

## **Executive Summary: Ypsilanti Blue Ribbon Committee, Emergency Medical System Subcommittee**

The Subcommittee members of Ingrid Kock, Timothy Robinson, Fred Davis, and Tom Biggs were charged to make a recommendation as to whether Ypsilanti should upgrade its fire department to provide Advanced Life Support, including hospital transport to individuals with medical emergencies in the City of Ypsilanti in order to enhance the efficiency of the fire department and to increase funding for the fire department through the billing to insurance companies for transport services rendered.

The subcommittee hosted presentations by Garden City Fire Chief Forbush, Huron Valley Ambulance (HVA) President and CEO Dale Berry, Ypsilanti Fire Department Lieutenant Max Anthouard, and University of Michigan Health System Clinical Department Administrator for Emergency Services, Peter Forster.

The subcommittee reviewed the existing HVA services as well as a proposal by the Ypsilanti Fire Department to provide advanced life support. The committee had discussions with Garden City Fire Chief on the success of their advanced life support program. In addition the subcommittee met with Peter Forster to obtain his opinion of the services of the HVA as well as to get his thoughts on Ypsilanti creating its own advanced life support team.

After reviewing the proposal and taking into account the information gathered from the presentations, the subcommittee is making the following recommendations.

1. Continue with our arrangement with the HVA to provide advanced life support to the City of Ypsilanti.<sup>1</sup>
2. Require all new hires to the fire department to be paramedics to avoid the training cost should there be a change in the provision of the ALS support services in the future.
3. Investigate grants as a way to fund training for current fire department staff.
4. Initiate preliminary negotiations with the HVA for the purpose of recouping equitable reimbursement to the City of Ypsilanti for services and materials provided by the firefighters the HVA currently charges residents.

### **Memo**

To: Emergency Medical System (EMS) Subcommittee Thomas Biggs, Timothy Robinson, Fred Davis  
From: Ingrid L. Kock

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<sup>1</sup> Subcommittee member Ingrid L. Kock believes that the City of Ypsilanti should take preliminary steps, including initiating discussions with neighboring communities, to upgrade the Ypsilanti Fire Department to provide ALS.

Re: Upgrading Fire Department Emergency Services

Date: February 28, 2005

The subcommittee met approximately six times and hosted presentations by the following individuals: Garden City Fire Chief Forbush, Huron Valley Ambulance (HVA) President and Chief Executive Officer Dale Berry, Ypsilanti Fire Department Lieutenant Max Anthouard, and University of Michigan Administrator Peter Forster.

Documents received by the subcommittee are included with this report.

**The Proposal:** It has been proposed that Ypsilanti upgrade its fire department to be able to provide Advanced Life Support (ALS), including hospital transport, to individuals with medical emergencies in the City of Ypsilanti in order to enhance the efficiency of the Fire Department and enable billing private insurance companies for transport. The Department is now licensed only to provide Basic Non-transport Life Support.

**Scope of the Committee:** While various figures were presented to the subcommittee with regard to the costs and potential revenue of upgrading the fire department to provide ALS transport, it is beyond the scope and means of the subcommittee to independently investigate such figures. Thus, all cost and revenue estimates are presented for consideration.

### **Current Provision of Emergency Medical Services in Ypsilanti**

#### *HVA*

Huron Valley Ambulance (HVA) provides ALS and ambulance transport services to Ypsilanti's residents as well as residents of eight southeast and south central Michigan counties. HVA was established by five area hospitals in 1981 and is governed by a 13 member volunteer Board of Trustees. HVA is a nonprofit charitable organization with national accreditation by the Commission on Accreditation of Ambulance Services (CAAS).

HVA covers a 2000 square mile service area which includes Ypsilanti. HVA utilizes 100 ambulances and has 500 employees who are not unionized. There is approximately 14% employee turn over each year.

HVA is not station-based but rotates its ambulances across its service area. HVA attempts to base two ambulances in Ypsilanti daily but cannot guarantee such placement.

HVA transported 1,313 emergency patients in 2003 and 671 patients in the first six months of 2004.

#### *Ypsilanti Fire Department*

The Ypsilanti Fire Department employs 21 firefighters, a fire chief and a fire marshall. This a reduction from 26 staff several years ago. Thirteen staff are licensed Emergency Medical Technicians (EMT). Two are licensed as EMT specialists. Two firefighters are licensed as paramedics, one as a paramedic instructor, and three as medical first responders.

In June 2004, the Ypsilanti City Council reduced the required number of firefighters on duty at one time from six to five and reduced emergency service responses to life-threatening calls only in an effort to save \$100,000.<sup>2</sup>

Ypsilanti firefighters work out of one station on Michigan Avenue. Firefighters have three engines, one as back up, and one ambulance, two utility vehicles and Tower 1, a 100 foot platform. .

### **Potential Revenue of Fire-based ALS and Transport**

Estimates of revenue to be derived from billing insurance companies for transports to the hospitals vary. Representatives from HVA notes that in switching to a fire based ALS/transport system, Ypsilanti “will, at best, collect \$270,000 in net revenue.” Conversely, HVA estimates that if Ypsilanti discontinues participation, HVA will experience a \$250,000 net loss. For further details, refer to HVA materials attached to this outline.

Lieutenant Anthouard estimates the gross revenue to be derived from the provision of advanced life support and transport at \$382,987 per year. For further details, refer to Anthouard’s proposal attached to this outline. Anthouard estimates that net revenue after the first year would be \$245,291.

HVA states that it writes off 55% of its bills in Ypsilanti. Utilizing figures from the Washtenaw County Public Health Department which place the Ypsilanti uninsured rate as 8% as of 2000<sup>3</sup>, Anthouard estimates unpaid billing as 30%. However, Anthouard also projects billing only \$350 per transport whereas HVA states that it bills \$500 per transport. Anthouard also estimates that more than \$100,000 would be saved in overtime with the hiring of more staff (see costs).

Garden City, which has a size and population comparable to Ypsilanti. (31,000 residents and six square miles) generates approximately \$300,000 in revenue by billing insurance companies for advance life support. However, Garden City has an older and wealthier population than Ypsilanti.

### **Costs of Upgrading to Fire-Based ALS**

Estimates of the cost of initially upgrading Ypsilanti’s fire emergency service system vary widely.

HVA estimates that start up costs could be \$646,000 which includes training costs and the purchase of one new and one used ambulance. Estimates of the ongoing cost estimates of a fire-based EMS system also differ. HVA representatives indicate that annual operating expenses could range from to \$368,000 to \$747,000, depending on the allocation of direct and indirect expenses. For further details, refer to HVA materials attached to this outline.

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<sup>2</sup> According to the *Ann Arbor News*, “Ypsilanti Fire Dept Overtime Increases” February 14, 2005, overtime pay actually increased 18 percent over the previous year, despite a 42 percent drop in emergency runs, attributed to unusual firefighter injuries and vacations.

<sup>3</sup> 2005 figures not yet available.

Anthouard estimates that the start up costs would be \$499,180, including the hiring of three firefighters, the cost of sending six fire fighters to paramedic school, and equipment and training. Anthouard states that there may be grants from the Federal Emergency Management Administration. For further details, refer to Anthouard's proposal attached to this outline.

Key differences in the estimates include HVA's provision for the purchase of two additional ambulances at \$120,000 each and HVA's larger estimate of training costs.

### **Other Reasons Presented to the Committee as to Why a Firebased ALS/Transport System Should Not be Adopted**

-Breaking up the regional HVA system will undermine its efficiency. Once a hole is cut out of that system, the community on the other side of the hole may be underserved.

-HVA enjoys considerable support from the area's medical community, especially hospitals.

-HVA provides many charitable services to residents of Ypsilanti.

-Concern that firefighters will be overtaxed by multiple emergencies. (see mutual aid below)

### **Other Reasons Presented to the Committee as to Why a Fire Based ALS/Transport Should be Adopted**

-According to its figures provided to the subcommittee, HVA had an average emergency response time for transports of 6.1 minutes and arrived within 9 minutes and 59 seconds 94.6 % of the time. According to figures provided by Ypsilanti firefighter's Union, the department has an average response time for EMS calls of 2 minutes and 30 seconds. Response time can have a direct relationship to a patient's survival in certain situations such as cardiac arrest or anaphalactic reactions. The provision of Basic Life Support Assistance may be insufficient to meet the patient's needs in such situations.

-The strength of a fire-based EMS system involves utilizing the surplus capacity of firefighter's non-firefighting time, which has expanded in recent years, as there are fewer fires. EMS is 80 percent of the run capacity of most communities that have a fire based system.

### **Fire-Based EMS in Western Wayne County: Garden City**

Western Wayne County; the Garden City-Garden City is typical of the 21 communities in Wayne and Oakland counties in its provision of fire based EMS service. In Western Wayne county, unlike Ypsilanti, the fire department has always been the primary agency to provide emergency services.

Garden City conducts its fire/EMS systems with two working engines and two ambulances. All four firefighters who are sent out on these vehicles are licensed ALS and carry all the ALS equipment. All the Garden City firefighters are cross trained firefighter and paramedics.

In Garden City, a billing company collects 90 percent of invoices from insurance company. Patients are billed three times and the bill does not go to a collections agency.

The city of Garden City charge prevailing rates, which is what the insurance company will pay. Garden City charges nonresidents 100 dollars more for transport services than nonresidents. At full staffing they have six people per day with a minimum of five. As in Ypsilanti, there is one fire station. Garden City firefighters transport patients to the closest appropriate hospital, unlike HVA, which will take patients where they want to go.

### **Mutual Aid**

While the fire mutual aid system is highly developed in Washtenaw County, no municipal system of EMS mutual aid exists in Washtenaw County, unlike Wayne County, where the mutual aid systems for fire and EMS are co-extensive.

HVA appears to indicate that it is unlikely to enter into any mutual aid agreement with the Ypsilanti Fire Department for the provision of EMS services to ensure coverage if several emergency medical situations were to erupt in Ypsilanti at one time, although Ypsilanti does enjoy a successful mutual aid relationship with other fire departments if fire mutual aid is required.

### **Intermediate Measures**

- consider requiring that new hires to the fire department be paramedics to avoid training costs should there be a change in the provision of ALS transport services in the future
- investigate grants for training current fire department staff.
- initiate preliminary negotiations with HVA for the purpose of recouping equitable reimbursement to the City of Ypsilanti for services and materials provided by firefighters, especially for those materials and services that HVA currently charges residents.

### **Recommendation**

Continue with our current arrangement with HVA to provide ALS to the City of Ypsilanti.<sup>4</sup>

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<sup>4</sup> Subcommittee member Ingrid L. Kock believes that the City of Ypsilanti should take preliminary steps, including initiating discussions with neighboring communities, to upgrade the Ypsilanti Fire Department to provide ALS.

# Upgrading Your Fire Department Emergency Medical System.

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<sup>5</sup> Lt. Anthoard points out that this proposal was written prior to July 2004 before the minimum staffing was changed to 5 firefighters on duty at a given time rather than 6 firefighters. This proposal assumes that the city will return to pre-July 2004 staffing levels.

- Advantages**
- Tremendous saving on over time budget
  - Increased staffing
  - Over \$200,000 annual cost recovery
  - 11% increase in life saving in the community

**Proposed Solution:** The proposed solution includes:

- Keeping our minimum staffing at six
- Upgrading our medical system to transport Advanced Life Support
- Optional restitution of a part-time secretary to take care of billing
- Hiring three fire fighter paramedics

**1) Costs**

a) Class Cost:

Upgrading to Advanced Life Support would include sending six fire fighters to paramedic school.

- Overtime (1100 hrs)		30,030 <sup>6</sup>	
- Class fee		\$ 5,000	
		\$ 35,530	
	X	6	
	Total		\$ <b>210,180</b> <sup>7</sup>

b) Hiring Cost:

3 fire fighters (based on top pay fire fighter)

- Salary		\$ 52,000	
- Benefits		\$ 10,000	
		Sub total\$ 62,000	
	X3	\$ 186,000	
- Par-time secretary (billing)		\$ 18,000	
	Total		\$ <b>204,000</b>

c) Other Spending:

- Equipment to update		\$ 50,000	
- Paramedic Bonus		\$ 20,000 <sup>8</sup>	
- EMS budget increase		\$ 15,000	
	Total		\$ <b>85,000</b>

<sup>6</sup> Salary is based on top paid fire fighter including next projected negotiation increase (6%).

<sup>7</sup> The Federal Emergency Management Administration has been providing fire departments with grant money to upgrade their emergency medical services to Advance Life Support for four consecutive years. A grant will be again available in 2005.

<sup>8</sup> Average bonus given to fire fighter paramedics in Wayne County

2) **Savings**

a) Over-Time Saving based on budget year 2002-2003

a.1) Extra duty days

Number of extra duty days last year with 7 people per shift	181		
Number of extra duty days if we would have 8 people per shift	38		
- Extra duty days saved	143		
- Saving (143 x 24 x \$ 27)	sub-total 1		\$ 92,664

a.2) Over time

Number of over time hours last year with 7 people per shift	389		
Number of over time hours if we would have 8 people per shift	69		
- Hours saved	320		
- Saving (320x \$27)	sub-total 2		\$ 8,640
	<b>Total</b>		<b>\$101,304</b>

b) Projected Advanced Life Support Income based on 2002-2003 activity

- Number of transports	1459		
- Cost per transport			\$ 350 <sup>9</sup>
	sub-total \$	510,650	
- Estimated unpaid 30%		\$ 153,195	
	<b>Total</b>		<b>\$ 382,987</b>

First year balance without grant:

- Hiring cost		\$ 204,000	
- ALS upgrade		\$ 210,180	
- Other spending	\$ 85,000		
- Transport income		\$ 382,987	
- Overtime saving		\$ 101,304	
	<b>Total</b>		<b>\$ 6</b>

Income after 1<sup>st</sup> year or first year balance with grant:

- Hiring cost		\$ 204,000	
- Other spending	\$ 35,000		
- Transport income		\$ 382,987	
- Overtime saving		\$ 101,304	
	<b>Total</b>		<b>\$ 245,291</b>

<sup>9</sup> Average billing done by transporting fire departments in Wayne County. Billing income varies widely see survey in appendix A.

**APPENDIX A**

<b>Community</b>	<b># of ALS Transport</b>	<b># of ALS Non-Transport</b>	<b>Private Agency</b>	<b>Average Response Time</b>	<b>Population</b>	<b>Square Mileage</b>	<b>2001 Net Revenue</b>
Allen Park	2	1	1%	4-5 min	29,000	7.1	\$300,000
Canton	3	0	na	4-6 min	80,000	36	\$350,000
Dearborn	4	5	5%	3-4 min	100,000	25.5	\$1,500,000
Dearborn Heights	2	0	1%	3-4 min	60,000	12.3	\$430,000
Garden City	1	1	na	3-4 min	31,000	6.7	\$281,000
Livonia	5	5	1%	3.2 min	101,000	36	\$1,500,000
Plymouth	3	0	95%	4 min	38,000	18	na
Redford	2	0	5%	3-4 min	51,000	11	\$500,000
Taylor	4	0	na	3-4 min	70,000	24	\$500,000
Wayne	2	0	na	3 min	22,000	6	\$300,000
Westland	5	1	na	3-4 min	88,000	20.4	\$1,200,000
<b>TOTALS</b>	<b>33</b>	<b>13</b>		<b>3-4 min</b>	<b>670,000</b>	<b>203</b>	

**Based on the above totals for Wayne County, the following comparison is made with Washtenaw County per the chart below**

	Population	Square Miles	Number of Units	Residents per Unit	Square Miles per Unit
Fire Base EMS Wayne	670 000	203	46	14 565	4,41
HVA Washtenaw	326 627	720	9	36 292	80,00

Note: The number of units 9-for HVA is based on averages. Units assigned to inter-hospital transfers are not considered to be available for emergencies.

**APPENDIX B**

**Advantages of a combined EMS system with HVA**

	<b>HVA</b>	<b>Fire-Based EMS</b>	<b>Combined System</b>
<b>Acceptable Response Times</b>	66 %	100%	100%
<b>Adequate Staffing</b>	88 – 90 %	100%	100%
<b>Mobile Intensive Care Units</b>	2 units	None	2 units
<b>Pediatric Units</b>	2 units	None	2 units
<b>Confined Space Rescue</b>	No	Yes	Yes
<b>Hazardous Material Rescue</b>	Decontamination Patient Treatment	Rescue Mitigation Decontamination	Rescue Mitigation Decontamination <b>Patient treatment</b>
<b>Diving Rescue</b>	No	No	No
<b>Extrication</b>	Seldom and limited	Yes <b>Pin in patient</b>	Yes Multiple pin in patients
<b>Community Education</b>	Yes	Yes	Yes
<b>Inter Hospital Transfers</b>	Yes	No	Yes
<b>Water and Ice Rescue</b>	No	Yes	Yes
<b>Mass Casualty Incidents</b>	No	No	Yes
<b>Terrorism Incidents /</b>	No	No	Yes first hour

<b>Disasters</b>			
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