Ambulance Fee Billing Study

City of Madison

Finance Department
Information Technology Department
Fire Department
Organizational Training and Development Unit

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AMBULANCE FEE BILLING STUDY
Executive Summary

Background

The City of Madison began charging ambulance conveyance fees to non-residents in 1982 and to residents in 1989. In 2011, approximately 12,000 bills and claims per year produced approximately $5,200,000 in gross general fund revenue with approximately $270,000 being expended in staff, supplies, equipment, and collection expenses, for net general fund revenues of approximately $4,930,000.

In recent years, the current ambulance billing system software architecture, database and programming language has become increasingly antiquated and difficult to support and modify. In response to this situation, the 2012 Adopted Budget directed that a team from Finance, Fire, IT and Organizational Development review the system and make recommendations for improvement or change.

This review has confirmed that the City's current technology platform is too antiquated to be adequately configured to address new reporting requirements and regulations promulgated by state and federal agencies. In addition, the system requires manual updating of call data, insurance, mileage and patient care (diagnosis and procedural codes) information and this has led to incomplete information and billing delays. A more up-to-date and flexible technology platform would improve processing and increase program revenues.

Health care data reporting requirements have also become increasingly complex over the last several years with the implementation of the federal Health Insurance Portability and Accountability Act (HIPAA) and its important goal of maintaining the privacy of patient data. The federal government continues to update HIPAA privacy requirements, resulting in the need for monitoring and compliance staff by entities that collect patient data. In response to this added complexity, and in recognition of the fact that health care billing is not a core business activity of municipal government, many communities throughout Dane County and the entire state, including the cities of Milwaukee, Green Bay and Wauwatosa, are using third-party providers to meet ambulance billing service needs.

Options

Below is a summary of the available options comparing estimated initial and 10-year costs. Costs include projected salaries and benefits with assumed annual increases of 2%, required equipment, supplies, and training. Third party provider maintenance fees are conservatively assumed at 7% of billing revenues, but would most likely be negotiated by City staff to a lower level given the large volume of claims. Revenue projections associated with a third-party billing option were increased by $200,000 in the initial cost year and are assumed to increase by 1% annually above that amount thereafter, but may be greater due to expertise and efficiency (e.g., mileage tracking), greater access to various collection software solutions, ability to bill for supplies and non-transports at the City's discretion, and capability to regularly update software to ensure compliance with federal and state regulations. More detail is provided in the attached report.

Options	Initial costs	Total-10 year costs
Current City Processing and Software	$ 276,153	$ 3,035,557
In-house Processing with New Technology		
Outright purchase	$ 297,740	$ 3,042,703
Online billing software	$ 269,740	$ 2,902,582
Hybrid	$ 275,740	$ 2,984,935
Third Party Provider Contract	$ 216,241	$ 1,991,175

Recommendation:

Based on the team's review of the options, it is recommended that the City proceed with issuing a request for proposal to contract ambulance conveyance billing with a third party provider effective for January 2013. This approach is similar to the City's processing of workers compensation claims, which used to be administered in-house but has been managed by a third-party billing agent since the mid-1990's.

AMBULANCE FEE BILLING STUDY

INTRODUCTION

The current City of Madison ambulance billing system is facing challenges due to the need to update antiquated software, interface billing systems with new patient care reporting software being implemented by the Fire Department, maintain processing goals in the face of position reductions, and keep abreast of increasingly complex and rapidly changing federal and state health care reporting and patient privacy regulations. In response to these challenges, the 2012 Adopted Budget directed that staff study the most efficient and effective means of ambulance fee billing in response to federal cost reporting and reimbursement requirements. The following report and recommendations reflect input from the Finance, Information Technology, and Fire Departments, with assistance from Organizational Development and Training unit.

PROCESS AND SYSTEM

The City of Madison began charging ambulance conveyance fees to non-residents in 1982 and to residents in 1989. The ambulance billing process includes the collection of source data, preparation and submission of claims and account closure. Finance Department staff performs these functions and bill for those situations when a claim cannot be submitted. Paramedics within the Fire Department collect patient and health care information for each dispatched call. Patient identification, service location, summary of care and disposition are types of information collected in the electronic patient care reporting system called CityScape.

The Finance Department facilitates an import of the call information into a legacy billing system that was developed by Vermont Systems, Inc. (VSI) in the mid-1990's. More than a decade ago, VSI chose to leave the billing software market and the City obtained the source code for that system, and has maintained it in-house since that time.

The current environment/solution has remained largely unchanged since its initial implementation. It is based on the Open Edge platform developed by the Progress Software Corporation. It is client-server architecture with the Open Edge database residing on an HP UNIX server. The clients are deployed on Windows PC's – now at Windows 7.

The architecture, database, and programming language that must be employed to support the current system software are continually shrinking in U.S. market share to where it is often not even separately mentioned in market share surveys, but is instead lumped into the "other" category. At one time it was the primary development platform at the City of Madison, with several experienced developers on staff. Today, only a few employees are currently capable of working in that programming environment. Open Edge is not generally taught or utilized at colleges and universities, and there is no local training available. Educational opportunities are limited and generally found only in the largest metropolitan centers in the U.S. at relatively high costs.

The ambulance billing system is impacted by changes in health care, with new state and federal reporting requirements and regulations putting this system in a near perpetual state of modification. This creates challenges for City staff to stay abreast of these changes and make the necessary adjustments. It is estimated that City Information Technology devotes nearly a one-quarter full time position performing necessary support functions for the current system.

Following import of data from the CityScape system, Finance staff review and edit call information for completeness, obtain insurance information and provide diagnostic/procedure coding. Claims are filed with Medicare, Medicaid, other third party payers, and individuals for services as appropriate. Account closure is accomplished through the receipt of payment, assignment or hardship write-off, and forwarding of unpaid accounts to a collection agency.

The billing process has numerous challenges, including manual update of call data, aging systems and insufficient billing staff resources with the professional knowledge necessary to keep abreast of complex and rapidly changing regulations. Call information received from the patient care reporting system is incomplete. Currently, mileage and insurance information is manually updated for each call. Each call is also reviewed to

assess accurate diagnosis and procedural codes for billing. The patient care reporting and billing systems are outdated and in need of replacement.

Any transmitting of open accounts from the current legacy system to a new software system would most likely require manual manipulation and transfer by current City staff. Due to collection rules determining how long accounts remain "active," functionality of the legacy system will need to be maintained or closed accounts will need to be archived for 7 years beyond the date of system transition. The current billing solution programming language is now obsolete, automatic conversion of data is impractical, and limited Information Technology staff resources are available to maintain and implement modifications required by federal regulations.

2011 REVENUES AND COSTS

Ambulance billing produces net general fund revenue of approximately $4,930,000. Approximately 12,000 bills/claims per year produce approximately $5,200,000 in gross general fund revenue. This revenue is offset by approximately $270,000 in annual staff, supplies, equipment, and collection expenses.

CURRENT FINANCE DEPARTMENT STAFFING

The billing staff is comprised of 2.5 FTE Account Clerk and 1.0 FTE Account Technician positions. Supervisory staff provides limited oversight for the unit. A summary of staff full time equivalency (FTE) and responsibilities is included in Table 1.

Table 1 - Current Finance billing staff positions

Position	FTE	Responsibilities
Account Clerk 1/Purchasing	0.5	Review patient call data. Obtain patient insurance information from Hospitals. Update call data for mileage and insurance.
Account Clerk 2/Document Services	1.0 (vacant)	Generate claims/billing. Review call status reports to ensure timely processing. Serve as primary phone contact for inquiries. Process returned mail.
Account Clerk 3	1.0	Enter all receipts. Review accounts receivable reports, and initiate follow-up. File probate claims. Review and process billing information requests.
Account Technician 1	1.0	Import call data from patient care system. Review patient call data for appropriate billing code. Perform monthly accounts receivable reconciliation, Review and approve hardship waivers. Review aging accounts receivable report. Initiate transfer of accounts to collection agency.

CURRENT REGULATIONS

Maintaining an internal billing process requires adherence to the federal Health Insurance Portability and Accountability Act (HIPAA) and the federal Fair and Accurate Credit Transactions Act ("Red Flag Rule"). Patient privacy and information security policies are maintained as required under HIPAA. Protecting patient account information (i.e., as it pertains to identity theft) is covered under the Red Flag Rule. Policies and rules require development, training of staff and monitoring of rules promulgated by federal agencies. While billing staff have been trained in these areas, the level of complexity and pace of change, along with potential financial and legal

liability from non-compliance, requires a level of continuous training and expertise that is not available within the current staffing classifications.

Third party billing service providers proclaim expertise in this field. These entities continuously monitor changes in Medicare and Medicaid along with patient privacy and account security rules often employing attorneys who specialize in this area.

In order to adequately staff ambulance billing under the current and continuing regulations, a new professional position will be required at an estimated total cost of $70,000, including training. It is expected that a newly created professional position would be funded in part from deleting the vacant Account Clerk 2 / Document Services position in Table 1 above.

In the absence of increased staff-level expertise in monitoring all regulatory requirements, a significant liability could exist from potentially overbilling accounts for services provided. Medicare audits have increased significantly during the past few years and have resulted in requirements of repayment for incorrect and unintentional long-term billing errors.

NEW BILLING SOFTWARE OPTIONS

The following software options are currently available to the City for consideration:

- **Outright purchase**-Locally installed software on the City's network that will provide adequate billing, accounting, reporting options and integration to any patient care solution can generally be purchased for roughly $20,000. This cost would provide for two consecutive licensed users, with an annual commitment to maintenance and upgrades ranging from $3,000-$5,000. Training costs associated with the initial purchase of software would range from $4,000 to $10,000 plus travel expenses. Training is typically a 3-5 day process for customization and business rule set-up.

- **Online billing software**-Access through the internet may provide the City with a less expensive initial investment as all costs associated with the product purchase (licensing, implementation, and upgrades) are bundled into a monthly fee ranging from $700-$1,000.

- **A hybrid option-**Purchase software as a service and add "third-party" biller services (subject matter expert, customer service, invoice printing, mailing, etc.) as required. This option is typically sold at a "per account rate" ranging from $1.50 to $5.00 per account depending on the services purchased.

With any of the options listed above, an interface between the patient care report and the billing software will be necessary.   The Fire Department is planning to purchase new software (ImageTrend) for the patient care reporting component of the system. ImageTrend does not offer a billing module, but other billing service providers can be integrated with the ImageTrend solution. This purchase will be funded by a Homeland Security Metropolitan Medical Response System grant awarded by the Wisconsin Office of Justice Assistance. This grant was approved by the Common Council on December 13, 2011 (RES-11-00998, ID No. 24613). The resolution specifically authorized the purchase of ImageTrend software at a cost of $161,470, which will provide access for all Dane County responders. This software will also enable a seamless transfer to the electronic database used by the State of Wisconsin. The Fire Department plans to implement ImageTrend in late 2012.

THIRD PARTY BILLING SERVICE PROVIDER OPTION

There are basically two options to facilitate billing -- contract for third-party ambulance billing services or provide ambulance billing services internally with new software as mentioned above. Currently, 15 of 21 Dane County Emergency Medical Service (EMS) providers have chosen to contract for third-party billing service providers. The cities of Milwaukee, Green Bay, Wauwatosa and Eau Claire also use third-party billing services.

County	Provider	Billing
Dane	Belleville Area EMS	3 Rivers Billing
Dane	Cross Plains EMS	3 Rivers Billing
Dane	Fitch-Rona EMS	3 Rivers Billing
Dane	Marshall Area EMS District	3 Rivers Billing
Dane	Stoughton Area EMS	3 Rivers Billing
Dane	Mount Horeb	Cvikota Company
Dane	Monona Fire/EMS	EMS Medical Billing
Dane	Sun Prairie	EMS Medical Billing
Dane	Blooming Grove, Town of Burke, Maple Bluff EMS	In house
Dane	Brooklyn	In house
Dane	Dane County EMS	In house
Dane	Madison, City Fire Department	In house
Dane	Madison, Town Fire/EMS	In house
Dane	Middleton EMS	In house
Dane	Cambridge Area EMS	LifeQuest
Dane	Deer-Grove EMS	LifeQuest
Dane	Deforest	LifeQuest
Dane	McFarland EMS	LifeQuest
Dane	Shorewood Hills EMS	LifeQuest
Dane	Waunakee Area EMS	LifeQuest
Dane	Oregon Fire/EMS	Town of Madison
Brown	Green Bay	EMS Medical Billing
Eau Claire	Eau Claire	LifeQuest
Fond du Lac	Fond du Lac	EMS Medical Billing
Iowa	Arena EMS	In house
Milwaukee	Milwaukee	Advanced Data Processing, Inc.
Milwaukee	Wauwatosa	Advanced Data Processing, Inc.
Rock	Evansville	LifeQuest
Sauk	Plain Ambulance Service	3 Rivers Billing
Sauk	Spring Green Fire Protection District	Cvikota Company
Sauk	Sauk Prairie Ambulance	LifeQuest
Sheboygan	Sheboygan	EMS Medical Billing

Generally, a billing service provider charges on average between 5% and 9% of net collected accounts. These rates can vary even within the same billing company based upon "phases" of collection. This means as invoices age and other collection techniques are required and applied, service charges/rates also increase. Additionally, some billing service providers are not licensed collection agencies and therefore may be unable to follow the entire accounts receivable collection process. This deficiency requires the use of another collection agency to finalize the process and would represent an additional expense currently realized at 18.5% of net amounts collected.

Immediate collectability of an invoice and collection rates charged by a third party provider depend largely on all data obtained by paramedics. Furthermore, patient-care reports must be completed in a format that the third party service provider can process. Any significant variations in form completion may delay the billing process and result in increased service charges to the City.

Additional benefits to consider when contracting with a third party provider are the ability to provide operational consulting to improve processes and maximize billable services (including billing for supplies and non-transports if the City chooses), reduce overhead costs (e.g., IT software and hardware upgrades), respond to requests for reports from outside attorneys and insurance companies, and reduce personnel costs typically associated with data input, mailing, accounting and collections. Contracting with a third party provider would most likely eliminate the need for professional level staff oversight, management and review of the EMS billing process as described above under current regulations, but would still require a half-time Account Technician to continue coordination, reconciliation, and reporting responsibilities within the Finance Department.

AUDIT CONSIDERATIONS

As part of the audit process, the ambulance billing / revenue cycle is material and significant to the audited financial statements. As a result, the City's external auditors are required to prepare an internal control evaluation. This requirement will not change if ambulance billing is outsourced to a third party service provider. The external auditors will still need to understand the City's input / output controls over the ambulance billing process. The ambulance reconciliation will still require testing as part of the audit process. The third party service provider will need to submit required information in a way that makes it straightforward to audit.

Additionally, when outsourcing a process, the external auditors are required to document and gain an understanding of the service organization's controls when the transaction's process or accounts affected are material. Not all service organizations will pay to have the work performed to obtain meet these audit requirements. If that is the case, the City's audit effort and costs will increase. This analysis will need to be updated annually.

As a result of the audit considerations above, it is not anticipated the City would see a reduction in audit fees whether billing and collection efforts are processed internally via Finance Department staff or contracted for by a third party provider.

ANALYSIS AND RECOMMENDATIONS

The table below compares the annual and 10 year costs associated with the current ambulance billing program, continued in-house services combined with required software upgrade options, and contracting with a third-party billing entity. The current billing program, along with the software upgrade options, includes adding a professional level position to address the increasingly complex and rapidly changing regulatory environment.

	ANNUAL / FIRST YEAR COSTS				
		IN-HOUSE PROCESSING			
	CURRENT PROCESSING	OUTRIGHT PURCHASE	ONLINE BILLING SOFTWARE	HYBRID	THIRD-PARTY BILLING
Staff/benefits* **	227,740	227,740	227,740	227,740	33,241
System maintenance^	13,413	5,000	12,000	18,000	378,000
Equipment/supplies	15,000	15,000	15,000	15,000	-
Collection expense	20,000	20,000	5,000	5,000	5,000
System purchase	-	20,000	-	-	-
Training	-	10,000	10,000	10,000	-
Additional revenue (+ = less; - = more)#	-	-	-	-	(200,000)
	276,153	297,740	269,740	275,740	216,241

	10 YEAR COSTS				
		IN-HOUSE PROCESSING			
	CURRENT PROCESSING	OUTRIGHT PURCHASE	ONLINE BILLING SOFTWARE	HYBRID	THIRD-PARTY BILLING
Staff/benefits* **	2,493,685	2,493,685	2,493,685	2,493,685	67,147
System maintenance	146,872	101,519	131,397	213,750	3,943,971
Equipment/supplies	172,500	172,500	172,500	172,500	-
Collection expense	222,500	222,500	72,500	72,500	72,500
System purchase	-	20,000	-	-	-
Training	-	32,500	32,500	32,500	-
Additional revenue (+ = less; - = more)#	-	-	-	-	(2,092,443)
	3,035,557	3,042,703	2,902,582	2,984,935	1,991,175

*Assumes 2% annual increase in in-house staffing costs
^Assumes contract cost equals 7% of annual revenue
#Assumes a $200,000 initial revenue increase with a 1% annual increase above that amount thereafter.
**Assumes 0.5 FTE position allocation to Third-Party Billing option for first 2 years of contract.

The third-party billing option is assumed to generate an increase in revenues above current trends. It is anticipated that a third-party provider would have the expertise to achieve a greater efficiency in securing reimbursement for medical and related costs than the current in-house system. These additional revenues offset approximately 50% of the cost of this option.

The table above also assumes that third-party billing costs would be 7% of revenues. However, given the size of Madison's program, it is expected that costs will be lower than that amount. For example, if the actual costs are 5% of revenues, the 10-year cost estimate for the third-party billing option shown above would be approximately $1.2 million lower. Taken together, a third-party billing option could be expected to net an additional $1 million to $2.2 million or more in general fund revenues for the City over the next ten years.

In the absence of any changes to this program, overall general fund revenues from ambulance billing may be put at risk. Revenues from the program are tied to accurate and efficient processing of claims and securing reimbursement from insurers, Medicare and private payers. As the regulatory environment becomes more complex and City position resources increasingly scarce, the ability to maintain current claim volumes may become compromised and revenues will suffer accordingly. With increasing pressure on the City's property tax levy due to state-mandated levy limits and reductions in state aid, maintaining and growing revenues to the general fund from the ambulance billing program is critically important.

Below are some points to consider in comparing in-house and third-party approaches.

In-House	Third-Party
• Directly manage staff.	• Monitor and ensure compliance of contracted entity.
• Incur costs for continuous training in rapidly changing and complex regulatory environment.	• Economies of scale in providing services, including monitoring rapidly changing and complex regulatory environment.
• Non-core business activity.	• Core business activity.
• Revenues limited by expertise and availability of staff resources.	• Additional revenues to city related to greater expertise and ability to deploy staff and other resources.

Based on the review of qualitative and quantitative factors related to ambulance billing activities, including the need to upgrade billing software and respond to increasingly complex federal and state health care reimbursement and privacy regulations, it is recommended that the City issue a request for proposals to engage a third-party entity in the ambulance billing process. This approach is similar to the City's current contract for Worker's Compensation claims management. Third party billing is currently utilized by many communities in Dane County, as well as the cities of Milwaukee and Green Bay.

In response to a retirement and City budget constraints, current in-house staffing in the Ambulance Billing Unit was recently reduced from three to two FTE positions. All three positions are represented. In the event that the City opts for a third-party billing contract, it is recommended that a 0.5 FTE position (Account Technician 1) remain in place during an expected two-year transition phase. A review of other needs in the Finance Department has determined that consideration be given to reallocating the remaining 1.5 FTE positions to address workload in the Payroll and Accounts Payable sections, and to address other department-wide priorities.