates on 24-7 basis with about 58 full-time staff, comprised of primary care paramedics, advanced care paramedics, and critical care nurses (defined broadly as “primary” and “critical care” paramedics), as well as administrative personnel. In Watson Lake and Dawson City, EMS employs full-time primary care paramedics on weekdays, and volunteers provide coverage to the best of their ability at all other times. In the remaining 13 Yukon communities, EMS relies on approximately 150 volunteers. This means that service gaps are sometimes experienced when volunteers are not available due to personal commitments.

The Yukon Government is responsible for training these volunteers. It delivers training directly, as well as indirectly, through a government-funded training bursary administered through the Volunteer Ambulance Services Society. In 2009 EMS reported 1,501 ambulance calls in the communities, 5,033 calls in Whitehorse, and 643 medical evacuations (*medevac*) vehicle or aircraft-related trips.

In 2010-11 Community Services spent \$8.0 million on operations and \$297,000 in capital, which was primarily divided between the purchase of a new ambulance (\$128,000) and planning for a permanent additional EMS station (\$164,000). One-third of its current operating budget is allocated to services in the rural communities, and two-thirds on management activities and operations in Whitehorse. We note that medevacs and medical physician support—utilized by EMS but funded under the Department of Health and Social Services—had a budget of about \$5.4 million.

THE HISTORY OF EMS

The Emergency Medical Services Branch was transferred from Health and Social Services to the Protective Services Division within Community Services in December 2007. The objective of the transfer was to ensure a closer working relationship between EMS and the other emergency management/response branches in the division: the Emergency Measures Organization, the Fire Marshal's Office and Wildland Fire Management. Together, these organizations aim to provide a modernized and coordinated emergency first response system.

In the first year of the transfer, EMS focused on minimizing service disruptions and introduced some operational adjustments. In 2008-09 EMS focused on enhancing operational management and reducing the historical reliance on overtime and non-permanent staffing.

We were unable to perform a meaningful assessment of whether transferring EMS from Health and Social Services to Community Services in 2007 realized the intended benefits, because there were a limited number of baseline performance measures, the intended benefits were expressed in general terms rather than in measurable objectives, and there are limitations in the performance information being collected.

AUDIT OBJECTIVES

The objectives of the audit were to determine whether the transfer of EMS achieved the intended result, broadly defined as enhancing the coordinated response for ambulance, fire and other emergencies, and whether EMS had implemented an appropriate governance structure to support its operations.

To meet these objectives, we established the following audit criteria:

<i>Governance and Risk Management</i>	EMS should have established roles, responsibilities, organizing structures, plans, operational strategies and policies to provide for the pre-hospital care and safe and effective transportation of sick and injured.
<i>Resource Management</i>	EMS should have managed its resources with due regard for economy and efficiency
<i>Performance Management</i>	EMS should have appropriate systems and processes to effectively control and report on organizational and employee performance.

SCOPE AND APPROACH

The scope of the audit covered the fiscal years 2008-2011. Our scope extended to 2007-08 on issues pertaining to financial reporting, risk management, and organizational and operational change.

Our evidence-gathering techniques consisted primarily of interviews and document analysis. We interviewed departmental managers, staff, volunteers, community nurses, and visited six communities in the fall and early winter of 2010-11. We also designed and distributed mail-out surveys to EMS staff and volunteers. In conducting our audit tests, we analyzed a variety of financial and non-financial program-related records. Based on available documentation, we then assessed compliance with applicable legislation, such as the *Health Act*, as well as regulations, policies, and procedures.

SCOPE LIMITATIONS

The audit team did not examine the medical actions or decisions of EMS personnel, volunteers or other medical professionals. We focused strictly on questions pertaining to the management of the organization.

The audit team did not look at medevac cost billing and recovery, which is administered by Health and Social Services, nor did we review planning activities supporting the proposed Whitehorse EMS response station.

OBSERVATIONS AND RECOMMENDATIONS

This section of our report presents our observations, audit recommendations and the management comments to our recommendations in our review of EMS's governance and risk management, resource management and performance management activities.

GOVERNANCE AND RISK MANAGEMENT

Governance refers to the process of decision-making including the process by which decisions are implemented or are not implemented. Good governance involves establishing roles and responsibilities, policies and procedures, and establishing mechanisms to ensure individuals responsible for implementing activities are following through, as intended.

Meanwhile, risk management involves identifying and analyzing risks that may threaten the successful achievement of objectives. Sound governance and risk management frameworks enable organizations to meet their objectives, while serving to promote accountability.

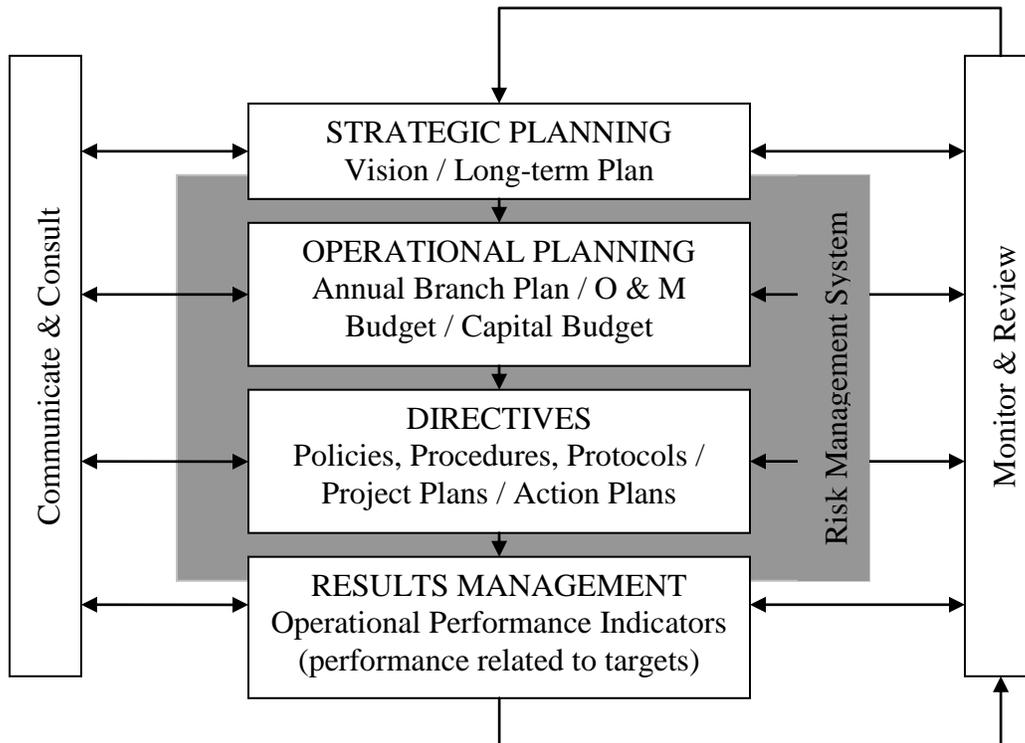
Challenges in governance and risk management

We note that EMS has taken a number of important steps to improve governance and risk management. For example, it commissioned studies on risk management and strategic development, and documented and enhanced a range of operational policies, procedures, and clinical guidelines.

At the same time, we found that EMS has faced a number of strategic challenges since its transfer from Health and Social Services to Community Services in 2007. For example, EMS drafted an annual operational plan for 2010-11 to facilitate business planning, but this document was never formally accepted or put to use. Further, while EMS identified risks, it did not develop risk registers or mitigation plans to address them. In addition, we found that there were two policies and procedures manuals in circulation, and that there was some duplication and redundancy between them. Although a database had been created to capture information from the hard-copy patient care records, we were informed that there was limited confidence that the database was up-to-date, accurate, and complete. The ability to get reliable statistics, trends and patterns without having to resort to a tedious manual exercise is essential for effective planning and performance measurement.

While the Yukon Government has no established policies on governance and risk management, the model below captures some core elements and activities. It is based on the widely-accepted “plan, do, check, and act” cycle.

Exhibit: Sample governance framework



Recommendation

1. Emergency Medical Services should establish an appropriate governance and risk management framework that will enable it to properly plan, set direction, monitor and report on the key activities that are integral to its operations.

Management Comments

Agreed. As part of Community Services’ planning and accountability framework, EMS has developed a branch plan to guide operational planning, delivery and assessment. EMS has also sought out and undergone a risk management assessment in order to mitigate risk to the functional extent possible.

Challenges in managing relationships with partners

EMS does not work in isolation, but relies to a large extent on effective cooperation with other parties to ensure that patients receive the best care possible. These partners include hospital administrators, aircraft operators, pharmacists, the Medical Director (*discussed in greater detail in upcoming paragraphs*) and search and rescue teams. In the event of a complex emergency scenario, EMS could be interacting with a full-range of first responders including the Royal Canadian Mounted Police (RCMP), the Canadian Rangers, search and rescue teams, volunteer and rural municipal-based fire fighters, the City of Whitehorse Fire Department, Wildland Fire Management, the Fire Marshal's Office, and the Emergency Measures Organization.

We observed that EMS had taken a number of positive steps to meet its partners on a more regular basis and attend to matters of mutual interest. However, the management of these relationships has tended to receive less attention when there have been more urgent issues demanding management's time and effort. We have highlighted below some opportunities for EMS to seek closer cooperation and communication with partners, and to conduct better follow-up of issues.

Administratively, EMS maintains a working relationship with the Insured Health Services Branch of Health and Social Services, which is responsible for seeking reimbursement for the non-resident medevacs arranged by EMS and for approving payments to the contractor providing air transportation services. EMS is responsible for capturing the patient information that is required to recover fees from non-residents. We received feedback that medevac dispatch sheets often did not contain data required for proper billing and that data quality was often poor.

A key input into the quality assurance of EMS is the contract with the Medical Director, who is responsible for liaising between the medical community and EMS, as well as, the on-call physicians who provide advice to the medevac teams. EMS acknowledged that there were opportunities to derive even greater value from these resources.

We note that EMS attended bi-weekly meetings meeting with its internal partners within Protective Services. This is an important routine to fulfill the objective of co-ordination between the Yukon Government emergency response units. In future there may be further opportunities for joint training and joint exercises.

In our opinion, EMS had demonstrated its commitment to building and maintaining effective links with all its partners. To mature the current arrangements to the next level would require:

- tracking of agreed actions arising from the meetings in a more formal way;
- engaging the other parties to discuss options for training;

- conducting reviews and lessons-learned exercises after joint operations to identify potential improvements;
- seeking greater clarity in cases where the responsibilities are not clear;
- capturing relationship-building into the formal planning process; and
- playing a stronger role in forums that seek answers to social challenges.

Recommendation

2. Emergency Medical Services should continue to expand and formalize its efforts to get maximum value and cooperation from the many partners that are integral to its service. We recommend a more structured approach whereby EMS actively seeks advice from its partners, records any issues that arise and tracks each action point to a successful conclusion.

Management Comments

Agreed. The branch business plan sets out measurable activities that will see corporate stakeholders engaged on a regular basis to assist in the planning and evaluation of EMS effectiveness. As such, EMS is developing a process to capture and follow-up on action items arising from formal minutes. It is also finalizing a training agreement with the Yukon Hospital Corporation to provide EMS staff with opportunities to gain clinical experience in all Yukon hospitals. In addition, EMS clinical operations staff is working with the Yukon Department of Justice on the development of a multi-agency protocol for acutely intoxicated persons at risk.

RESOURCE MANAGEMENT

Resource management involves the efficient and effective deployment of an organization's resources, when and where they are needed. Such resources may include financial resources, supplies, human skills, or information technology. Proper financial management ensures resources are managed and accounted for in a manner that meets the principles of sound stewardship. Budgeting and variance reporting are critical components of a financial management regime.

For a budget to be effective at the program delivery level the responsible manager should participate in the planning and budgeting processes, be committed to the approved budget, and be accountable for the actions that give rise to expenditures. An approved budget plan is the first step in the process of budgetary control; the second step is regular reporting of progress in relation to the approved plan and budget.

Challenges in preparing and controlling budgets

We found that EMS has had to make a number of supplemental budget submissions (*referred to below as revised budgets*) to absorb cost overruns, as well as to address some operational and organizational enhancements. The pattern of significant

variances between original and revised budgets (*shown below*) is a continuing management concern.

Exhibit: Historical budgetary and expenditure information for EMS

O&M Budget	2010-11 Actual	2009-10 Actual	2008-09 Actual
Original Budget	6,913,000	6,092,000	6,022,000
Revised Budget	7,845,000	7,056,000	6,866,000
Expenditure	7,861,000	7,454,289	6,920,409
Net Deficit Position	-16,000	-421,289	-\$54,409
Variance between Revised Budget and Original Budget	-932,000	-964,000	-844,000
Expenditure as % of Original Budget	114%	122%	115%

We found that the finance group and EMS management had met regularly and there had been strong measures to curtail spending, particularly on non-essential items. Although the intention was not to restrict the purchasing of uniforms and protective gear, it appears that the scope and rationale behind the tightening of financial controls could have been more clearly communicated. Responses to our employee survey indicated that a number of staff were frustrated by difficulties in obtaining the uniforms they requested and, in some cases, they were under the impression this was due to a directive on cost-cutting measures.

We also identified a trend of significant under and overspends across a variety of expenditure items dating from 2007-08. For example, we found a number of budgetary line items with no corresponding expenditures and expenditures without any corresponding budgets. In many cases, expenditure line items identified in the budgets remained the same year to year even though actual expenditures were increasing, in some cases by up to 400%. We would have expected that such anomalies would have been investigated to determine the cause. It could be that expenses were being coded to the wrong budget line item or it could be that the budget for that line item was unrealistic.

We also found that EMS has faced challenges in minimizing overtime costs. It would require comprehensive trend analysis of overtime costs on a year over year basis to predict the future patterns, in order to make improved staffing and

scheduling decisions and to exercise control in a proactive manner. This type of monitoring is especially important in a 24-7 shiftwork environment.

In addition, we found gaps in the billing of fees for non-residents, which means that the Yukon Government may have missed out on opportunities for revenue collection. The *Health Act* empowers the government to seek reimbursement for the provision of ambulance services to non-Yukon residents and EMS is responsible for billing non-residents for ambulance services. We found that EMS went through a period where fees collected were down substantially from previous years, suggesting reduced control over the issuance of invoices¹.

Recommendation

3. Emergency Medical Services should continue to take steps to improve its financial management capacity by completing a review of the budgeting process. It should pay specific attention to obtaining reliable and realistic targets for costs associated with key line items and include mechanisms to hold managers accountable for variances. As well, EMS should ensure that all necessary information is collected and processed accurately and completely on medevacs for non-residents for billing and cost recovery purposes.

Management Comments

Agreed. EMS has put in place revised limits on spending authorizations to control variances more effectively and is holding weekly management meetings to review the current budget status. Individual accounts showing or at risk of showing a negative variance are identified, inclusive of a mitigation action plan to address the issue to the extent possible. EMS has also developed a new fiscal training and monitoring process with specific attention paid to individual budget line items. A new evidence-based budget system is being created to ensure budget lines support the true needs of the operations in each community

Challenges in controlling medical supplies and drugs

Medical supplies and drugs are vital components in providing a high standard of patient care. We found that there was a lack of procedural control over the ordering and collection of drugs from a retail pharmacy in Whitehorse. We discovered that it had become accepted practice for any crew member to request and collect medications without having to go through a formal authorization of the order or having to prove identity and authority to collect the medications. We also found that, whilst EMS met the requirements for recording the disposal of narcotics, it had not extended this to the disposal of non-narcotic drugs, which means that the level of wastage could not be determined and evaluated.

¹ Fees charged for ambulance services to non-Yukon residents have not been reviewed since 2002. Since the establishment of the fee structure falls within the responsibility of Health and Social Services, we did not include the review of fees within the scope of the audit.

Recommendation

4. Emergency Medical Services should review its policies on purchasing and inventory control procedures and take steps to ensure compliance with any relevant policies; minimize wastage; ensure availability of drugs; and mitigate the risk of any unexplained losses.

Management Comments

Agreed. EMS has put into place purchasing controls to ensure greater procurement effectiveness and better financial reporting. It is also reviewing inventory policies and processes to ensure greater compliance with legislation.

PERFORMANCE MANAGEMENT

Performance management includes activities to ensure that goals are consistently being met in an effective and efficient manner. It is a systematic process by which an organization involves its employees, as individuals and members of a team, in improving organizational effectiveness in the accomplishment of the organization's mission and goals.

Metrics on employee satisfaction levels and key activities are critical to managing performance.

Challenges in maintaining employee engagement

Employees are amongst EMS's most important resources. Indeed, about 82% of EMS expenditures are personnel-related. In order to assess levels of employee satisfaction across EMS, we designed and distributed mail-out surveys to all staff and volunteers. We also held interviews with those staff and volunteers who wished to provide further detail. We asked them a variety of questions focused on their work conditions, work environment, finances, and organizational change.

In terms of our mail-out surveys, 55% of staff and 19% of volunteers (*from eight of the 15 rural communities*) responded. Common concerns revolved around supplies shortages and the adequacy of protective clothing, as well as, the adequacy of on-going training, mentoring and performance feedback. While we are unable to draw representative conclusions for the volunteers (*given the low response rate*), we can report that 70% of volunteer respondents indicated that they were satisfied with protective clothing, equipment, supplies, training meetings and compensation. The most common source of frustration for volunteers related to station facilities (*office, training, storage, laundry areas, etc.*) and resulting health and safety concerns.

Our interviews indicated a number of additional challenges faced by community volunteers:

- The dispatch function in communities is undertaken by the community nurse who does not have access to the automated assessment tools that assist in determining appropriate emergency response actions.
- There are no regular health and safety assessments of the community facilities. When volunteers are attending emergency situations, they do not have regular contact with dispatch to track the situation with the caller, which increases the risk that they will be unprepared for potentially unsafe environments.
- There is a lack of accessibility to washers and dryers in some communities, which may result in some volunteers having to wash contaminated clothing at home.
- There is a lack of lockers and change areas in some community facilities, which may result in delayed response or attendance on scene without the appropriate protective clothing.
- Some volunteers have been without a full set of protective clothing for several months.

We also found that there was no formal process in place to ensure that volunteers could start work only after the necessary security clearance checks and orientation had been carried out. In the absence of these controls, there is a risk that volunteers could attend incidents prior to appropriate approval and training.

Finally, we note that the last Yukon government employee engagement survey of EMS staff, commissioned by the Public Service Commission in 2010, found that only 12% of staff was aware of any action being taken to address the issues identified in previous engagement surveys.

Recommendation

5. Emergency Medical Services should demonstrate its commitment to employee engagement by developing an action plan to address concerns raised in employee surveys, and communicate actions taken to enhance workplace morale.

Management Comments

Agreed. EMS highly values its staff and volunteers. It is taking steps to ensure that all employee performance evaluations are completed in a timely manner. It is also developing a supervisor daily/monthly list of roles and responsibilities to ensure optimal teamwork.

Recommendation

6. Given that the dispatch function is specialized and complex, EMS should ensure that those responsible for the dispatch function in the communities have the appropriate training and guidance to appropriately fulfill their roles.

Management Comments

Agreed. EMS is continuing to work with Health and Social Services community health centre nurses to develop a standard orientation and operations protocol for dispatching EMS in the rural communities. It is also building a multi-faceted dispatch centre, as part of the new Whitehorse EMS primary response station, to facilitate more effective and coordinated responses to those who call for emergency services in Whitehorse and the surrounding area.

Recommendation

7. Emergency Medical Services should ensure all volunteers meet the necessary prerequisites prior to attending incidents.

Management Comments

Agreed. EMS is addressing such prerequisites as a criminal records and credential checks through the development of a new application process.

Recommendation

8. Emergency Medical Services should initiate a program of on-going reviews of community facilities and equipment to identify gaps and opportunities for improvement.

Management Comments

Agreed. EMS is in the process, for example, of reviewing its community facilities, equipment inventories, safety requirements to identify gaps, and opportunities for improvement.

Challenges in training

Competent practitioners form the cornerstone of quality patient care. As a healthcare provider, EMS has a uniquely important responsibility when it comes to ensuring that its employees and volunteers have the skills they need to do the job.

EMS has made concerted efforts to meet levels of required competencies in patient care. Over the last two decades, EMS has evolved from primarily a transportation function with staff trained in advanced first aid, to a model that requires, as a baseline, primary care paramedics, advanced care paramedics, and critical care nurses. It was clear from all the staff we interviewed that they embodied a strong professionalism, enthusiasm and commitment towards maintaining their skills, certifications and licenses.

We also note improvements in the volunteer model, which has been enhanced with the appointment of full-time weekday primary care paramedics in Dawson City and Watson Lake. Effective April 2011, the first-ever memorandum of understanding with the volunteers formalized the requirement that all volunteers complete five core

training competency tests related to basic first aid, health and safety and driving skills.

At the same time, we found that Yukon paramedics are not subject to regulation and that there is no regulatory requirement for them to get recertified. Primary care paramedics may train for and obtain their practice certificates within Yukon, but all advanced care paramedics, critical care nurses and those primary care paramedics trained outside Yukon must get certified or licensed elsewhere. Yukon employed advanced care paramedics and critical care nurses are required to maintain their professional recertification requirements of their jurisdictional associations. With the exception of cardio pulmonary resuscitation refreshers, primary care paramedics are not subject to on-going professional recertification requirements, unless they have opted to maintain an affiliation with a regulated association outside Yukon.

The amount of formal training required to become a paramedic can range from six months to two years. The training requirements differ due to variations in the scope of practice for primary care paramedics and advanced care paramedics. The critical skills acquired during paramedic and nursing training at all levels are known to require continual educational support. If these skills and techniques are not routinely reviewed and practiced, there is an increased likelihood of skill decline and inconsistency in the delivery of care. We note that EMS has an opportunity to draw on the work done in other jurisdictions and establish its own policy on training and re-certification in the absence of territorial legislation.

In addition, we found that there was no tracking system to capture gaps in branch-mandated core training, or the recertification and relicensing requirements for those qualifications gained outside Yukon. We found that while there was a program for routinely assessing individual staff and volunteer competencies, and for developing and monitoring individual training plans, it is not systematically monitored. This compromises the ability to EMS to keep up with current training needs and plan for future requirements.

Recommendation

9. Emergency Medical Services should establish formal mechanisms to monitor the training and certifications of staff and volunteers, to better assess current and future training needs, and to ensure consistency and equivalency in skillsets.

Management Comments

Agreed. EMS is developing a purpose-built training schedule and a re-certification program for each scope of practice currently in the system. It is also developing an evidence-based continuing medical-education program and a performance measurement scheme to track success.

Challenges in tracking dispatch system failures

A functioning dispatch system essentially connects those in need of emergency medical services with EMS personnel. The Whitehorse EMS dispatch centre is staffed by one employee per shift. The RCMP's Operations Communication Centre is the first point of contact for anyone dialing 9-1-1. If the caller requires assistance from EMS, the RCMP is to forward the call to the EMS dispatcher. When a call is received the EMS dispatcher uses a computerized program to work through a standard list of questions. These questions enable the dispatcher to collect vital information from the caller that determines the response criteria for the EMS crew being dispatched.

We were informed by EMS personnel that the system has been subject to periodic failure. This increases the risk that a call may be dropped. We note that EMS does not systematically record system failures or their operational impacts, nor does it maintain statistics on key performance indicators like delays in dispatch response time. EMS acknowledged, but was unable to quantify these risks in a previous business case for system replacement. We note that while there are mitigating controls that enable the dispatcher to transition relatively smoothly to a manual version of the questionnaire and record of incident, this procedure introduces unnecessary time lags.

Further, we note that having only one dispatcher on each shift presents some challenges and operational risks. There is a potential for multiple calls to be received simultaneously. This means that there is a risk a caller may have to be put on hold, on a priority basis. In addition, under the current arrangements if the fifth call is unanswered, then it will not be put on hold, but be bounced back to the RCMP 911 operator.

EMS has done some research into alternative dispatch systems. As mentioned, one multi-million dollar option was proposed in the past, but deemed to be too expensive to pursue. Again, however, as EMS does not systematically record the number of critical incidents and system failures associated with the dispatch system, it is difficult to determine whether this level of expenditure was indeed too high, or whether it was indeed consistent with the risk.

Recommendation

10. Emergency Medical Services should develop a system for logging critical incidents and failures experienced by the dispatch system, to develop a risk-based business case for either its maintenance or replacement, as required.

Management Response

Agreed. EMS is developing a standardized logging system to capture information currently being documented on an informal basis. In addition, it has conducted a gap analysis to measure the variances between current EMS dispatch technology,

polices and processes and those used as an international accreditation standard set by the International Academy of Emergency Medical Dispatch.

Challenges in project management

Project management involves planning, organizing, securing and managing resources to bring about the successful completion of specific project goals and objectives. It is especially important where large dollar amounts are at play.

EMS has undertaken a number of projects since the 2007 transfer to Community Services including a project designed to better allocate resources, a project to develop a primary response station in Whitehorse, and a project to introduce a new radio system. Additional planned projects include a policy and procedures review, a review of health and safety issues in community facilities, and a training needs review.

We found that there are no formal protocols or systems in place to assist in project management. As a result, there is a risk that EMS may not be delivering needed projects on-time, on-budget, and in accordance with quality considerations.

Recommendation

11. Emergency Medical Services should implement project management guidelines. Each project initiative should include clear objectives, a resourcing strategy, the assignment of project responsibilities, description of tasks and deliverables, timelines and mechanisms for monitoring and reporting on progress.

Management Comments

Agreed. EMS is developing a project planning framework to be used for all projects either under consideration or commenced.

Lack of performance measurement and ability to track performance

Performance measurement is the process by which organization establishes the parameters against which programs, investments, and acquisitions will be measured to obtain desired results. Performance measurement systems enable organizations to measure their performance, identify problem areas, and take corrective action, as appropriate. Common results-based indicators for emergency medical services organizations include response times to calls and response times to arrival. Other common performance measures include staff turnover rates, the level of reliance on non-permanent staffing, and the number of systems and equipment failures.

We found that EMS had not identified which key performance indicators would best serve its needs, and had not implemented a system to gather the data and routinely report the results. The performance information EMS does gather is based largely on patient care records, which are what emergency responders complete for each call-out. Although EMS had developed a database with the intention of running

queries and extracting reports on selected key performance indicators, there was limited confidence that the database was always up-to-date, accurate, and complete.

With limited in-house expertise in database development, the challenge for EMS is data capture. The ability to get reliable statistics, trends and patterns without having to resort to a tedious manual exercise is essential for effective performance measurement. In the absence of results-based performance information, the organization's ability to plan for the future is significantly compromised.

We note that performance measurement is a challenge across the Yukon Government, but we encourage EMS to investigate work undertaken by other jurisdictions to report on performance. If EMS can raise the level of its own performance measurement this will complement the existing quality control function provided by the Medical Director.

Recommendation

12. Emergency Medical Services should develop performance indicators, collect the necessary data against those indicators, report on that data, and develop action plans to address adverse trends.

Management Comments

Agreed. EMS is developing clinical and operational performance indicators for application throughout the territory, as well as, for event and temporal (weekly/monthly) trending analysis. The indicators are based on three separate EMS international accreditations criteria and the needs of corporate stakeholders as identified so far.

Recommendation

13. Emergency Medical Services should investigate options, and leverage opportunities for the future digitization and automation of patient care records, as they form the basis of performance management information for emergency care.

Management Comments

Agreed. The Government of Canada's 'E-Health Infoway' initiative has identified EMS as a stakeholder within the Yukon Government's electronic health care record initiative. EMS is exploring options to ensure that its patient care forms are accurately completed and stored in compliance with applicable legislation.

CONCLUSION

EMS plays a critical role in the delivery of emergency medical services across Yukon. Over the past two decades, it has evolved from primarily a transportation function with staff trained in advanced first aid, to a model that requires, as a baseline, primary care paramedics, advanced care paramedics and critical care nurses.

While EMS has made a number of operational changes to serve communities more effectively including raising the training standard for volunteers, upgrading vehicles and radio communications, hiring additional paramedics in the larger communities, enhancing compensation for volunteers, and establishing a second EMS station in Whitehorse, it faces challenges with respect to governance, resource management, and performance management.

We found that EMS lacked the performance measurement systems required to determine whether it had achieved the intended result of the transfer, broadly defined as enhancing the coordinated response for ambulance, fire and other emergencies. EMS has recognized that it has work to do in developing comprehensive performance measurement and reporting frameworks to enhance accountability and improve operations.

We also found that while EMS has made progress in developing some strategic planning, risk management and performance measurement processes. However, it has not yet integrated these processes into its ongoing operations. This represents the next step in maturing the organization's management control and performance framework.

Community Services has indicated that it agrees with our 13 recommendations and plans to address them in the appropriate sections of this report.

IMPLEMENTATION ACTION PLAN

Management accepts the report and its recommendations.

Audit of Emergency Medical Services

The Assistant Deputy Minister for Protective Services has overall accountability for the Implementation Action Plan

Recommendation	Actions	Target Dates
<p>1. <i>Emergency Medical Services should establish an appropriate governance and risk management framework that will enable it to properly plan, set direction, monitor and report on the key activities that are integral to its operations.</i></p>	<p>Review results of risk studies; identify steps to mitigate risks; and develop mechanisms for taking corrective action.</p> <p>Develop and implement a governance framework that sets strategic and operational objectives; and enables monitoring and reporting against those objectives.</p>	<p>Oct 2011</p> <p>Fall 2011</p>
<p>2. <i>Emergency Medical Services should continue to expand and formalize its efforts to get maximum value and cooperation from the many partners that are integral to its service. We recommend a more structured approach whereby EMS actively seeks advice from its partners, records any issues that arise and tracks each action point to a successful conclusion.</i></p>	<p>Develop a template for quarterly meetings to assist supervisors in identifying stakeholders' concerns and establish mechanisms to incorporate those into appropriate risk and business planning processes, as appropriate.</p> <p>Finalize responses to recommendations made regarding medevac performance issues identified in Fall 2010; develop an action plan to address them and mechanisms for taking corrective action.</p> <p>Convene an annual meeting of EMS stakeholders to discuss challenges of mutual concern; and incorporate those concerns into appropriate risk and business planning processes, as appropriate.</p> <p>In partnership with the Fire Marshall's Office and the Medical Director, develop criteria-based response guidelines for EMS first responders; incorporate those guidelines into appropriate standard operating procedures; and develop mechanisms for taking corrective action.</p>	<p>Fall 2011</p> <p>Fall 2011</p> <p>Jan 2012</p> <p>Mar 2012</p>

Recommendation	Actions	Target Dates
<p>3. Emergency Medical Services should continue to take steps to improve its financial management capacity by completing a review of the budgeting process. It should pay specific attention to obtaining reliable and realistic targets for costs associated with key line items and include mechanisms to hold managers accountable for variances. As well, EMS should ensure that all necessary information is collected and processed accurately and completely on medevacs for non-residents for billing and cost recovery purposes.</p>	<p>Develop and communicate overtime approval policy guidelines; conduct periodic reviews of overtime utilization in relation to those guidelines; and develop mechanisms for taking corrective action.</p> <p>Establish a new internal budget planning process including routine trend analysis to enable more accurate forecasting and processes to encourage accurate monthly variance reporting.</p> <p>Deliver training to supervisors and staff on revised purchasing guidelines and policies, and solicit feedback to determine that guidelines and policies are understood.</p> <p>Develop an “<i>Annual EMS Staffing Demand Plan</i>” and utilize that plan as a basis for reallocating staff to meet resource pressures throughout the year due to leave and periods with greater-than-normal service demand.</p>	<p>July 2011</p> <p>Sept 2011</p> <p>Sept 2011</p> <p>Oct 2011</p>
<p>4. <i>Emergency Medical Services should review its policies on purchasing and inventory control procedures and take steps to ensure compliance with any relevant policies; minimize wastage; ensure availability of drugs; and mitigate the risk of any unexplained losses.</i></p>	<p>Track the disposal of drugs that have expired, to assess the effectiveness/economy of the current purchasing and inventory control model, where orders are initiated when stock is at or below minimum levels.</p> <p>Review and amend, as necessary, controlled substances policies to ensure compliance with federal regulations.</p>	<p>Aug 2011</p> <p>Oct 2011</p>
<p>5. <i>Emergency Medical Services should demonstrate its commitment to employee engagement by developing an action plan to address concerns raised in employee surveys, and communicate actions taken to enhance workplace morale.</i></p>	<p>Establish regular teleconferences with all supervisors to facilitate the resolution of performance issues and sharing of best practices amongst EMS stations; track concerns and ideas raised; and develop mechanisms for corrective action.</p> <p>Prepare an action plan to address concerns raised in employee surveys by identifying those areas with the poorest ratings; consulting staff on possible solutions; developing and communicating initiatives based on this input; and tracking progress by comparing employee survey results going forward.</p>	<p>July 2011</p> <p>Fall 2011</p>

AUDIT OF EMERGENCY MEDICAL SERVICES
IMPLEMENTATION ACTION PLAN

Recommendation	Actions	Target Dates
6. <i>Given that the dispatch function is specialized and complex, EMS should ensure that those responsible for the dispatch function in the communities have the appropriate training and guidance to appropriately fulfill their roles.</i>	Finalize the development of a standard orientation and operations protocol for dispatching EMS in rural communities; communicate that protocol to relevant parties; and develop mechanisms for assessing whether the protocol is meeting operational needs.	Oct 2011
7. <i>Emergency Medical Services should ensure all volunteers meet the necessary prerequisites prior to attending incidents.</i>	Develop mechanisms to track volunteers' completion of necessary pre-requisites; and develop processes to ensure that appropriate personnel consult those mechanisms before deploying volunteers to provide patient care services.	Sept 2011
8. <i>Emergency Medical Services should initiate a program of on-going reviews of community facilities and equipment to identify gaps and opportunities for improvement.</i>	Develop and implement maintenance programs for facilities, biomedical equipment and fleet, by developing inventories; establishing inspection plans and schedules; reporting non-compliance based on those inspections, including mechanisms for prioritizing the identification and mitigation of critical failures; and developing mechanisms for taking corrective action, as appropriate.	Jan 2012
9. <i>Emergency Medical Services should establish formal mechanisms to monitor the training and certifications of staff and volunteers, to better assess current and future training needs, and to ensure consistency and equivalency in skillsets.</i>	Develop and implement a continuing medical education program for all scopes of practice to ensure that clinical staff receives the training they needs to do the job.	Dec 2011
10. <i>Emergency Medical Services should develop a system for logging critical incidents and failures experienced by the dispatch system, to develop a risk-based business case for either its maintenance or replacement, as required.</i>	Develop business continuity plans for critical communication and system failures including preventive maintenance; standard operating procedures for manual interventions; and an incident reporting system to track failures.	Jan 2012

AUDIT OF EMERGENCY MEDICAL SERVICES
IMPLEMENTATION ACTION PLAN

Recommendation	Actions	Target Dates
<p><i>11. Emergency Medical Services should implement project management guidelines. Each project initiative should include clear objectives, a resourcing strategy, the assignment of project responsibilities, description of tasks and deliverables, timelines and mechanisms for monitoring and reporting on progress.</i></p>	<p>Develop a project planning framework that requires project officers to establish the objectives, inputs, outputs, and anticipated results of a project, including accountabilities and resources required; and apply that framework to prevent duplication and gaps in project planning across EMS.</p>	<p>Sept 2011</p>
<p><i>12. Emergency Medical Services should develop performance indicators, collect the necessary data against those indicators, report on that data, and develop action plans to address adverse trends.</i></p>	<p>Develop performance indicators for key activities; gather performance data against those activities on a periodic basis; and conduct a gap analysis to determine where improvement is needed.</p>	<p>Nov 2012</p>
<p><i>13. Emergency Medical Services should investigate options, and leverage opportunities, for the future digitization and automation of patient care records, as they form the basis of performance management information for emergency care.</i></p>	<p>Develop completion and quality improvement guidelines to ensure that EMS patient care forms are accurately completed and stored in compliance with the <i>Health Act</i>.</p>	<p>Nov 2011</p>