Dane County EMS



Automatic ALS System Review – 10 Delta EMD Code Adjustment

Document prepared: June, 2021

Includes data: April 6 – October 6, 2020

Prepared by: DCEMS Office

Table of Contents

- Background & Data Overview
- Data Review: Non-Paramedic Agencies
- Data Review: Paramedic Agencies
- Appendix 1: 2019 Provider Surveys
- Appendix 2: Automatic ALS Workgroup Concerns & Benefits
- Appendix 3: Remaining Automatic ALS EMD Codes



Background

The Dane County EMS system utilizes a process known as automatic ALS (auto-ALS) where certain dispatch codes recommend both the non-paramedic agencies within the primary response area, and a paramedic unit. The original list of codes included in the auto-ALS program were developed in 2004, and have not since been reviewed. In 2019, a group of EMS leadership in Dane County met to address concerns and benefits (see Appendix 2) brought to the Dane County EMS office and the Dane County Communications Center (DCCC) regarding the structure of the auto-ALS system. This group consisted of EMS chiefs, DCCC staff, and DCEMS staff, and they discussed opportunities to adjust the auto-ALS program and the EMD codes used to trigger an automatic paramedic dispatch. This process developed a survey to both paramedic and non-paramedic providers (see Appendix 1) to receive feedback on EMS incidents where auto-ALS was utilized. The results of the auto-ALS workgroup survey led to the following conclusions.

- 1. The concept of "blurring" jurisdictional boundaries and sending the closest available ALS unit regardless of jurisdiction saved time and provided numerous, positive outcomes.
- 2. An analysis of the 9E1 (Cardiac or Respiratory Arrest) calls demonstrated an average response time of ALS units of 8 minutes and 3 seconds and BLS units of approximately 7 minutes. An estimated extrapolation based on prior BLS care consisting of arrival on scene, conducting a patient assessment, and identifying/requesting need for ALS that an average of 7 minutes was cut from the time that would previously have been needed for an ALS unit to arrive.
- 3. Collaboration amongst dispatchers, ALS, and BLS services was demonstrated across jurisdictional boundaries in support of patient care priorities.

The auto-ALS workgroup recommended an adjustment where non-paramedic jurisdictions would no longer receive automatic dispatch of paramedic agencies to the following EMD codes with the caveat that a non-paramedic agency can always request a paramedic intercept if needed:

- 10D1-ChestPain/NOT ALERT
- 10D2-ChestPain/DIFF SPEAK
- 10D3-ChestPain/CHANGE COLOR
- 10D4-ChestPain/CLAMMY
- 10D5-ChestPain/CARDIACHISTORY

Following the results of the initial provider summaries and an initial evaluation of 10 Delta auto-ALS, the workgroup recommended for Dane County to:

Initiate a six month pilot with 10-delta calls not utilizing automatic ALS dispatch. During this pilot period, it is the workgroup's recommendation that 10-delta calls be closely followed and audited by the Dane County EMS office to determine incidence of calls for paramedic intercepts or identification of at-risk situations for patient care.

This group of EMD codes will be referred to as the "10 Delta" codes throughout this report. The goal of this process was to provide follow up data and information on the restructuring of auto-ALS specific to the deployment of paramedic resources to 10 Delta EMD codes. The concept of closest ALS will remain in place for paramedic jurisdiction. The closest ALS process was not part of this project. The remaining auto-ALS codes can be found in Appendix 3.



Data Overview

The data collection period for this project is a six month timeline beginning on April 6th, 2020, through October 6th, 2020. 144 incidents were dispatched to non-paramedic jurisdictions, and 724 were dispatched to paramedic jurisdictions. Incidents were placed in one of two categories. The first category is a response by a non-paramedic agency, including those with a request for paramedic intercept. The second category is a response by a paramedic agency. It is important to note that two agencies in Dane County (DeForest FD/EMS and Waunakee Area EMS) transitioned from the AEMT to paramedic level during this data collection period. These two agencies historically demonstrated high utilization of auto-ALS for 10 Delta EMD codes. These agencies along with Cambridge EMS still have backup ambulances operating at the EMT or AEMT level, so it is possible to have calls with both paramedic and non-paramedic responses for those services during the data collection period.

NUMBER OF CALLS BY EMD CODE - ALL AGENCIES



Data Review: Non-Paramedic Agencies

Sample size - 144 Incidents (April 6, 2020 - October 6, 2020)

The following section is an overview of 144 responses by EMT and AEMT agencies to 10 Delta EMD codes. This section does not include responses by EMR agencies with a complementing transporting paramedic unit. This section includes a breakdown of transport disposition, provider impression, 12-lead EKG acquisition, aspirin administration, and patient stability. Patients determined to be unstable, as well as those receiving a paramedic intercept by request of the EMT/AEMT agency are reviewed in the MD review section.

Sample Overview

Agencies included in this section:

Belleville Area EMS Brooklyn EMS Cambridge Area EMS Cross Plains Area EMS DeForest FD/EMS District One EMS Marshall Area EMS McFarland Fire & Rescue Mount Horeb FD/EMS Oregon Area FD/EMS Stoughton Area EMS Waunakee Area EMS





NON-PARAMEDIC 10 DELTA INCIDENTS BY MONTH

NON-PARAMEDIC 10 DELTA INCIDENTS BY AGENCY



NON-PARAMEDIC CALLS BY EMD CODE



Transport Disposition

Most of the 144 incidents resulted in a patient transport.

Figure 1. Non-Paramedic Transport Disposition

Patient Disposition	Number of Incidents	Percent of Total
Treated, Transported by EMS Unit	127	88.2%
NoTransport	17	11.8%
Grand Total	144	100.0%



Provider Impression

A majority of 10 Delta incidents for non-paramedic agencies had a documented provider impression of cardiac nature (64.6%).

Row Labels	Number of Incidents	Percent of Total
Cardiac	93	64.6%
GI/GU	12	8.3%
Alcohol/Substance Use	11	7.6%
Behavioral/Psychiatric	7	4.9%
Respiratory	5	3.5%
Infectious	4	2.8%
None	4	2.8%
Other Pain	4	2.8%
Neurologic	3	2.1%
Other	1	0.7%
Grand Total	144	100.0%

Figure 2. Non-Paramedic Provider Primary Impression Breakdown

12-Lead EKG Acquisition – All Impressions

84% of non-paramedic 10 Delta incidents had a documented 12 lead EKG obtained.

Figure 3. Non-Paramedic 12-Lead EKG Acquisition - All Provider Impressions			
12-Lead EKG Acquired Number of Incidents Percent of Total			
Yes	121	84.0%	
No	23	16.0%	
Grand Total	144	100.0%	

Figure 3. Non-Paramedic 12-Lead EKG Acquisition - All Provider Impressions

12-Lead EKG Acquisition – Cardiac Impressions

Nearly all (95.7%) incidents with a cardiac impression had a documented 12 lead EKG obtained.

Figure 4. Non-Paramedic 12-Lead EKG Acquisition - Cardiac Impressions

12-Lead EKG Acquired	Number of Incidents	Percent of Total
Yes	89	95.7%
No	4	4.3%
Grand Total	93	100.0%

Aspirin Administration – All Impressions

Examples of situations where not administering aspirin is considered justified include patient hypersensitivity to aspirin, patient inability to safely consume aspirin (missing teeth, oral injuries, etc.), and patient declining the medication. Aspirin administered prior to the arrival of EMS is included as "Yes".

Figure 5. Non-Paramedic Aspirin Administration - All Impressions			
ASA Given Number of Incidents Percent of Total			
No	58	40.3%	
No (Justified)	10	6.9%	
Yes	76	52.8%	
Grand Total	144	100.0%	



Figure 6. Non-Paramedic Aspirin Administration - Cardiac Impressions			
ASA Given	Number of Incidents	Percent of Total	
No	22	23.7%	
No (Justified)	8	8.6%	
Yes	63	67.7%	
Grand Total	93	100.0%	

Aspirin Administration – Cardiac Impressions

Paramedic Intercepts

There were seven cases where a non-paramedic agency requested a paramedic intercept. One of these seven intercepts was ordered by a receiving facility.

-		-
Intercept Requested	Number of Incidents	Percent of Total
Yes	7	4.9%
No	137	95.1%
Grand Total	144	100.0%

Figure 7. Non-Paramedic Request for Paramedic Intercept

ALS Interventions During Intercepts

Four of the seven incidents where a paramedic intercept was requested resulted in a paramedic level intervention. The detail of these interventions can be found below. These four incidents account for 57% the seven requests for paramedic intercept, and 2.8% of the total sample of 144 10 Delta non-paramedic incidents.

- Incident 1 Pain Control & Nausea Management
- Incident 2 Nausea management
- Incident 3 Cardiac arrest care
- Incident 4 Pain control & benzodiazepine administration
 - Paramedic unit administered benzodiazepines at the order of medical control for treatment of hyperventilation and anxiety.

Patient Stability - Physician Review

Sample size – 49 Incidents (April 6, 2020 – October 6, 2020)

The 49 incidents reviewed by the physician review panel accounts for 34% of the non-paramedic sample. In other words, 34% of patients treated by non-paramedic agencies during the data collection period were deemed potentially unstable due to meeting one or more of the following criteria:

- GCS < 15
- SBP < 100
- HR < 60 or > 120
- SPO2 < 90
- Abnormalities in AVPU score
- A paramedic intercept request



The physician review panel consisted of Dr. Michael Mancera – UW Health, Dr. Kacey Kronenfeld – Dane County EMS Medical Director, and Dr. John Aguilar – Madison Emergency Physicians (MEP). This panel reviewed the 49 EMS ePCRs meeting the above criteria to answer three questions. The questions were answered in a yes/no format, with ancillary discussion documented as shown later in this section.

- 1. Was there indication for emergent paramedic level interventions?
- 2. Would there have been a clear benefit or prevention of mortality/morbidity if the paramediclevel intervention was performed in nine minutes or less?
- 3. Was the EMD code accurate?
 - It was later discussed that it is difficult to determine whether or not an EMD code was accurate. This review does not have the 911 audio to validate or compare the process by which the 911 call was coded as a 10 Delta, and the members of this panel are not formally trained in 911 call taking and dispatch best practices. This question was reframed to reflect whether or not the EMD code seemed to fit the provider's assessment.

The following paramedic-level interventions were used as the reference list for emergent paramedic level interventions during the physician review.

- Intubation/Drug-Assisted Advanced Airway Placement
- Cardiac Arrest Management
- Seizure Management/Benzodiazepine Administration
- Pain Control/Narcotic Administration
- Chemical Sedation
- Cardiac Arrhythmia Management
- External Transcutaneous Pacing
- Synchronized Cardioversion
- Cricothyrotomy/Surgical Airway
- Thoracic Needle Decompression

The numbers included in this section are a percent of the 49 incidents in the physician review, not the 144 incidents in the entire non-paramedic sample.

Outcome

Unfortunately one of the spreadsheet files was overridden and could not be reverted. This physician did provide a statement on the non-paramedic review: *The majority of cases did not require paramedic level interventions (Q1 and Q2). Of the cases that did require paramedic intervention, the most common areas that I identified as requiring paramedic level intervention were ECG interpretation and pain control.*

Q1 - Was there indication for emergent paramedic level interventions?			
Physician 1 Physician 2 Physician 3			
 Yes – 4/49 (8%) No – 45/49 (92%) 	 Yes - 2/49 (4%) No - 47/49 (96%) 	Unavailable	
Common observations for patients who did not require a paramedic level intervention included stable			

Common observations for patients who did not require a paramedic level intervention included stable vital signs, unremarkable EKG findings, and patient improvement with BLS intervention.



Q2 - Would there have been a clear benefit or prevention of mortality/morbidity if the paramedic-level intervention was performed in nine minutes or less?

Physician 1	Physician 2	Physician 3
 Yes - 0/49 (0%) No - 49/49 (100%) 	 Yes - 0/49 (0%) No - 49/49 (100%) 	Unavailable

Q3 - Was the EMD code accurate?			
Physician 1	Physician 2	Physician 3	
 Yes – 48/49 (98%) No – 1/49 (2%) 	 Yes – 46/49 (94%) No – 3/49 (6%) 	Unavailable	

General Discussion & Opportunities

- 1. The rapid interpretation of 12-lead EKGs is a skill unique to the paramedic scope of practice. A potential opportunity was identified for non-paramedic agencies to expand the refusal process for patients experiencing chest pain to include sending 12 leads as part of the refusal process for physician interpretation.
- 2. There is an opportunity to improve capture of 12 lead EKGs for patients with a suspected cardiac impression. While the EKG capture rate in this sample was nearly 96% for calls with cardiac impressions, this procedure is minimally invasive and critical in ruling out cardiac injury. Many ePCRs without a documented 12 lead EKG had a 3 or 4 lead, but additional training is warranted to ensure a full 12 lead EKG is performed for patients experiencing chest pain and cardiac symptoms.
- 3. Documentation is sometimes lacking to support the trends noted in vital signs, often making it difficult to determine patient stability just from a brief non-descript narrative. There is an opportunity for additional emphasis on the importance of:
 - Validating vital signs imported from the monitor
 - Bumpy roads and artifact can often lead to the monitor documenting an exceedingly high heart rate.
 - A poor SPO2 signal can often lead to low readings, despite the patient's presentation not showing any sign of hypoxia.
 - In general, there is a need to clarify identification and need for intervention for abnormal vital signs.
- 4. There is an opportunity to increase aspirin administration for patients with a cardiac impression. Roughly one out of every four patients without a documented contraindication or patient refusal to receive aspirin did not receive this medication when reporting cardiac symptoms. Additional training is warranted to ensure aspirin is administered to patients experiencing chest pain and cardiac symptoms.



Data Review: Paramedic Agencies

Sample size - 724 Incidents (April 6, 2020 - October 6, 2020)

The following section is an overview of 724 responses by paramedic agencies to 10 Delta EMD codes. This section will review a breakdown of transport disposition, provider impression, 12-lead EKG acquisition, aspirin administration, and patient stability. Patients determined to be unstable are reviewed in the MD review panel section.

Sample Overview

Agencies included in this section:

Cambridge Area EMS Deer-Grove EMS DeForest FD/EMS Fitch-Rona EMS Madison Fire Department Middleton EMS Monona Fire/EMS Sun Prairie EMS Town of Madison FD/EMS Waunakee Area EMS

PARAMEDIC 10 DELTA INCIDENTS BY MONTH



PARAMEDIC 10 DELTA INCIDENTS BY AGENCY



PARAMEDIC CALLS BY EMD CODE





Page **9** of **18**

Dane County Emergency Management | EMS Division

Transport Disposition

Fiaure 8.	Paramedic	Transport	Disposition
i iguie oi	. ananne ane		Disposition

Patient Disposition	Number of Incidents	Percent of Total
Treated, Transported by EMS Uni	t 657	90.7 %
No Transport	67	9.3%
Grand Total	724	100.0%

Provider Impression

A majority of 10 Delta incidents for paramedic agencies had a documented provider impression of cardiac nature (62.2%). This closely aligns with the non-paramedic share of cardiac impressions.

Patient Disposition	Number of Incidents	Percent of Total
Cardiac	450	62.2%
Behavioral/Psychiatric	51	7.0%
GI/GU	44	6.1%
Other Pain	35	4.8%
Respiratory	33	4.6%
Neuro	33	4.6%
None	30	4.1%
Alcohol/Substance Abuse	22	3.0%
Infectious	15	2.1%
Other	6	0.8%
Trauma	4	0.6%
Allergic Reaction	1	0.1%
Grand Total	724	100.0%

12-Lead EKG Acquisition – All Impressions

Figure 10. Paramedic 12-Lead EKG Acquisition - All Provider Impressions

Patient Disposition	Number of Incidents	Percent of Total
Yes	593	81.9%
No	131	18.1%
Grand Total	724	100.0%

12-Lead EKG Acquisition – Cardiac Impressions

Nearly all (95.3%) incidents with a cardiac impression had a documented 12 lead EKG obtained.

Figure 11. Paramedic 12-Lead EKG Acquisition - Cardiac Impressions

Patient Disposition	Number of Incidents	Percent of Total
Yes	429	95.3%
No	21	4.7%
Grand Total	450	100.0%



Aspirin Administration – All Impressions

Examples of situations where not administering aspirin is considered justified include patient hypersensitivity to aspirin, inability to safely consume aspirin (missing teeth, oral injuries, etc.), and patient declining the medication. Aspirin administered prior to the arrival of EMS is included as "Yes".

Figure 12. Paramedic Aspirin Administration - All Im	npressions
--	------------

ASA Given	Number of Incidents	Percent of Total
No	229	35.02%
No (Justified)	21	3.21%
Yes	404	61.77%
Grand Total	654	100.00%

Aspirin Administration – Cardiac Impressions

Figure 13. Aspirin Administration - Cardiac Impressions		
ASA Given	Number of Incidents	Percent of Total
No	86	19.11%
No (Justified)	17	3.78%
Yes	347	77.11%
Grand Total	450	100.00%

Paramedic Level Interventions – All Impressions

While the rapid interpretation of 12 lead is a skill unique to the paramedic scope of practice, nonparamedic agencies have this option available by transmitting the 12 lead early in the incident for consult at the receiving facility.

Figure 14. Paramedic Intervention – All Impressions

Paramedic Intervention	Number of Incidents	Percent of Total
No	629	86.88%
Yes	95	13.12%
Grand Total	724	100.00%

Paramedic Level Interventions – Cardiac Impressions

Figure 15. Paramedic Intervention - Cardiac Impressions		
Paramedic Intervention	Number of Incidents	Percent of Total
No	390	86.67%
Yes	60	13.33%
Grand Total	450	100.00%

Figure 16 shows the breakdown of documented paramedic level interventions for all provider impressions. These results are incident counts and may exceed total number of calls. For example, if a patient receives both narcotic pain medication and nausea management, there is one instance of pain control and one instance of nausea management. There were a total of 110 documented paramedic level interventions for the 95 incidents noted to have a paramedic level intervention performed.



Intervention Description	Instance of This Intervention	Percent of Total
Nausea Management	67	60.91%
Pain Control	25	22.73%
Adenosine	4	3.64%
Cardiac Arrest Care	4	3.64%
Vagal Maneuvers*	4	3.64%
Atropine	2	1.82%
Cardioversion	1	0.91%
Anaphylaxis Medications**	1	0.91%
Benzodiazepine Administration	1	0.91%
Posterior EKG**	1	0.91%
Grand Total	110	100.00%
*Vagal maneuvers are now in the AEMT scop **Interventions were not included in the pro Specific paramedic anaphylaxis medications	e of practice wider survey or physician review panel as li were diphenhydramine and famotidine.	fe-saving cardiac interventions.

Figure 16. Paramedic Level Interventions – All Impressions Breakdown

Patient Stability – Physician Review

Sample size – 214 Incidents (April 6, 2020 – October 6, 2020)

The 214 incidents reviewed by the physician review panel accounts for 29.56% of the paramedic sample. To meet criteria for the physician review, a patient needs to meet at least one of the following criteria:

- GCS < 15
- SBP < 100
- HR < 60 or > 120
- SPO2 < 90
- Abnormalities in AVPU score

The physician review panel consisted of Dr. Michael Mancera – UW Health, Dr. Kacey Kronenfeld – Dane County EMS Medical Director, and Dr. John Aguilar – Madison Emergency Physicians (MEP). This panel reviewed the 214 EMS ePCRs meeting the above criteria to answer three questions. The questions were answered in a yes/no format, with ancillary discussion documented as shown later in this section.

- 1. Was there indication for emergent paramedic level interventions?
- 2. Would there have been a clear benefit or prevention of mortality/morbidity if the paramediclevel intervention was performed in nine minutes or less?
- 3. Was the EMD code accurate?
 - It was later discussed that this is very difficult to determine whether or not an EMD code was accurate. This review does not have the 911 audio to validate or compare the process by which the 911 call was coded as a 10 Delta. This question was reframed to reflect whether or not the EMD code seemed to fit the provider's assessment.



The following paramedic-level interventions were used as the reference list for the physician review.

- Intubation/Drug-Assisted Advanced Airway Placement
- Cardiac Arrest Management
- Seizure Management/Benzodiazepine Administration
- Pain Control/Narcotic Administration
- Chemical Sedation
- Cardiac Arrhythmia Management
- External Transcutaneous Pacing
- Synchronized Cardioversion
- Cricothyrotomy/Surgical Airway
- Thoracic Needle Decompression

Outcome

Q1 - Was there indication for emergent paramedic level interventions?		
Physician 1	Physician 2	Physician 3
 Yes - 26/214 (12%) No - 188/214 (88%) 	 Yes - 23/214 (11%) No - 191/214 (89%) 	 Yes - 30/214 (14%) No - 184/214 (86%)

Q2 - Would there have been a clear benefit or prevention of mortality/morbidity if the paramedic-level intervention was performed in nine minutes or less?		
Physician 1	Physician 2	Physician 3
 Yes – 8/214 (4%) No – 206/214 (96%) 	 Yes – 5/214 (2%) No – 209/214 (98%) 	 Yes – 11/214 (5%) No – 203/214 (95%)

Q3 - Was the EMD code accurate?		
Physician 1	Physician 2	Physician 3
 Yes - 208/214 (97%) No - 6/214 (3%) 	 Yes - 200/214 (93%) No - 14/214 (7%) 	 Yes - 207/214 (97%) No - 7/214 (3%)

General Discussion & Opportunities

1. There is an opportunity to improve capture of 12 lead EKGs for patients with a suspected cardiac impression. While the EKG capture rate in this sample was just above 95% for calls with cardiac impressions, this procedure is minimally invasive and critical in ruling out cardiac injury. Additional training is warranted to ensure a full 12 lead EKG is performed for patients experiencing chest pain and cardiac symptoms.



- 2. Documentation is sometimes lacking to support the trends noted in vital signs, often making it difficult to determine patient stability just from a brief non-descript narrative. There is an opportunity for additional emphasis on the importance of:
 - Validating vital signs imported from the monitor
 - Bumpy roads and artifact can often lead to the monitor documenting an exceedingly high heart rate.
 - A poor SPO2 signal can often lead to low readings, despite the patient's presentation not showing any sign of hypoxia.
 - In general, there is a need to clarify identification and need for intervention for abnormal vital signs.
- 3. Many incidents throughout this review only had one set of vital signs in the ePCR, making it difficult to review patient stability and improvement or deterioration from the EMS treatment. There is an opportunity to improve the capture of multiple sets of vital signs for this patient population.
- 4. The distribution of 10 Delta codes, transport rates, and EKG acquisition rates are very similar between paramedic and non-paramedic agencies. This suggests a similar patient population and treatment path. However, the rate of aspirin administration to patients without a documented contraindication was higher in the paramedic group (non-paramedic 74%, paramedic 80%).



Appendix 1: 2019 Provider Surveys

Dane County 911 Inci	ident Num	nber:						
AUTO ALS DISPATCH	RESPO	ONSE REVIE	W – Pa	arame	dic DAT/	۱.		
Each time that a paramedic unit responds to <u>any</u> call outsid be collected and recorded. These for Paramedic Pilot Data Co.	e of its ow rms shoul bliection W	m primary jurisdi Id then be sent as Vorkgroup via the	ction into s soon as Dane Co	o a non-p possible punty EM	aramedic o after the c S office.	listrict, th all to the	he following data shouk 9	
Call Date://								
Paramedic Unit Assigned To This Call: M								
EMS District that PARAMEDIC Unit Responded Into:								
Reason for the Response: Paramedic Intercept (co-response with a logonal control of the list	BLS ambu t of high le Intercept	ulance from anot evel Priority Disp originating from	her juriso atch cod an EMT/	liction) es) AEMT am	bulance			
Was the paramedic unit canceled en route to the scene? Y	N	4						
Was patient contact made by the paramedic crew? Y	N	4						
Was the patient transported to a hospital? Y If so, which ambulance transported the patient? EMT/AEMT If so, which services were utilized to transport the patient (plea	N F P ase circle	N Paramedic all that apply)	EMT/	EMT	Param	edic		
Calculated time spent on scene (time paramedic unit arrived	on scene	to time en route f	to hospit	al):	minut	es		
Time paramedic unit was NOT available for another call Calculated total time spent on call (time unit dispat	tched to ti	ime unit was avai	ilable)		minut	85		
While this paramedic unit was servicing this call in another ju paramedic unit's primary jurisdiction? Y	risdiction, N	, did any other pa N	aramedic	unit nee	d to answe	ra call w	ithin that same	
Initial Medical Priority Dispatch (EMD) Code:								
Chief Complaint/Mechanism of Injury (after assessment):								
Primary Impression:								
Was there concern about the accuracy of the initial Priority Me	edical Dis	patch coding?				Y	N	
			Strongly		N1		Strongly	
Your personal input on incident:	adia maa		Disagree	•	Neutral		Agree	
If auto dispatched, do you feel the quicker response	e added va	alue?	1	2	3	4	5	
Did you feel EMT/AEMT and Paramedic crews worke	ed well as	team?	1	2	3	4	5	
amedic Specific Services and Interventions Provided: Discussion of Drug Assisted Advanced Airway Placement Cardiac Arrest Medications/Management							nt	
Seizure Management/Benzodiazepine Administration								
Chemical Sedation								
	 Cardiac Arrhythmia Management 							
D	External Transcutaneous Pacing							
	. S	Synchronized Cardioversion						
		horacic Needle D)ecomor	ession				
	. N	Aeds:	ooompi	,				
	0	Other:						
Comments (explain):								



Dane County 911 Incident Number:_____

AUTO ALS DISPAT Each time that a paramedic unit responds to <u>any</u> call out	CH RE	SPONSE REVIE	W – EN	a non-p	MT DAT/	A listrict, t	he following dat	a should
be collected and recorded. Thes Auto ALS Data Co	e forms Mection	should then be sent a Workgroup via the Da	s soon as me Count	possible v EMS o	e after the c flice.	all to the	e	
Call Date: / /								
Primary Unit Assigned to This Call								
PARAMEDIC Unit that responded								
PARAMEDIC Onit that responded:								
Reason for the Response: Automatic Aid (based on the	e list of l	nigh level Priority Disp	atch code	s)				
A request for Paramedic International Accession of the second	ercept o	riginating from a BLS	ambuland	e				
Was the paramedic unit canceled en route to the scene? Was patient contact made by the paramedic crew?	Y Y	N N						
If so, did paramedic crew meet you: on scen	e	en route						
If a paramedic intercept was requested, please note reason	on f or r e	quest (mark all that a	p ply) :					
		Concern for highe	r level of	care nee	ded immed	liately		
		Intubation or Dru	g Assisted	Advance Manager	ed Allway F	laceme	nt	
		Seizure Managen	nent/Ben	zodiaze:	gement oine Admini	stration		
		Pain Control/Nar	cotic Adm	inistrati	ion			
		Chemical Sedation	n					
		Cardiac Arrhythm	ia Manag	ement				
		Cricothyrotomy/S	Surgical Ai	inway				
		Mode:	vecompre	ssion				
		Other:						
Was the patient transported to a hospital? If so, which ambulance transported the patient? EMT/AI If so, which services were utilized to transport the patient Calculated time capaciton capacity firms EMT/AEMT unit arri	Y EMT (please	N Paramedic circle all that apply)	EMT/A	EMT	Param	edic	utec	
Estimated amount of time added to scene or transport tim	ne due t	paramedic intercept	:			min	utes	
Initial Medical Priority Dispatch (EMD) Code:								
Chief Complaint/Mechanism of Injury (after assessment):								
Primary Impression:				_				
Was there concern about the accuracy of the initial Priorit	y Medic	al Dispatch coding?			Ŷ	N		
Your personal input on incident:			Strongly Disagree		Neutral		Strongly Agree	
Was this an appropriate use/dispatch of the pa	ramedio	resource?	1	2	3	4	5	
If auto dispatched, do you feel the quicker resp	onse tim	e added value?	1	2	3	4	5	
Did you feel EMT/AEMT and Paramedic crews w	orked w	ell as team?	1	2	3	4	5	
Common to found alm's								



Appendix 2: Automatic ALS Workgroup – Concerns & Benefits

Concerns Evaluated by the Auto ALS Workgroup

A list of potential concerns that were either brought up by EMS services to the Dane County EMS office, the Dane County Public Safety Communications Center, or identified by the auto-ALS workgroup are listed below. This list is not meant to be all inclusive, but is meant to facilitate explanation for why the decision was made by the auto-ALS workgroup to continue efforts to further evaluate the current automatic aid codes and response data at this time.

- Potential delays to definitive care
- Potential delay in definitive care by addition of a paramedic crew or intercept time
- Paramedic arrives and then it is unfair to ask crews to identify whether resource is needed
- Decreasing critical thinking and patient care skills of our AEMT and EMT providers/services
- Not allowing a jurisdiction to determine management of their community members
- Moving a resource from their designated territory
- Role of single paramedic systems incorporated into auto-ALS not clear
- "Missed calls" very difficult to find data and follow
- Financial impact on reimbursement
- Cost of Paramedic to be put out to calls (even with cancellations) wear and tear on vehicles, labor, etc.
- Our AEMT/EMT services tend to be less busy than our Paramedic services, so allowing them to optimize the calls they can manage appropriately is more efficient use of resources in the region
- Crews are driving hot in unfamiliar territory, additional ambulance on the street risks to providers and communities

Benefits Evaluated by the Auto ALS Workgroup

The auto-ALS workgroup also felt it was important to identify some of the key benefits of the current system. Not only does this help in highlighting the incredible work that our county has done in the past fifteen years, but it also serves as a reminder of components of the system that should be taken into account while developing any recommendations.

- Opportunity for potentially sick patient to transport via paramedics which does not put as much a strain on the AEMT/EMT coverage areas
- "Cheap insurance policy" I know a paramedic is coming
- Timeliness of Paramedics to obtain Paramedics faster than if an intercept was requested for potential critical patient
- Higher level of support for our basic services
- Potentially higher risk calls serves as quicker "mutual aid" for agencies that cannot provide a crew
- Increased paramedic experience and calls
- Increased call volume
- Fosters a greater county system, increased interactions amongst agencies



Appendix 3: Remaining Automatic ALS EMD Codes

8D1-CO/Inhal/Arrest	23D1T-OD/ARREST/Wep/Car	33D1T-Transfer/CrdiacRespArrst	25D1-Psych/ARREST	23E1F-OD/NarcARREST/Fentanyl
8D1B-CO/Inhal/ArrestBIOLG	23D1V-OD/ARREST	33D2P-Transfer/Resuscitated	25D1B-Psych/ARREST	2E1-Allergies/INEFFECTIVE BR
8D1C-CO/Inhal/ArrestCHEM	23D1W-OD/ARREST/WEAPON	33D2T-Transfer/Resuscitated	25D1V-Psych/ARREST	2E1I-Allergies/INEFFECT BREATH
8D1G-CO/Inhal/ArrestODOR	23D2-OD/UNCONSCIOUS	9D1-PNB/Ineffective Breathing	25D1W-Psych/ARREST	2E1M-Allergies/INEFFECT BREATH
8D1M-CO/Inhal/ArrestCO	23D2A-OD/UNCONSCIOUS	9D2-PNB/Obv/ExpectQuestionable	27D1-StabSHOT/ARREST	31E1-Unconscious/INEFFECTIV BR
8D1N-CO/Inhal/ArrestNUCLR	23D2C-OD/UNCONSCIOUS/Carfentnl	9D2A-PNB/Obv/ExpectQuestonable	27D1G-GunShot/ARREST	6E1-Breathing Prob/INEFFECTIVE
8D1R-CO/Inhal/ArrestRADIO	23D2D-OD/UNCONSCIOUS/Acc/Fnt	9D2B-PNB/Obv/ExpectQuestonable	27D1I-IMPAILED/ARREST	6E1A-BreathProb/INEFFECTIVE
8D1S-CO/Inhal/ArrestSUICD	23D2E-OD/UNCONSCIOUS/Acc/Car	9D2C-PNB/Obv/ExpectQuestonable	27D1P-Penetrat/ARREST	6E1E-BreathProb/INEFFECT/COPD
8D1T-CO/Inhal/ArrestSUICDTX	23D2F-OD/UNCONSCIOUS/Fentnyl	9D2D-PNB/Obv/ExpectQuestonable	27D1S-STABBING/ARREST	6E1O-BreathProb/INEFFECT/Oth
8D1U-CO/Inhal/ArrestUNK	23D2G-OD/UNCONSCIOUS/Int/Fnt	9D2E-PNB/Obv/ExpectQuestonable	27D1X-GunShot/ARREST	9E1-Cardiac/NOT BREATHING
12D1-Seizure/NOT BREATHING	23D2H-OD/UNCONSCIOUS/Int/Car	14D4-Drown/JustResus/Defib	27D1Y-StabSHOT/ARREST	9E2-Cardiac/BREATHNG UNCERTAIN
12D1E-Seizure/NOT BREATHING	23D2I-OD/UNCONSCIOUS	14D4D-Drown/JustResus/Dfib/Div	27D2G-GunShot/UNCONCIOUS	9E4-Cardiac/STRANGULATION
12D2-Seizure/Continuous/Multi	23D2Q-OD/UNCONSCIOUS/Vio/Fnt	14D4F-Drown/JustResus/Dfib/Fld	27D2I-IMPAILED/UNCONCIOUS	9E5-Cardiac/SUFFOCATION
12D2E-Seizure/Continuous/Multi	23D2R-OD/UNCONSCIOUS/Vio/Car	14D4I-Drown/JustResus/Dfib/Ice	27D2P-Penetrat/UNCONCIOUS	14E1-Arrest/OutofWtr
12D3-Seizure/AGONAL	23D2S-OD/UNCONSCIOUS/Wep/Fnt	14D4S-Drown/JustResus/Dfib/Scb	27D2S-STABBING/UNCONCIOUS	14E1D-Arrest/OutofWtr/Div
12D3E-Seizure/AGONAL	23D2T-OD/UNCONSCIOUS/Wep/Car	14D4W-Drown/JustResus/Dfib/Swt	27D2X-GunShot/UNCONCIOUS	14E1F-Arrest/OutofWtr/Flood
19D1-HeartPR/NOT ALERT	23D2V-OD/UNCONSCIOUS	15D2E-Electro/Unconscious	27D2Y-StabSHOT/UNCONCIOUS	14E1I-Arrest/OutofWtr/Ice
19D2-HeartPR/DIFF SPEAK	23D2W-OD/UNCONSCIOUS/WEAPON	15D2L-Lightng/Unconscious	30D1-Traumatic/ARREST	14E1S-Arrest/OutofWtr/Scuba
19D3-HeartPR/CHANGE COLOR	23D3-OD/CHANGE COLOR	17D2A-Falls/ARREST/Access	30D2-Traumatic/UNCON	14E1W-Arrest/OutofWtr/Swift
19D5-HeartPR/JUST RESUSCITATED	23D3A-OD/CHANGE COLOR/Accid	7D2-Burns/ARREST	3D1-Animal/Arrest	14E2-Undrwtr/NonSpecialRescue
21D1-Hemorrhage/Arrest	23D3C-OD/CHANGE COLOR/Carfntnl	7D2E-Burns/UnconscARRESTExplsn	4D1-Assault/Arrest	15E1E-Electro/NOT BREATHING
21D1M-Hemorrhage/Arrest	23D3D-OD/CHANGE COLOR/Acc/Fnt	7D2F-Burns/ARRESTFire	4D1A-Assault/Arrest	15E1L-Lightng/NOT BREATHING
21D2M-Hemorrhage/Unconcious	23D3E-OD/CHANGE COLOR/Acc/Car	7D2W-Burns/ARRESTFirewrk	4D1S-SexAssault/Arrest	9E3-Cardiac/HANGING
23D1-OD/ARREST	23D3F-OD/CHANGE COLOR/Fentnyl	17D1-Falls/EXTREME FALL	4D1T-Tazer/Arrest	7E1-Burns/PERSON On FIRE
23D1A-OD/ARREST	23D3G-OD/CHANGE COLOR/Int/Fnt	17D1A-Extreme Fall/Access	11E1-Choking/INEFFECTIVE BR	7E1E-Burns/PersonOnFireExplsn
23D1C-OD/ARREST/Carfentanil	23D3H-OD/CHANGE COLOR/Int/Car	17D1E-Extreme Fall/Environ	11E1C-Choking/INEFFCT BR/Candy	7E1F-Burns/PersonOnFire
23D1D-OD/ARREST/Acc/Fnt	23D3I-OD/CHANGE COLOR/Inten	17D1G-Extreme Fall/OnGrnd	11E1F-Choking/INEFFECT BR/Food	7E1W-Burns/PersonOnFireFirewrk
23D1E-OD/ARREST/Acc/Car	23D3Q-OD/CHANGE COLOR/Vio/Fnt	17D1J-Falls/EXTREME FALL	11E1M-Choking/INEFFCT BR/Lqd	
23D1F-OD/ARREST/Fentnyl	23D3R-OD/CHANGE COLOR/Vio/Car	17D1P-Extreme Fall/Public	11E1O-Choking/INEFFECT BR/Obj	
23D1G-OD/ARREST/Int/Fnt	23D3S-OD/CHANGE COLOR/Wep/Fnt	17D2-Falls/ARREST	11E1U-Choking/INEFFECT BR/Unk	
23D1H-OD/ARREST/Int/Car	23D3T-OD/CHANGE COLOR/Wep/Car	17D2E-Falls/ARREST/Environ	15E1-Electro/INEFFECTIVE BR	
23D1I-OD/ARREST	23D3V-OD/CHANGE COLOR/Violent	17D2J-Falls/ARREST/Jumper	23E1A-OD/NarcARREST/Acc	1
23D1Q-OD/ARREST/Vio/Fnt	23D3W-OD/CHANGE COLOR/Weapon	17D2P-Falls/ARREST/Public	23E1C-OD/NarcARREST/Carentnyl	
23D1R-OD/ARREST/Vio/Car	31D1-UNCONS/AGONAL/INEFFECTIVE	21D1T-Hemorrhage/Arrest	23E1D-OD/NarcARREST/Acc/Fentnl	1
23D1S-OD/ARREST/Wep/Fnt	33D1P-Transfer/CrdiacRespArrst	21D2T-Hemorrhage/Unconcious	23E1E-OD/NarcARREST/Acc/Carfnt	

