



CITY AUDITOR'S OFFICE

# Ambulance Services Contract

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October 8, 2020

AUDIT REPORT NO. 2009

## **CITY COUNCIL**

Mayor W.J. "Jim" Lane

Suzanne Klapp

Virginia Korte

Kathy Littlefield

Linda Milhaven

Guy Phillips

Vice Mayor Solange Whitehead





October 8, 2020

Honorable Mayor and Members of the City Council:

Enclosed is the audit report for *Ambulance Services Contract*, which was included on the Council-approved FY 2019/20 Audit Plan. This audit was conducted to assess management controls over and contract administration of the City's contracted ambulance services. This contract provides Basic Life Support (BLS) services and patient transportation to the hospital from the Scottsdale Fire Department's emergency calls.

We found that the contractor's Priority 1 response time compliance was not being documented as required by the contract. During the audit, the department and ambulance contractor researched and provided documentation for enough calls to demonstrate the contractor's compliance in months when performance had appeared noncompliant. As well, original dispatch data files that would assist in researching system data discrepancies were not being retained. Further, the department's billing controls over the contract reimbursements should be improved, its BLS transport policy reevaluated, and its data controls and contract administration improved. The department agreed with most audit recommendations and is already working toward implementation.

If you need additional information or have any questions, please contact me at (480) 312-7867.

Sincerely,

A handwritten signature in blue ink that reads "Sharron Walker".

Sharron E. Walker, CPA, CFE, CLEA  
City Auditor

Audit Team:

Kyla Anderson, CIA, CLEA – Senior Auditor  
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# AUDIT HIGHLIGHTS

## Ambulance Services Contract

October 8, 2020

Audit Report No. 2009

### WHY WE DID THIS AUDIT

An audit of *Ambulance Services Contract* was included on the City Council-approved fiscal year 2019/20 Audit Plan. The audit objective was to assess management controls over and contract administration of the City's contracted ambulance services.

### BACKGROUND

The Scottsdale Fire Department's firefighter paramedics respond to emergency fire and medical calls for service, providing Basic or Advanced Life Support (BLS or ALS) when necessary. The City has contracted with Maricopa Ambulance (Maricopa) to provide BLS services and patient transportation to the hospital from these emergency calls.

The contract is a revenue-only contract; the City does not pay for the ambulance services. Instead, Maricopa bills the patients or their medical insurance providers and reimburses the City for ALS services.

There are two emergency medical call priorities. A Priority 1 response with the emergency vehicles using lights and sirens is assigned to the more urgent calls. Less urgent calls are assigned a Priority 2 response and do not require lights and siren response. The contract specifies the maximum response time requirements for each priority.

### City Auditor's Office

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### WHAT WE FOUND

**The Priority 1 response time compliance was not documented and original dispatch data files retained.**

Specifically, we found:

- The contractor did not submit required monthly ambulance response time reports, and audit analysis indicated response times did not comply with requirements in 8 months. The department and contractor subsequently documented allowable exceptions to meet compliance requirements.
- The department was not retaining original dispatch center data files.
- One response time requirement is unenforceable, and the contractor's data analysis methodology appears to omit canceled calls.

**Billing controls should be improved for the ambulance provider reimbursements.**

The department's ALS service reimbursement billing process is not consistent or reliable, with errors netting to approximately \$2,600 overbilled. In addition, the City does not invoice timely and the ambulance provider does not pay timely.

**The transport policy should be reevaluated, and data controls and contract administration should be improved.**

The Fire Department sends a firefighter paramedic on every transport, including BLS. In addition:

- The department's electronic patient care reporting (ePCR) system has data integrity and retention issues.
- The department can better safeguard protected health information (PHI).
- The Contract Administrator did not maintain an organized contract administration file and obtain some contract-required documents.

### WHAT WE RECOMMEND

We recommend the Fire Department:

- Require and retain monthly ambulance response time reports, retain original dispatch center files, and investigate data errors.
- Clarify and develop additional billing procedures that ensure invoices are accurate and timely. Also, ensure the contractor pays the City's invoices timely.
- Evaluate operational impact of the transport policy and the ePCR system reliability. Also, ensure PHI is secure and maintain a complete, organized contract administration file.

### MANAGEMENT RESPONSE

The department agreed with most audit recommendations and is working toward implementation.





## BACKGROUND

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The Scottsdale Fire Department's firefighter paramedics respond to emergency fire and medical calls for service providing Basic or Advanced Life Support (BLS or ALS) when necessary. The City has contracted with Maricopa Ambulance (Maricopa) to provide BLS services and patient transportation to the hospital from these emergency calls. The City and Maricopa contracted on December 4, 2017, with service starting on February 17, 2018.

The department's firetrucks are staffed with four firefighters: two paramedics licensed to perform ALS services and two Emergency Medical Technicians (EMT) licensed to provide BLS services. The City requires Maricopa's ambulances to be staffed with two EMTs. Upon receiving a 9-1-1 call for emergency medical service, the Phoenix Regional Dispatch Center dispatches the nearest firetruck and ambulance. For Priority 1 medical calls, Maricopa's contracted response time is 8 minutes and 59 seconds. As first responders, the department's paramedics provide ALS or BLS service on-scene, and then one firefighter paramedic travels with the patient in the ambulance to the hospital providing continuity of care.

### ALS

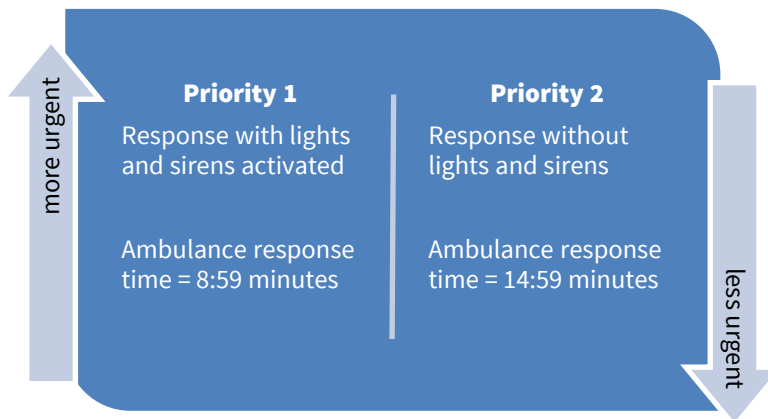
Advanced Life Support, such as providing pharmaceuticals and clinical lifesaving techniques.

### BLS

Basic Life Support, such as advanced first aid.

As summarized in Figure 1, the dispatch center assigns emergency medical call priorities in two levels.

**Figure 1. Priority Levels**



A Priority 1 response with the emergency vehicles using lights and sirens is assigned to the more urgent calls, such as a drowning. A Priority 2 response, without lights and sirens, is assigned to less urgent calls, such as back pain or general weakness. The City's ambulance services contract requires Maricopa to respond to Priority 1 calls within 8 minutes and 59 seconds and Priority 2 calls within 14 minutes and 59 seconds. Further, the contract requires Maricopa Ambulance to meet these response times for 90% of the calls within each month.<sup>1</sup>

**SOURCE:** Auditor review of Contract No. 2017-163-COS

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<sup>1</sup> When multiple ambulances are dispatched for an incident, the contract provides that only the first arriving ambulance is counted for the monthly response time percentage calculation.

When Maricopa’s overall response time compliance for Priority 1 and Priority 2 calls falls below 90% for any given month, the contract states that liquidated damages will be assessed, as summarized in the text box.

Compliance Percent	Liquidated Damages
89.0 - 89.9%	\$7,000
88.0 - 88.9%	\$9,000
87.0 - 87.9%	\$10,000
86.0 - 86.9%	\$11,000
0 - 85.9%	\$12,000

The City’s contract with Maricopa Ambulance is a revenue-only contract; the City does not pay for the ambulance services. Instead, Maricopa bills the patients or their medical insurance providers. Because Maricopa recovers its costs through patient billings, the contract requires it to provide all labor, materials, equipment, transportation, utilities, pharmaceuticals and disposable supplies, such as syringes and bandages.

After a call, the firefighter paramedics restock their bags with replacement pharmaceuticals from the hospital, which then bills Maricopa.<sup>2</sup> As shown in Figure 2, to replenish disposable supplies, Maricopa stocks a cabinet on each ambulance for Scottsdale Fire Department use only and a supply cabinet at each fire station for the department’s use.

**Figure 2. Disposable Supplies Storage**

**Fire Dept On-Ambulance Supplies**



**Fire Station Supply Cabinet**



**SOURCE:** Auditor pictures on June 25, 2020, at Fire Station 608.

City paramedics perform the ALS services, while ambulance staff must be qualified to provide BLS services. Therefore, the City’s contract requires Maricopa to reimburse the City for the difference between its ALS and BLS service rates. The Arizona Department of Health Services, which regulates ambulance fees, currently allows Maricopa to charge \$997.05 for ALS service and \$888.15 for BLS service.

<sup>2</sup> The ambulances are not authorized to carry pharmaceuticals.

In addition, the contract requires Maricopa to pay a base amount for the Fire Department’s Performance Improvement Coordinator (PIC) salary and reimburse up to \$50,000 annually for the department’s clinical upgrades and training.<sup>3</sup>

As summarized in Table 1, since starting its Scottsdale service in February 2018, Maricopa has directly reimbursed the City approximately \$3.4 million for these costs.

**Table 1. Contract Reimbursements, FY 2017/18 through FY 2019/20**

	FY 2017/18	FY 2018/19	FY 2019/20	Total
ALS Reimbursement	\$446,309	\$1,364,883	\$1,400,694	\$3,211,886
PIC Salary Reimbursement	\$0	\$56,924	\$60,055	\$116,979
Clinical Upgrades & Training Reimbursement	\$0	\$49,913	\$49,999	\$99,912
<b>Total</b>	<b>\$446,309</b>	<b>\$1,471,720</b>	<b>\$1,510,748</b>	<b>\$3,428,777</b>

Included in the above amounts are:

ALS reimbursement receivables as of June 30: \$300,206 for FY 2017/18, \$222,563 for FY 2018/19 and \$217,256 for FY 2019/20.

PIC salary reimbursement receivables as of June 30: \$10,009 for FY 2019/20.

Clinical upgrades and training reimbursement receivables as of June 30: \$19,843 for FY 2018/19 and \$24,415 for FY 2019/20.

**SOURCE:** Auditor analysis of SmartStream accounting records.

<sup>3</sup> The contract provides for the PIC salary reimbursement to increase by the department’s average annual wage increase percentage.



## OBJECTIVES, SCOPE, AND METHODOLOGY

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An audit of *Ambulance Services Contract* was included on the City Council-approved fiscal year 2019/20 Audit Plan. The audit objective was to assess management controls over and contract administration of the City's contracted ambulance services.

The audit scope consisted of the Fire Department's management of Contract No. 2017-163-COS and its associated amendment from service inception in February 2018 to June 2020.

To gain an understanding of contracted ambulance services and related contract administration, we reviewed a prior audit report, Audit No. 1009 *Ambulance Contracts: Compliance & Contract Administration*, issued by this office and pertinent audit reports recently completed by other auditors. In addition, we reviewed City Administrative Regulation 215, *Contract Administration*.

To gain an understanding of the Fire Department's management control processes, we reviewed its Emergency Medical Services (EMS) Quality Assurance Program Policies and other related procedures, including the advanced life support reimbursement procedure and an EMS treatment guideline. We also reviewed ambulance-related receipts and accounts receivable in the City's accounting system. To further understand policies, procedures, practices and available data, we interviewed the Fire Department's EMS program staff, including the Deputy Chief, Captain and Performance Improvement Coordinator. In addition, we interviewed a fire station Captain, the EMS program's systems integrator and administrative secretary, and the Maricopa Ambulance contract liaisons.

To evaluate management controls and contract administration, we:

- Tested accuracy of the Fire Department's call database by comparing to a sample of original XML data files received from Phoenix Regional Dispatch Center for March 2020.
- Compared the monthly Advanced Life Support billing spreadsheets to the resulting City invoices and to the underlying electronic patient care reporting (ePCR) system data exported in July 2020.
- Analyzed call data to evaluate whether liquidated damages should have been assessed for late arrivals.
- Determined if contract reimbursements were complete, accurate, timely invoiced and timely received.
- Assessed clinical upgrades and training transactions to determine if the available monies were fully utilized and expenses complied with contract terms.
- Evaluated whether the contract administration files were complete and organized. Specifically, we reviewed the files for a copy of the signed agreement, required bond and insurance certificates, and documentation pertaining to reimbursement requests, issue resolution and other relevant correspondence.

Our audit found that the Priority 1 response time compliance was not documented and original dispatch data files retained. Also, billing controls should be improved for the ambulance provider's reimbursements, the transport policy should be reevaluated, and data controls and contract administration can be improved.

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 work took place in March and June through September 2020.

## FINDINGS AND ANALYSIS

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### 1. The Priority 1 response time compliance was not documented and original dispatch data files retained.

The ambulance services contract details the ambulance response time performance requirements and explains response time calculations, which are based on Phoenix Regional Dispatch Center call data. As well, the contract states the limited unusual factors beyond the contractor's control that may affect performance, which are unusually severe weather, declared disasters, or periods of unusually high emergency service demands. Further, the contract requires the ambulance services provider to report each month on contract compliance, including explanations of response time exceptions.

- A. Although required by the contract, the Contract Administrator has not ensured Maricopa Ambulance provides monthly ambulance response time reports. Instead, the department and ambulance contractor discuss any noncompliant calls as part of their biweekly meetings. While the contract allows for delays caused by the specified unusual factors to not count toward the month's response time percentage, the department did not have documentation to support allowability of exceptions or that the biweekly meetings analyzed details of any identified exceptions. When the monthly response time performance is not met, the contract states liquidated damages will be assessed, varying from \$7,000 to \$12,000 per month depending upon the percent of on-time responses.

Based on audit analysis of dispatch center call data, Maricopa Ambulance met the response time requirements for Priority 2 responses in the 18 months ending on June 30, 2020. However, Priority 1 response times did not appear to be met at the required 90% level in 8 of the 18 months. As a result, during the audit, Fire Department and Maricopa Ambulance staff reviewed exception calls during those 8 months and developed the documentation, including ambulance GPS data and the department's detailed call data, for enough exceptions to meet compliance.

Further, during the audit, the Contract Administrator started developing a new monthly process to address the response time and related documentation requirements. When finished, the Contract Administrator plans to apply this process to each month retroactive to July 2020.

- B. The Fire Department is not retaining the original Phoenix Regional Dispatch Center call data files, which is particularly significant given the observed data errors in the department's call database. The original dispatch center call data files are useful when researching and correcting identified data issues.

The department only retains the original Phoenix Regional Dispatch Center XML files until the file server is full, then files are deleted. For example, the XML files prior to January 1, 2020, were no longer available in August 2020.

The Fire Department's initial data file provided to auditors was found to be incorrect when the department followed up with Maricopa Ambulance on selected analysis results of response time exceptions. The contractor noted data errors as the cause for 8 of 9 exceptions, which auditors confirmed by reviewing the original XML files.

After the department provided a corrected data file from its data warehouse, possible data errors were still apparent. For example, in the 18 months reviewed, 79 calls for service were missing the dispatch, on-scene, or both times, so response time compliance could not be determined. In addition, 843 calls showed questionable response times of less than 1 minute, with 373 being less than 30 seconds. While not a significant portion of the 28,800 total calls, these apparent data errors indicate a risk that the data may also have other less apparent errors. However, because the original dispatch center data files were not retained, they could not be used to validate the completeness and accuracy of call data in the department's data warehouse.

While the department has access to some dispatch information online, the XML files contain more complete data for verification purposes. As well, the Fire Department's Records Inventory notes that the ambulance services contract records will be retained for 6 years, plus the current year after the end of the contract. AR 215 *Contract Administration* also requires the contract administration files be kept for 6 years after the end of the contract.

C. One response time requirement is unenforceable due to lack of relevant data, and the contractor's data analysis methodology appears to omit canceled calls.

1. When calls for service are either upgraded from Priority 2 to Priority 1 or downgraded from Priority 1 to Priority 2 before the ambulance arrives on scene, the response time calculation is more complicated.

To calculate upgrades, the contract specifies the time elapsed when the call is upgraded is added to the Priority 1 response time standard (8 minutes 59 seconds). If this calculated response requirement exceeds the Priority 2 response time (14 minutes 59 seconds), the Priority 2 response time is used.

To calculate downgrades, the contract specifies that if the ambulance was already late for a Priority 1 response when the call was downgraded, then it is considered late. Otherwise, the Priority 2 response time would be used.

However, the dispatch center data does not reflect the time that a call was upgraded or downgraded, so call response time compliance cannot be determined. As well, another contract section states that both upgraded and downgraded calls are considered Priority 2 response requirements. Due to the different contract terms and the lack of upgrade/downgrade detail in the dispatch data, our audit analysis evaluated the 742 upgrades and 301 downgrades as Priority 2 with the corresponding 14:59 response time requirement. However, from the limited documentation obtained from Maricopa Ambulance, the ambulance provider appears to evaluate upgraded calls as Priority 1 (8:59 response time).

2. For ambulances canceled prior to on-scene arrival, the contract provides that the response time clock will stop at the moment of cancelation. However, if the elapsed time already exceeds the call's priority response time requirement, it will count as a late response. From the limited documentation provided, it appears that Maricopa Ambulance is excluding canceled calls for service in its monthly response time compliance calculation. During the 18-month period audited, about 1,000 calls were canceled out of the 28,800 total calls, or 3.5%. Although indicating its own response time calculations include canceled calls, the department does not follow up on performance measure discrepancies.



## Recommendations:

Fire Department management should:

- A. Ensure the ambulance services contractor, as required by the contract, provides an ambulance response time report with response time compliance, supporting call data, and explanations of performance exceptions. The Contract Administrator should retain these reports and related documentation in the contract administration file.
- B. Ensure original dispatch center call data files are maintained for the time period required by the department's records retention schedule and AR 215. Also, the department should investigate potential data errors, including obtaining replacement dispatch center data files, if available, to resolve them.
- C. Consult with the City Attorney to clarify the contract's upgraded/downgraded call response time requirements. Further, the Contract Administrator should review the ambulance contractor's monthly compliance reports for accuracy and completeness.

## 2. Billing controls should be improved for the ambulance contractor's reimbursements.

The ambulance services contract provides for Maricopa Ambulance to reimburse the City for Advanced Life Support (ALS) services, the Performance Improvement Coordinator's (PIC) salary expenses, and clinical upgrades and training. However, the Fire Department's ALS service reimbursement billing process is not consistent or reliable and reimbursement invoices were often not accurate or timely.

- A. The department's ALS service reimbursement billing process is not consistent or reliable.

City paramedics perform ALS services for emergency fire and medical calls, and the City's contract requires Maricopa to reimburse the City for the difference between its ALS and BLS (Basic Life Support) service rates. As shown in Table 2 on page 12, between February 2018 and May 2020, the department has often under- or over-billed Maricopa Ambulance, netting to approximately \$2,600 overbilled.

*(continued on next page)*

**Table 2. Estimated ALS Service Reimbursement Billing Errors, February 2018 through May 2020**

	No. of ALS Incidents	Estimated Amount
<b>Estimated Underbilled:</b>		
March 2018, August 2018 invoices do not match support	130	(\$13,600)
September 2018 to January 2020 billing support incomplete	160	(\$17,000)
<i>Total Estimated Underbilled</i>		<i>(\$30,600)</i>
<b>Estimated Overbilled:</b>		
April 2018, July 2019, November 2019 BLS billed as ALS	250	\$26,700
April 2018, July 2019, November 2019 billed non-Maricopa ambulance calls	50	\$5,300
May 2018, April 2019, April 2020 used incorrect reimbursement rate	560	\$1,200
<i>Total Estimated Overbilled</i>		<i>\$33,200</i>
<b>Net Estimated Overbilling</b>		<b>\$2,600</b>

Note: Due to discrepancies noted in the ePCR data, these amounts are estimated.

**SOURCE:** Auditor analysis of the Fire Department’s ePCR data exports and reports, and requests for miscellaneous billings.

In analyzing the department’s electronic patient care reporting (ePCR) data and the related ALS reimbursement invoices, auditors identified the following errors:

- For two months, the department’s request to Accounting for the ALS reimbursement miscellaneous billing did not match the ALS billing spreadsheet. As a result, the City’s invoice was incorrect, underbilling Maricopa Ambulance in both instances.
- For seven months, the ALS reimbursement invoice did not include some ALS incidents occurring on the last day or two of the month. These incidents were also not included in the subsequent month’s invoice.
- In one month, all but 19 calls for service were billed as ALS services. However, about 250 of these calls did not document ALS services being provided.
- The call data for 84 calls listed a non-Maricopa ambulance or did not have an ambulance identified in the transporting unit field, yet they were billed to Maricopa Ambulance. Fire Department staff agreed that 52 of these calls involved non-Maricopa ambulances and subsequently determined that 18 of the calls with blank ambulance fields were transported by Maricopa. Department staff did not locate further information for the other 14 calls.

- The Arizona Department of Health Services’ Ground Ambulance Service Rate changed three times during this period. The department applied the updated rates to all ALS services during the month, rather than from the effective date forward.

Clarifying and developing additional written procedures, using a verification checklist, and ensuring review by a supervisor or another experienced staff would provide additional quality control over the ALS service reimbursement billing process.

- B. Invoices requesting reimbursement from Maricopa Ambulance for ALS services, the PIC salary and for clinical upgrades and training were not always accurate or timely.
1. As summarized in Table 3, the City does not send invoices timely. As well, the ambulance contractor does not pay timely.

**Table 3. Billing and Reimbursement Timeliness, February 2018 through June 2020**

	ALS Services	PIC Salary	Clinical Upgrades & Training
<b>Number of City Invoices <sup>1</sup></b>	29	23	6
Late Invoices	21	1	0
% of Invoices Late	72%	4%	0%
<b>Number of Contractor Payments</b>	29	23	6
Late Payments <sup>2</sup>	27	20	5
% of Payments Late	93%	87%	83%

<sup>1</sup> The City did not send a June 2019 PIC salary reimbursement invoice until June 30, 2020, after audit inquiries.

<sup>2</sup> “Late” is the later of contractual due date or invoice due date.

**SOURCE:** Auditor analysis of SmartStream reports.

- The contract provides that the “City shall deliver the invoice to Contractor no later than 10 business days following the month of service.” However, as shown in Table 3, the ALS invoices were not sent timely for 21 of 29 months, or 72%. Additionally, the department did not obtain reimbursement for approximately \$5,000 in PIC salary expenses for FY 2019/20. Although the department sent the PIC salary reimbursement request to Accounting in late June 2019, the PIC reimbursement invoice was not sent until June 2020 after audit inquiries. Monitoring the ambulance contract’s accounts receivable is necessary to ensure invoices are sent timely.
- The City’s ALS service reimbursement invoices did not provide the contract-required information; however, that requirement should be redefined to protect patient privacy. The contract requires the invoice to include the date of service,

address of the pick-up location, and the patient's first and last name. Currently, the invoice only states the number of ALS services provided during the month, the reimbursement rate and the total reimbursement requested. However, modifying the contract language to require the call (or incident) number rather than the patient name would improve patient privacy protection during the billing process.

- The contract requires the contractor to pay the City within 30 calendar days of receiving the invoice. However, the 27 of 29 late ALS service reimbursements (or 93%) shown in Table 3 on page 13, were from 3 to 53 days late. Also, the 20 of 23 late PIC salary reimbursements (or 87%) were from 1 to 62 days late. As further summarized in Table 3, 5 of 6 clinical upgrade and training reimbursements (or 83%) were from 1 to 67 days late.

The contract does not include interest or penalty terms for the contractor's late payments.

2. The department did not calculate the PIC salary reimbursement annual increase in accordance with contract terms. The contract provides that the salary reimbursement "shall increase each year in an amount equal to the average annual wage increase percentage of the City Fire Department personnel." However, Fire Department management requested the reimbursement increase stating the individual PIC employee's actual salary increase for FY 2019/20. While the difference in amount is insignificant, using the PIC staff's actual wage increase is less anonymous than using the overall department increase as provided by the contract.

Supervisory review and using a written procedure or checklist would provide additional assurance that the reimbursement invoices are complete, accurate and timely and that untimely contractor payments are pursued. In addition, adding interest and/or a late payment penalty to contract terms could incentivize timely payments.

### Recommendations:

Fire Department management should:

- A. Ensure the EMS staff clarifies and develops additional written procedures, such as using a verification checklist and review by a supervisor or other experienced staff, to ensure accuracy in the ALS service reimbursement billings.
- B. Require the Contract Administrator to ensure:
  - Invoices are accurate and timely. A supervisor or independent staff should review the ALS service reimbursement calculations before sending the information to Accounting for billing.
  - The ambulance services provider pays the City within 30 days as stated in the contract. Further, Fire Department management should consider adding interest and/or late payment penalty contract terms to incentivize timely payments.
  - Additionally, ensure the PIC salary reimbursement annual increase is calculated in accordance with the contract terms.

3. **The transport policy should be reevaluated, and data controls and contract administration can be improved.**

The Fire Department sends a firefighter paramedic on every transport to a hospital, though this level of service is not required by the ambulance services contract. Also, data in the ePCR system may not be complete or reliable, and information systems controls over the department’s ePCR system can be improved. The department maintains patient protected health information (PHI) on its shared network drive and provides patient PHI to Accounting when requesting billings. Finally, the Contract Administrator did not maintain a complete, organized contract administration file.

- A. While not required by the ambulance services contract, the Fire Department sends a firefighter paramedic on every transport to a hospital. The contract provides that “all ambulance services will be provided at the Basic Life Support (BLS) levels, with the City providing the necessary paramedics for 911 emergency ALS response, riding with the patient in the ambulance to the hospital when necessary.” However, current department practice is to send a firefighter paramedic on all ALS and BLS ambulance transports.

When firefighter paramedics accompany patients during transport, Fire Department staffing is impacted. When there is only 1 firefighter paramedic available for a firetruck, a second firetruck is dispatched to assist with its Priority 1 calls. This results in 7 firefighters at the call. Further, if both firefighter paramedics for a firetruck are transporting patients, the firetruck would be out of service until at least 1 paramedic returns to the station. Having the ambulance provider complete the BLS transports would reduce the impact on department staffing.

- B. Data integrity and retention and information system controls need to be improved for the ePCR system.

- 1. Data in the ePCR system is not complete or reliable and may have contributed to errors in the department’s billing process. The department exports data from the ePCR system into a billing spreadsheet to serve as the basis for the City’s reimbursement invoices sent to the contractor. However, auditors found discrepancies when comparing the ePCR data to billing spreadsheets.

- About 100 invoiced calls were not in the ePCR data. Department staff reported that the ePCR system will “lose” a record at times, and neither they nor the ePCR vendor can locate the record. When a missing record is needed, such as for a public records request, the department will contact the applicable hospital to request a copy of the printed patient care record that the firefighter paramedic left with the hospital.
- Other ePCR data did not match the same call’s data in the department’s ALS billing spreadsheet, including date and time of service, transportation unit and treatment fields. These types of errors were noted during testing.

Example Call No.	Period	Time	Unit	Treatment
1	Dec 2018	No Match	No Match	No Match
2	Mar 2019	No Match	No Match (Blank)	No Match
3	Apr 2020	No Match	No Match (Blank)	Match

EMS program staff was unable to explain why call information differed from the billing spreadsheet details.

- The treatment field was blank for about 1,500 records in the department’s ALS billing spreadsheets. This field is used to determine if ALS services were provided and should be billed. When blank, the call defaults to BLS and is not billed.

We selected a judgmental sample of 6 records with a blank treatment field for department review. The EMS Deputy Chief identified one of these calls as ALS based on review of other ePCR data.

Creating an exception report to identify any record with a blank treatment field would allow staff to investigate whether ALS services were provided, and reimbursement should be requested.

Fire Department management reported the department is currently working on a data and documentation policy that may address consistency of ePCR data input.

2. Information systems controls over the department’s ePCR system can be improved.

- The department creates test records in the live ePCR system. Department management indicated that firefighters create test records during new employee and on-going training. However, these records are difficult to distinguish from actual patient records. A separate test environment would allow department staff to create data and test system use without intermingling it with real data. As well, it would also reduce the risk of billing Maricopa Ambulance for the test entries.
- The department has provided more system administrator access than appropriate and has not timely inactivated separated employee access.

Twelve ePCR user accounts provided system administrator access, including three Deputy Chiefs, two Fire Captains and a Fire Engineer who do not currently work in the EMS program. System administrator access provides powerful access to make system and data changes, and these access rights should be limited to the minimum number of users that is feasible. Further, a system integrator explained the generic system administrator account as being created to handle data issues. In addition to the generic system administrator account, there are five other generic ePCR user accounts without a defined business purpose. Generic user accounts should be avoided as they do not provide the necessary accountability for system or data changes.

Nine additional ePCR user accounts were for former department employees who separated from the City from 5 to 14 months earlier, and one user account was for a former department employee who now works in a different department.

- User access roles did not always appear to be assigned based on the principle of least privilege, which means individuals have access to only the information needed for their job duties. As shown in the examples below, some department staff appear to have more access than needed.

User Access Role	Employee’s Position
Battalion Chief	Fire Engineer
Captain	Firefighter
Captain	Safety, Fitness & Wellness Coordinator
Medical Director	Fire Engineer

In addition to department users, 15 user accounts are assigned to third parties, including Maricopa Ambulance, Arizona Department of Health Services, University of Arizona and hospital personnel. For these, the department is not automatically notified when the individuals no longer need access to the ePCR system, therefore a specific review process is required.

Regularly monitoring and updating ePCR user account access is particularly important due to the system containing protected health information.

C. The Fire Department can better safeguard PHI by limiting access to reports containing patient PHI and by using secure mail to transmit the reports when necessary.

- The department's ePCR reports used to develop ALS reimbursement invoices are maintained on its shared network drive. These reports contain the patient's first and last name and treatment as well as the incident address and other related information.

Two department staff groups and four individuals, including two retirees, have access to these reports but do not appear to have a day-to-day business need to access patient PHI.

<b>Questionable Access to Patient PHI</b>
Fire Dept Division Chief group
Fire Dept Senior Staff group
City Manager
Police Dept Systems Integrator
Retired Fire Dept Staff (2)

- The spreadsheet provided to the City's Accounting department for billing purposes contains patient PHI. In addition, the department transmits this monthly report through regular email, and the Accounting department then retains this document in its accounts receivable files. The billing support could provide call numbers rather than patient names since Maricopa Ambulance also has the detailed call data. The anonymous call number could alleviate these privacy concerns.

Access to confidential information, such as PHI, should be granted on the principle of least privilege, which means individuals have access to only the necessary information related to their job duties. Further, familiarity with PHI risks and confidentiality protections, such as those required by the federal Health Insurance Portability and Accountability Act (HIPAA), can better protect patient information. Providing regular PHI-related training to department staff can reduce the risk of unintended data exposure.

Fire Department management reported the department is currently working on a data and documentation policy that will address PHI security.

D. The Contract Administrator did not maintain a complete, organized contract administration file and did not obtain some contract-required documents.

- The Contract Administrator did not maintain contract administrator files including documentation of conversations and other pertinent documents and data in an organized, complete and easily accessible manner. For example, the Contract Administrator had difficulty producing records of conversations, reports, documents

and other data pertinent to the contract. Throughout the audit, the Contract Administrator was able to locate and provide most documents on an ad hoc basis.

- The department has not developed a system for organizing and maintaining contract administration files to facilitate the day-to-day responsibilities.
- The department did not obtain certain documents required by the contract. The Contract Administrator did not routinely request and maintain response time performance reports; the contractor's loss control program documentation; written certification of the contractor's employee criminal background investigations and substance abuse screenings; and one insurance certificate, which are required by the contract. However, the current Contract Administrator requested and received most of these documents during the audit. As well, supporting documentation for clinical upgrades and training reimbursement requests was not maintained in the contract file for reference.

Having organized, complete contract administration documentation enhances the Contract Administrator's ability to monitor and enforce contract terms and facilitate the contractor's service performance. Organized and complete documentation is particularly important when assigned personnel change, and the Fire Department has a practice of rotating its personnel through different assignments. Therefore, it is even more critical to establish a checklist or matrix to organize and track contract requirements.

During the audit, the Contract Administrator started organizing the contract administration file and developing a contract matrix.

### Recommendations:

Fire Department management should:

- A. Evaluate the operational impact of sending a City firefighter paramedic on BLS ambulance transports or modify the contract to also require BLS reimbursement.
- B. Evaluate and address the department's ePCR system reliability. Specifically:
  1. Ensure staff updates the program's data and documentation policy, including regularly testing and documenting data reliability issues and communications with the vendor to address them.
  2. Require a separate test environment be established for testing and training on the ePCR system. Also, require staff to limit system administrator access to the fewest users that are operationally feasible, ensure user access is based on the principle of least privilege, and regularly monitor and update user access.
- C. Ensure that patient information is secured and not accessed or viewed without a business purpose. Specifically:
  - Work with information technology staff to restrict PHI file locations to a least-privilege basis access and discontinue transmitting PHI to Accounting.
  - Ensure that staff with access to patient information receive PHI training.



- D. Require the Contract Administrator to maintain organized, complete and easily accessible contract administrator files, including records of key conversations, required reports, such as response time performance reports, and other documents pertinent to the contract. In addition, the Contract Administrator should develop a checklist or matrix to organize and track contract requirements.



## MANAGEMENT ACTION PLAN

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### 1. The Priority 1 response time compliance was not documented and original dispatch data files retained.

#### Recommendations:

The Fire Department management should:

- A. Ensure the ambulance services contractor, as required by the contract, provides an ambulance response time report with response time compliance, supporting call data, and explanations of performance exceptions. The Contract Administrator should retain these reports and related documentation in the contract administration file.
- B. Ensure original dispatch center call data files are maintained for the time period required by the department's records retention schedule and AR 215. Also, the department should investigate potential data errors, including obtaining replacement dispatch center data files, if available, to resolve them.
- C. Consult with the City Attorney to clarify the contract's upgraded/downgraded call response time requirements. Further, the Contract Administrator should review the ambulance contractor's monthly compliance reports for accuracy and completeness.

#### MANAGEMENT RESPONSE:

- A. Agree with the comment that improved methods need to be in place with regards to response time evaluations and data. We will retain PDF hard copies of the monthly data.
- B. Agree with comment to have better maintenance and control of dispatch files. Initial call dispatch data has a history of poor quality. Will continue to work with COS/Fire IT to better identify proper ways and types of response records data to be retained. Primary challenge is the amount and quality of initial data that is received from the regional dispatch center.
- C. Agree and consultation has occurred with the City Attorney's Office. The SFD will have in place updated documents and new policy review guidelines to address any previous concerns.

#### PROPOSED RESOLUTION:

- A. A new evaluation process has been developed and activated that will use additional staff time to better identify, evaluate and report response time compliance. Monthly records of all evaluated incidents will be saved in a PDF format in a restricted access Teams File. Additional data evaluation programs, through Firewire and the Maricopa Ambulance Street Eagle systems, were activated to provide the opportunity to individually look at the listed excessive response incidents, accurately compare incidents to the initial XML data set and confirm final updated data classifications (on-time, late, data error, exception).
- B. Has been addressed with some new evaluation system access and improved compliance processes, as indicated above.
- C. Have reviewed the updated procedures with the City Attorney's office and confirmed that the application of the new process will meet the components of the contract for call classification

and upgrade/downgrade responses for Priority 1 and Priority 2 incidents. In addition, there will be a joint document from the COS and Maricopa Ambulance indicating agreement with this and other specific contract interpretations and applications to improve completeness, accuracy, and compliance.

**RESPONSIBLE PARTY:**

SFD/EMS Deputy Chief - Jim Ford; SFD/EMS Captain – M.D. Clark; SFD/IT Rep – David Getz; Maricopa/IT Rep – Matt Behl

**COMPLETED BY:**

The new process is being installed to conduct the more detailed and in-depth review of response data, starting with July 2020, and continuing through the 2020/21 Fiscal Year. Better review of the initial XML Dispatch data and installation of a process to better classify and retain the needed records.

**2. Billing controls should be improved for the ambulance contractor’s reimbursements.**

**Recommendations:**

Fire Department management should:

- A. Ensure the EMS staff clarifies and develops additional written procedures, such as using a verification checklist and review by a supervisor or other experienced staff, to ensure accuracy in the ALS service reimbursement billings.
- B. Require the Contract Administrator to ensure:
  - Invoices are accurate and timely. A supervisor or independent staff should review the ALS service reimbursement calculations before sending the information to Accounting for billing.
  - The ambulance services provider pays the City within 30 days as stated in the contract. Further, Fire Department management should consider adding interest and/or late payment penalty contract terms to incentivize timely payments.
  - Additionally, ensure the PIC salary reimbursement annual increase is calculated in accordance with the contract terms.

**MANAGEMENT RESPONSE:**

A & B. Agree that ALS billing controls needed to be improved for the ambulance provider reimbursement process. Several upgrades and improvements to the previous practices have already been identified and changes made.

**PROPOSED RESOLUTION:**

- A. Written procedures and a new Ambulance Contract Matrix are currently being developed and put into place that will provide updated guidelines and serve to better identify important contractual components and timelines. The updated process will provide for an improved evaluation of both the monthly response compliance data and a better review of the ALS reimbursement data.
- B. The newly developed evaluation process will result in a standing SFD and Maricopa meeting

during the first week of each month to, more closely review the response data and ALS incident reimbursement data. This will allow for the submittal of the evaluated monthly invoices from COS accounting to be delivered before the 10<sup>th</sup> of the month. Have confirmed this will also allow for the review/submittal of the incident response data per the contract guidelines.

- To meet the recommendations of the Audit, all future reports associated with this type of data that is sent electronically, will be delivered through COS secure mail to address any potential confidentiality issues.
- New controls have been established to ensure the Ambulance provider pays invoices within 30 days. Past practice has shown improvement needed with both the initial COS invoicing and Maricopa payment response. Both have recently improved, but additional oversight needs to continue. Currently, all outstanding invoices have been paid. Contract does not have any interest or late payment penalty identified.
- Discussion with the City Attorney's office supports the clarified process to identify and apply the COS/SFD "average" annual employee payroll increase, as approved and identified by COS HR/Payroll, to the previously identified base contract amount for the PIC position. This meets the intent of the contract and will be further clarified in the joint letter of agreement for contract application.

**RESPONSIBLE PARTY:**

SFD/EMS Deputy Chief - Jim Ford; SFD/EMS Captain - M.D. Clark

**COMPLETED BY:**

In Process. A Contract Matrix template was recommended by the audit team. This document is currently being used to assist with the development of the new, written guidelines that will provide for better overall management of the Maricopa Ambulance contract. These guidelines are being implemented for monthly response compliance review, evaluation, and documentation effective for FY 2020/21 and be in place for July 2020, August 2020, September 2020 and moving forward.

**3. The transport policy should be reevaluated, and data controls and contract administration should be improved.**

**Recommendations:**

Fire Department management should:

- A. Evaluate the operational impact of sending a City firefighter paramedic on BLS ambulance transports or modify the contract to also require BLS reimbursement.
- B. Evaluate and address the department's ePCR system reliability. Specifically:
  1. Ensure staff updates the program's data and documentation policy, including regularly testing and documenting data reliability issues and communications with the vendor to address them.
  2. Require a separate test environment be established for testing and training on the ePCR system. Also, require staff to limit system administrator access to the fewest users that are operationally feasible, ensure user access is based on the principle of least privilege, and regularly monitor and update user access.

- C. Ensure that patient information is secured and not accessed or viewed without a business purpose. Specifically:
  - Work with information technology staff to restrict PHI file locations to a least-privilege basis access and discontinue transmitting PHI to Accounting.
  - Ensure that staff with access to patient information receive PHI training.
- D. Require the Contract Administrator to maintain organized, complete and easily accessible contract administrator files, including records of key conversations, required reports, such as response time performance reports, and other documents pertinent to the contract. In addition, the Contract Administrator should develop a checklist or matrix to organize and track contract requirements.

**MANAGEMENT RESPONSE:**

- A. Disagree that the transport policy needs to be re-evaluated and question if an audit review of the Maricopa Ambulance Contract should make operational recommendations related to the SFD customer service levels for non-ALS incidents.
- B. Agree with the comment that data control and contract administration should be improved.
- C. Acknowledge the recommendation and follow-up discussion with the Deputy City Attorney has occurred to evaluate the topic.
- D. Agree that a new Matrix/Checklist should be developed to help maintain, track, and organize contract requirements.

**PROPOSED RESOLUTION:**

- A. The level of “customer service and continuity of care” is a fire department and operational decision, as identified and implemented by the Fire Chief and City Sr. Staff. Per the City Attorney’s Office, there is no violation or prohibition in the contract that would prohibit SFD personnel from continuing to accompany a BLS patient to the hospital and providing a higher level of EMS service to the community. The impact of this service level is constantly evaluated by the SFD. Additionally, any changes to the existing contract that addressed potential BLS reimbursement, would result in a significant re-write of the document and conflict with the current ADHS approval of the contract.
- B. The SFD is aware of the challenges associated with the current ePCR program. Staff is constantly attempting to work with the current vendor to evaluate, identify and make appropriate changes to the program to address operational and data security issues. The department will better identify the capacity and functions of the current ePCR system. Will also evaluate the need to determine other options for patient data reporting systems, that could better meet the testing, documentation, and operational needs of the SFD. Evaluate future components that will be needed for separate testing/training, reliability of system, security features, along with the ability to collect and access accurate data.
- C. The current access levels have been reviewed and adjusted. The SFD is confident that our personnel and our medical partners (Maricopa, Zoi, HonorHealth) have the responsibility to ensure the security of any PHI that the SFD provides to them. There are numerous customer service and business reasons to work with our local health partners. All future reports with PHI will be sent to COS accounting or outside contacts through COS secure mail. Per the City Attorney’s Office, the SFD, City and all of our healthcare partners are required and share the

burden to meet all laws and contract requirements associated with confidential patient protected health information (PHI).

- D. The SFD is using a Matrix template provided by the auditor staff and a new Contract Matrix is currently under development. This document will allow the SFD Contract Administrator to better organize and track contract requirements. This document along with the new, written guidelines will provide for better overall management of the Maricopa Ambulance contract. The changes in the monthly evaluation process will result in a standing SFD and Maricopa meeting during the first week of each month to, more closely review the response data and ALS incident reimbursement data. Improved documentation and file access will occur as a result of these changes.

**RESPONSIBLE PARTY:**

SFD/EMS Deputy Chief - Jim Ford; SFD/EMS Captain - M.D. Clark

**COMPLETED BY:**

In Process. A Contract Matrix template was recommended by the audit team. These guidelines and recommendations are currently being implemented for monthly response compliance review, evaluation, and documentation effective for FY 2020/21 and will be in place for July 2020, August 2020, September 2020 and moving forward.

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