

Performance Audit

Department of Emergency Medical Services Cash Handling and Billing Practices and Procedures

July 2008

Durham County Audit Department

Introduction

This audit of the Durham County Department of Emergency Medical Services' (EMS) cash handling and billing practices and procedures was conducted pursuant to the September 12, 2005 Audit Department Charter which establishes the Audit Oversight Committee and the Audit Department and outlines the internal auditor's primary duties. The Audit Committee authorized this audit in October 2007.

A performance audit is an engagement that provides assurance or conclusions based on an evaluation of sufficient, appropriate evidence against stated criteria, such as specific requirements, measures, or defined business practices. Performance audits provide objective analysis so that management and those charged with governance and oversight can use the information to improve program performance and operations, reduce costs, facilitate decision making by parties with responsibility to oversee or initiate corrective action, and contribute to public accountability.¹

Audit Objective

This audit reports on EMS's cash handling controls and billing practices. The report answers the following question:

- Are management controls for accounting, safeguarding, and depositing cash receipts adequate to mitigate inherent risks of cash handling, and
- Are controls adequate to assure that financial reports are reasonably accurate and reliable?

Scope and Methodology

This performance audit was conducted 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 the findings and conclusions based on the audit objectives. I believe the evidence obtained provides a reasonable basis for the findings and conclusions based upon the audit objectives.

The fieldwork was conducted from May 14, 2008 to June 20, 2008. The audit covered EMS's cash handling practices and procedures in place at the time of the audit. The audit included the cash management processes from the point revenue is generated to the point revenue

¹ Comptroller General of the United States, *Government Auditing Standards*, Washington D.C: U.S. Governmental Accountability Office, 2007, p.17

reports are submitted to the County's Finance Department. The practices and procedures audited included provisions for:

- Receiving cash,
- Recording cash transactions,
- Preparing and depositing receipts,
- Reconciling deposits and receipts, and
- Accounting for revenue generation.

Audit methods included:

- Interviewing officials responsible for cash handling and employees engaged in the cash handling process.
- Reviewing current cash handling policy, procedures, and practices.
- Comparing EMS cash handling practices with best practices established by several universities.
- Observing the cash handling operation.
- Randomly selecting and reviewing 191 of 7,338 trip reports to determine if all earned revenue was billed.

Background

EMS' mission is to enhance the health and welfare of Durham County citizens by providing a comprehensive, coordinated pre-hospital health care delivery system. Currently, Emergency Medical Service is provided from six locations within the city limits;

- Durham Regional Hospital Campus,
- Duke Campus, Parking Garage #3,
- 615 Old Fayetteville Street,
- 2725 Holloway Street,
- 226 Milton Road, and
- Durham Fire Department Station #5

In addition to the sites above, the Durham City Fire Department and Duke Rescue Service, provide 24-hour assistance in first responder services.

EMS revenues in fiscal year 2007 amounted to \$6,962,930 from four sources. The sources are:

- Patient self pay \$2,437,025
- Private insurance \$2,019,250
- Medicare \$1,810,362
- Medicaid \$696,293

EMS services are conducted in response to the City of Durham's 911 operations. Durham's 911 operators dispatch EMS technicians to where their emergency services are needed. Upon arrival at the dispatch site, technicians can provide treatment on the scene or transport the patient to a medical facility. The fees for services vary depending upon the service provided. Patients are not charged if the service does not result in transporting the patient to a medical facility.

Findings and Analysis

Summary

EMS' operating procedures, revised in January 2008, address all aspects of cash handling including petty cash controls. The procedures set up a chain of control over cash handling practices including clearly identifying the role of all participants, safeguarding and securing cash, depositing revenue, and reporting revenue to the Finance Department. Recording of revenue received, deposits, and general ledger entries were accurate for the period we reviewed.

Although revenue processing is accurate, we found that EMS may be able to increase its revenues by enhancing controls over the billing process. At the time of our audit, EMS did not have a system in place to reasonably assure that each customer was billed for services they received. According to the results of a sample of 7,338 EMS service dispatches we matched with information in the billing system, we estimate that EMS did not bill for approximately 192 service deliveries valued at approximately \$90,816 over a three-month period. The sample methodology is described in appendix 1.

To correct the problems in cash handling and billing we recommend;

- Weekly reconciliation of dispatches and the billing system, and
- Identifying unbilled customers and billing them.

Billing Process Improvements May Increase Revenues

Improvements in billing process controls will create an opportunity for EMS to increase revenues. The current process allows EMS services to go unbilled because a system is not in place to reconcile the delivery of services with billing information. The beginning of the billing cycle, the 911 dispatch for services, provides information that if matched against the bills, would help reviewers ensure that all services are captured and included in the billing process.

According to the results of our sample of 191 dispatches for a three-month period of January, March, and April, 2008, EMS did not bill clients for approximately 5.2 percent of the services it provided. Because these cases were not billed we do not know their value; however, the average amount billed to customers during the sample

period was \$473. When the sample results are extrapolated over the population, we believe EMS' could have increased billings during the period by approximately \$90,816 if it had included 911 operations dispatch information in the billing reconciliation process.

Several patients were not billed for EMS services. We reviewed a sample of 911 operations dispatches to determine if EMS billed all service trips to customers. During January, March, and April, 2008, the three-month period we reviewed, EMS received 7,338 dispatches from Durham's 911 operations. We reviewed 191 trips made in response to dispatches during that period.

The exhibit below shows the results of our review.

EXHIBIT 1

Results Of Random Sample Of 911 Dispatches For January, March, And April 2008	
Number of dispatches in sample	191
Less non-chargeable trips	91
Less dispatches that were cancelled	3
Dispatches eligible for billing	97
Billed using incorrect incident number	2
Billed correctly	90
Not billed	5

Source: Audit department analysis of dispatch and billing data.

To identify service calls that were not billed, we reconciled incident numbers provided by the 911 dispatch system with EMS' billing information system. The incident number remains with the case from dispatch through billing. As the exhibit shows, 94 or approximately 49.2 percent of dispatches are not billed because the patient was not transported to a medical facility. Of the remaining 97 dispatches for which a patient was transported, five dispatch trips were not billed to a customer.

Upon searching, EMS personnel found them three of the five cases in its backup file location. EMS subsequently processed those cases for billing. EMS did not immediately locate the remaining two files but in a subsequent conversation, the Director told us that a technician had not entered the 911 service information into the system. The Director said the technician had notes available and was attempting to reconstruct the cases so they could be billed as well.

Revenue could increase by improving billing controls.

Enhancing controls over the billing process by reconciling 911 dispatches with bills could increase EMS revenue. Our review of 97 dispatches eligible for customer billing revealed that approximately 5 or 5.2 percent were not billed to customers. Extrapolated over the

universe of dispatches for the three-month period, we estimate that EMS accounts receivable would have increased by 192 cases valued at approximately \$90,816 if all cases were billed.

EMS enters billing data into its system manually, using reports provided by EMS technicians. The reports are generated by the technician's system after they enter information regarding the services they provided. The resulting printed report is the source data for customer billing. The reports are gathered daily and assigned to an office staff that interprets the information and records billing information into the billing system.

Billing errors can occur at two points. They can begin at the point in which EMS technicians enter trip information into its system, the initial step in the process, and when an office staff person enters the output from the technician's information into the billing system. It is at these points that control processes are needed to assure that all information is properly recorded and processed. We recommend that EMS begin a process of reconciling 911 operations information with its billing information.

The EMS Director has begun a process to establish reconciliation procedures. Recently, EMS began to review the use a data module that displays Durham's 911 operations dispatch information. That 911 data, similar to the information we used for our sample, includes the incident number that remains with the case throughout billing. Using that information, EMS is able to reconcile "trip" entries by technicians as well as billing system entries. The EMS Director said he is satisfied the process will achieve the goals of assuring that services are billed. The process is scheduled to become operational on July 9, 2009. The process is still manual but it provides an added level of control over the billing process.

According to the EMS Director, non-billing occurs because of the manual nature of processing the billing documents. The EMS Director said he needs resources to further automate the reporting process and eliminate much of the manual processing. He said he is discussing upgraded systems that will create a readily reviewable and reconcilable process in which he can reasonably assure that all billing information is captured.

Revenues may increase if unbilled customers are identified and billed. Using the recent reconciliation procedures EMS has established provides the opportunity to identify unbilled dispatches and potentially increase its revenues. The process of reconciling 911 dispatch information to billing information is a valuable tool in reasonably assuring that all earned revenue is billed.

We could not determine from our research a reasonable lag time from service date to customer billing. However, according to the EMS Director, insurance companies and Medicaid will pay bills for services

billed up to one year after the service date. Based upon that information, we believe EMS should determine a reasonable prior period and begin researching and identifying cases for which it did not bill and submit bills to those customers.

The EMS Director agreed that identifying and billing customers that were overlooked in the billing process is feasible. The Director said he will determine a reasonable period to review and bill those customers that were overlooked.

Recommendations

The following recommendations identify improvements that will enhance billing controls. The recommendations are designed to assure proper customer billing, and recover some revenue by billing patients that were not billed due to omissions in the billing process. To accomplish this, I recommend EMS:

1. Obtain and reconcile 911 dispatch information to billing system information at least weekly to assure that customers are billed for services.
2. Determine a reasonable period for which to reconcile prior dispatches and bill customers that were not billed.

APPENDIX 1

Sampling methodology

The population included in our sample was judgmentally selected and included 911 dispatches for the three-month period of January, March, and April, 2008. The dispatches for that period were provided by Durham's 911 operations at the request of the EMS Director. Our sample did not account for variances in activity for any particular month, staff changes, or other factors that may affect the data. We did not consider such factors to have a bearing on the results of our sample results because the goal was to determine if errors existed in the process and the reason for those errors. Our sample size was based on the following:

- Population 7338
- Confidence or risk level 95
- Level of precision ± 7 percent

We entered this information into an online sample size calculator to determine our sample size. The calculator determined that our sample size should be 191 dispatches. To choose the 191 dispatches to review, we sequentially numbered the dispatches from 1 to 7,338 and randomly selected the dispatches.

To review our sample cases or dispatches, we sat with an EMS clerk and provided her the dispatch number. The clerk looked up the number in the billing system to see if the dispatch was billed to a customer. We asked for explanations of any dispatch numbers that were not entered into the billing system. Before undertaking the survey, EMS officials informed us that the only reason a dispatch number should not surface in the billing system was because the patient did not require transport to a medical facility. Therefore, if a dispatch number was not identified, it was classified as an error.

As a result of reviewing 191 dispatched we found that 5.2 percent of the dispatches that should have been billed to customers were not billed. Using this frequency of unbilled accounts, resulted in estimating that approximately 192 instances of unbilled dispatched occurred out of the 7,338 dispatches. When applied against the average bill of \$473 per dispatch for those in the period that were billed, we estimate that EMS did not bill patients for \$90,816 during the three-month period.

APPENDIX 2

AUDIT RESPONSE – EMERGENCY MEDICAL SERVICES



COUNTY OF DURHAM Emergency Medical Services MEMORANDUM



TO: Richard Edwards, Auditor
FROM: MIKE SMITH, DIRECTOR
DATE: July 8, 2008
RE: Recent Audit of EMS Department

I have reviewed your report on the results of the recent audit of the EMS Department and we concur with your recommendations with reservations on reviewing tickets for the months indicated and reconciling these for billing at this time. Our office has made the necessary adjustments for the recommendations and is now in compliance. I am in the process of identifying someone here to go back through and actually touch all the tickets and follow them through to billing to assure they have been billed and accounted for. This process will take some time to accomplish, but we will be able to complete this.

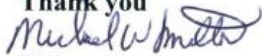
We are in the process of reconciling the daily EMS trips with the 911 CAD Log. Currently, the Supervisors are responsible for pulling up the daily CAD logs for the previous 12 hour period with all the 911 calls for EMS during that period and reconciling with the PREMIS patient data system to assure there is a PCR for every call generated by 911. Durham 911 is still awaiting a response from OSSI, the CAD vendor, as to how to print this log.

With implementation of the new automation system, we will be able to better monitor and reconcile the CAD versus PCR as E911 will be generating an event number for each call for EMS and a report initiated in the Patient Database Collection System. This call is automatically fed to the EMS server and initiates a record of the call for the technician to complete and finalize.

This problem was identified early on when EMS began the preliminaries for an updated automation record keeping system. The new system should in all practicality eliminate the existing issues we currently face.

I want to give credit to our office staff for the work they do. They are a very enthusiastic and dedicated group of individuals who consistently perform their duties well and go above and beyond to assure that the right thing is done within the department and that the County's best interest is forefront in their minds.

Thank you

A handwritten signature in cursive script that reads "Michael W. Smith".

Mike