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October 20, 2008

Chief Gregg Cleveland
La Crosse Fire Department
726 5th Avenue South
La Crosse, WI 54601

Dear Chief Cleveland:

Thank you for your inquiry regarding the basis and data used for determining the rate of cardiac arrest survival in Tri-State Ambulance's service area.

All clinical quality assurance for the EMS system is conducted by representatives of the EMS Medical Director, Eric Voter, M.D., FACEP. Tom Carpenter provides the majority of the statistical analysis and provides call review for 100% of all cardiac arrest calls in which Tri-State Ambulance attempts resuscitation.

The system does not use the Utstein Model for survival because it would exclude too many patients from the analysis of survival. For example, in order to be part of the "survival" subset under the Utstein Template and calculated as part of the survival rate, the patient must be a witnessed arrest of cardiac etiology, have bystander CPR and in a "shockable" rhythm upon 1st Responder arrival. Many our community's cardiac arrest victims would not fall into those categories and therefore be excluded from the survival statistics.

The Medical Director's office uses the more stringent measurement of **ALL** cardiac arrest victims in which Tri-State Ambulance attempted resuscitation. The Medical Director's office can break down the analysis for you to exclude trauma arrests, pediatric arrests and such if you like in the future.

Many EMS systems consider "survival" the delivery of a patient with the return of spontaneous circulation (ROSC) upon arrival at the hospital emergency department (E/D), regardless of whether or not the patient is actually discharged alive from the hospital. Our philosophy is that a patient is not a 'survivor' unless they are eventually discharged from the hospital. Therefore, we use the more stringent requirement that the patient was discharged alive from the hospital.

Applying these criteria, which are more stringent than the Utstein Template, the data analysis relating to cardiac arrest survival is as follows:

Medical Care in Motion

2007 – All Tri-State Service Area (includes intercepts with other ambulance services)

Resuscitations Attempted	ROSC at E/D	% ROSC	Discharged Alive	% Survival Rate
98	33	33.6	15	15.3

Applying the same criteria to survival rates by City of Tri-State's service area reveals the following table:

2007 – La Crosse County by City

City	Resuscitations Attempted	ROSC at E/D	% ROSC	Discharged Alive	% Survival Rate
Campbell	3	1	33.3	0	0.0
Cashton	1	0	0.0	0	0.0
Coon Valley	3	1	33.3	0	0.0
Ettrick	1	0	0.0	0	0.0
Galesville	2	0	0.0	0	0.0
Holmen	7	5	71.4	1	14.2
La Crescent	3	1	33.0	0	0.0
La Crosse	30	10	30.0	2	6.7
Nodine	2	2	100.0	0	0.0
Onalaska	15	5	33.3	4	26.7
Shelby	1	0	0.0	0	0.0
Stoddard	2	1	50.0	1	50.0
Trempealeau	1	0	0.0	0	0.0
Viroqua	6	4	67.7	3	50.0
West Salem	9	3	33.3	2	22.2
Westby	3	1	33.3	1	33.3

Through July 1, 2008, the Medical Director's office has determined the cardiac arrest survival rates have not been categorized by all cities, but the data to date is as follows:

40 Total Cardiac Arrest Cases (all areas)

ROSC = 16 (40%)

Discharged alive = 5 (13%)

City of La Crosse survive to discharge rate = 20% (3 of 15)

Please feel free to let us know if you have any questions, or would like additional information.

Sincerely,

 Matt Zavadsky
 Tri-State Ambulance, Inc.

 Tom Carpenter
 Gundersen Lutheran