

INFORMATION REPORT

TO: Chair and Members Emergency & Community Services Committee	WARD(S) AFFECTED: CITY WIDE
COMMITTEE DATE: October 19, 2011	
SUBJECT/REPORT NO: EMS Response Performance Monthly Report – January 1, 2011 to August 31, 2011 (HES11016) (City Wide)	
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SIGNATURE:	

Council Direction:

On April 23, 2008, Council approved Item 6(h) of the Emergency & Community Services Committee Report 08-006 (HES08006 – Resource Limitations and Hospital Emergency Department Off-Loading), directing Emergency Medical Services to provide regular reports.

Information:

This report updates performance to August 31, 2011.

Executive Summary (see Table 1)

In 2011 up to August 31, 2011 the following **demands** were experienced as noted in Table 1;

- An increase of ~8 minutes in the average call duration (1 hour 37 minutes vs. 1 hour 29 minutes in 2010) with the additional time spent linked to the hospital interval.
- An increase in the number of paramedic service calls per day; 191 vs. 184 in 2010.

In 2011 up to August 31, 2011 the following **performance** was realized as noted in Table 1;

- The paramedic emergency response time was 10 minutes 43 seconds or less in 9 of 10 calls (vs. 10 minutes 15 seconds in 2010).
- The 'average' paramedic emergency response time was 6 minutes 47 seconds (vs. 6 minutes 24 seconds in 2010).
- 136 Code Zero Ambulance Events YTD or 1 every 1.8 days (vs. 1 every 3.9 days 2010).

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Table 1: Summary Data 2007 to January to August 2011

	2007	2008	2009	2010	2011 YTD
Frequency of Paramedic Calls					
Average number calls per day	185	172	174	184	191
Calls Dispatch Emergency or Urgent Request (i.e. Unconscious or Fracture Arm)					
% of Total Calls	93%	98%	98%	98%	99%
Paramedic Time in the Hospital Emergency Department for Transfer of Care					
Average elapsed time	43 min 50 sec	53 min 7 sec	51 min 20 sec	52 min 13 sec	60 min 18 sec
Code Zero Ambulance Event (CZAE) – One or less ambulance(s) available					
No. of CZAE	44	66	82	94	136 (to Aug 31)
Average No. of Paramedic ERVs available during CZAE	2	5	7	6	7
Average No. of Ambulances in hospital during a CZAE	4	5	5	6	7
Paramedic Emergency Response – First Vehicle – Provincial Target 10 min. 3 sec.					
90 th percentile time city-wide (9 of 10 responses)	11 min 49 sec or LESS	10 min 42 sec or LESS	10 min 17 sec or LESS	10 min 15 sec or LESS	10 min 43 sec or LESS
Average time city-wide	6 min 44 sec	6 min 20 sec	6 min 27 sec	6 min 25 sec	6 min 47 sec
First Ambulance Transport 9 out of 10 calls					
90 th percentile time city-wide (9 of 10 responses)	11 min 49 sec	11 min 37 sec	11 min 25 sec	11 min 54 sec	12 min 29 sec
Paramedic Forced Overtime					
Average Hours per Day	15	18	22	21	23
Paramedic Missed Meal Breaks					
Average Missed per Day	NA	23	22	27	39

See Appendices A, B, and C attached to Report HES11016 for detailed results.

Note: The primary data source is the Ministry of Health and Long-Term Care (MOHLTC). The MOHLTC continuously update the fields and there may be adjustments in recent months.

Summary of Changes in Demands and Impacts

The number of ambulance calls and the call duration are two leading factors that determine the consumption of paramedic unit hours and the remaining capacity to respond to medical emergencies to maintain response time performance. By May 2008 the Paramedic Service was achieving continuous response time improvements coinciding with the full implementation of 2007 Council-endorsed enhancements. The performance continued to improve despite the increased paramedic time in the hospital and an increase in call volume. Based on the first eight months of 2011 there has been an increase in the EMS time in the hospital; the emergency response times to arrive at the call and to have an ambulance on scene for transport; extended paramedic shifts, and paramedic missed meal breaks (see Table 1 and Appendix C).

Detailed Review

1) Code Zero Ambulance Events

The term “Code Zero Ambulance Events” (CZAE) is a term used to identify an interval when one (1) or less transport ambulances is available to respond. By August 31, 2011 there were 136 or one (1) every 1.8 days. During the same period the average time that the paramedics spent in the hospital emergency department (ED) to transfer care was ~60 minutes (vs. 52 minutes in 2010; 53 minutes in 2008; 44 minutes in 2007, and, 33 minutes in 2000). When the CZAE have occurred on average seven (7) Hamilton ambulances were at the hospital ED. To minimize this impact the Hamilton EMS draws upon six (6) Paramedic Response Units (PRU) and three (3) supervisors to provide a paramedic first response. On average up to seven (7) of the PRUs have been available to respond while the service recovers ambulance transport capacity.

During the same period the Paramedic Service has made the following observations:

- increased paramedics missed meal breaks
- increased forced overtime as the paramedic waits to transfer care at shift end
- increased initial paramedic emergency response times and ambulance transport times

2) Initial Paramedic Response Time and Ambulance Transport

From January to August 31, 2011 the response time for the first paramedic to arrive on scene City-wide was 10 minutes 43 seconds or less for 9 of 10 patients (vs. 2010; 10 minutes 15 seconds or less).

Another valuable performance metric is the time for a transport ambulance to arrive on scene to transport the patient to the hospital. Year-to-date this time is 12 minutes 29 seconds in 9 out of 10 calls (vs. 11 minutes 54 seconds in 2010), with a range across the six (6) communities from a low of 11 minutes 12 seconds to a high 19 minutes 33 seconds in 9 out of 10 calls.

Conclusion

In the past 11 years EMS has had ongoing challenges to maintain the response time performance. In 2000, the Hamilton Paramedics completed 158 calls per day; 76% of the calls were dispatched as emergency or urgent; the average hospital time was 31 minutes; the response time was 10 minutes 12 seconds or less in 9 of 10 cases. Since then the Paramedic Service has observed an increase in the time spent in the hospital emergency department and increases in call volume. Previously ~24% of EMS calls were deferrable; today, in only 1% of the calls can a response be deferred.

The Hamilton paramedics and nurses continue to make commendable efforts to maintain public safety supported by their management teams and the partner agencies including the MOHLTC; CACC; local hospitals, LHINS, Community Care Access Centre; and the Police and Fire Services. While Hamilton EMS continues to strive to meet the immediate needs of the public, we are concurrently exploring with our community partners new ways to contain the increase in demands in a manner that enhances the quality of care and the quality of life of the citizens that rely on the paramedics as a safety net.

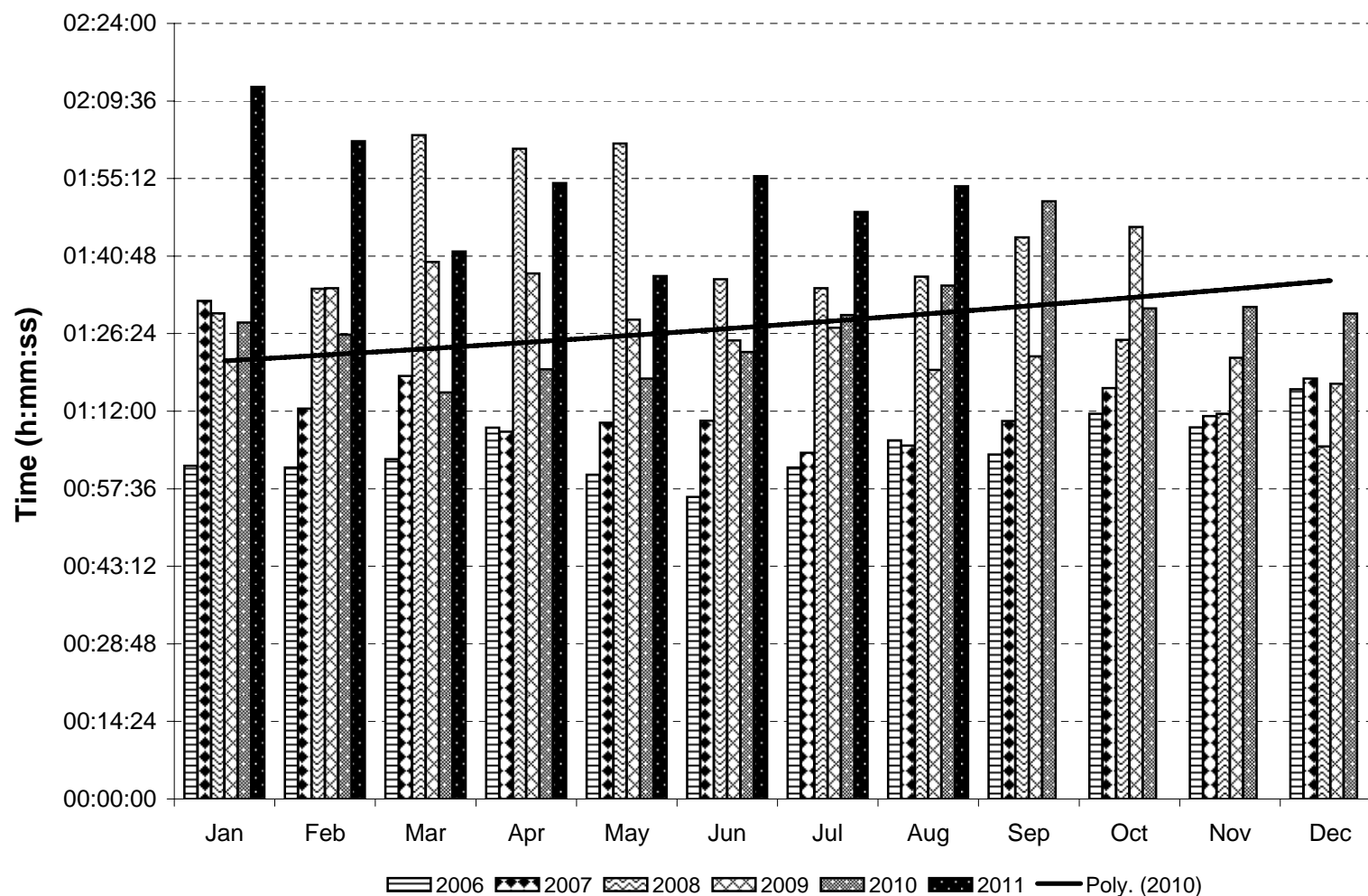
Appendix A
Appendix B
Appendix C

HAMILTON - EMERGENCY MEDICAL SERVICES**Code Zero Ambulance Events and EMS-Hospital Emergency Department Time**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Code Zero Ambulance Events - One or less Ambulances Available for Emergency Response in Hamilton													
2006	Data tracking began in May			→	1	0	0	3	1	3	0	5	13
2007	10	5	7	0	2	4	4	3	1	0	0	8	44
2008	0	8	10	3	17	5	12	16	6	6	8	4	95
2009	1	10	12	13	6	7	9	7	2	8	5	2	82
2010	6	9	9	3	7	7	12	6	10	4	11	10	94
2011	23	16	16	13	7	32	16	13					136
EMS Hospital ED Time - Arrive Hospital ED to Ambulance Clear Hospital ED (90 th percentile)													
2006	01:01:53	01:01:33	01:03:06	01:08:58	01:00:12	00:56:04	01:01:34	01:06:34	01:03:57	01:11:32	01:09:01	01:16:03	
2007	01:32:30	01:12:30	01:18:31	01:08:11	01:09:52	01:10:13	01:04:16	01:05:36	01:10:11	01:16:17	01:11:06	01:18:03	
2008	01:30:10	01:34:43	02:03:16	02:00:45	02:01:43	01:36:29	01:34:51	01:36:59	01:44:15	01:25:15	01:11:32	01:05:29	
2009	01:21:20	01:34:51	01:39:42	01:37:33	01:28:59	01:25:08	01:27:29	01:19:41	01:22:10	01:46:13	01:21:54	01:17:05	
2010	01:28:28	01:26:14	01:15:30	01:19:48	01:18:03	01:23:01	01:29:52	01:35:20	01:50:57	01:31:04	01:31:21	01:30:07	
2011	02:12:12	02:02:09	01:41:39	01:54:21	01:37:04	01:55:38	01:48:58	01:53:47					

Source Data: MOHLTC ADDAS for 90th PercentileUpdated : 13 Sep 2011

Hamilton Emergency Medical Services 2006-2011 EMS Hospital Time in Emergency Department (90th Percentile)



Data Source: ADDAS

HAMILTON EMERGENCY MEDICAL SERVICES GENERAL STATISTICS

	2008	2009	2010	2011	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
EMS CALL VOLUME												
EMS Calls Dispatched Priorities												
Non-Emergency Calls(1 & 2's)	1,471	1,422	1,343	409	69	44	62	74	51	50	59	57
3 - Urgent	13,164	16,502	19,000	10,822	1,624	1,465	1,533	1,376	1,483	1,608	1,733	1,597
4 - Life Threatening	48,160	45,739	46,834	29,195	4,339	3,817	4,248	3,919	4,127	4,211	4,534	4,428
Emergency Calls Priority 3 & 4's	61,324	62,241	65,834	40,017	5,963	5,282	5,781	5,295	5,610	5,819	6,267	6,025
TOTAL CALLS (1, 2, 3 & 4)	62,795	63,663	67,177	40,426	6,032	5,326	5,843	5,369	5,661	5,869	6,326	6,082
EMS Patients Transported with High Return Priority (Criteria: PickupUpperTier=38)												
Transported Life Threatening (Priority 4)	3,854	3,900	3,862	2,236	277	300	341	325	324	306	363	328
EMS RESPONSE TIMES												
CACC Response (MOHLTC Dispatch) Provincial Standard is 120 seconds or less for 90th percentile												
Seconds (T ₀ _TimeZero-T ₂ _Notified)	179	189	181	188	185	196	186	184	181	191	192	196
HES EMS Response - Provincial Standard is 10:03 or less for all of Hamilton 90th percentile (T ₂ _Notified-T ₄ _ArriveScene) First Unit												
City of Hamilton (amal.)	10:42	10:17	10:15	10:44	10:55	11:27	10:39	10:19	10:57	10:47	10:29	10:35
- Ancaster	13:18	12:25	12:06	12:58	15:45	15:36	12:47	12:43	12:22	12:01	11:49	12:43
- Dundas	09:40	11:22	09:32	10:16	11:16	12:27	09:43	10:29	09:25	10:56	10:05	07:47
- Flamborough	19:21	17:46	17:57	18:14	19:26	20:10	18:43	18:01	16:44	18:10	17:26	17:01
- Glanbrook	15:07	13:56	14:24	14:14	15:32	15:05	13:37	14:03	13:56	15:47	12:51	14:29
- Hamilton	09:27	09:10	09:18	09:46	09:54	10:25	09:36	09:31	09:41	09:51	09:36	09:54
- Stoney Creek	12:02	11:08	11:02	11:07	11:17	11:25	10:34	11:33	12:05	11:39	11:26	11:01
HES EMS Response Time - Average (T₂_Notified-T₄_ArriveScene) First Arrived Unit - ERV/Transport												
City of Hamilton (amal.)	06:20	06:27	06:25	06:47	06:43	07:11	06:37	06:32	06:41	06:45	06:36	06:40
OTHER EMS TIME STATISTICS												
Avg. Chute Time (Notified-Enroute)	01:11	00:54	00:56	00:56	00:56	00:59	00:57	00:57	00:57	00:53	00:54	00:55
Avg. Time-on-Task (Enroute-ClearDest.)	01:28:40	01:27:20	01:28:45	01:37:17	01:42:35	01:40:57	01:34:45	01:38:26	01:32:42	01:36:41	01:35:19	01:35:16
Avg. Scene Time (ArriveScene-DepartScene)	17:01	17:39	17:56	18:04	18:37	18:30	18:39	17:48	17:56	17:15	17:42	17:04
EMS-Hospital Off-load/Transfer of Care Time (All Return Codes)												
Transfer of Care Monitor - All Calls												
Average (Arrive-End of ToC)	00:49:35	00:53:55	00:53:49	01:05:54	01:08:55	01:08:48	01:01:37	01:07:47	01:01:44	01:08:38	01:04:34	01:11:41
EMS-Hospital ED Time												
90 th percentile	01:35:14	01:27:31	01:27:53	01:52:18	02:12:12	02:02:09	01:41:39	01:54:21	01:37:04	01:55:38	01:48:58	01:53:47
Average (Arr_Dest-ClrDest)	00:53:07	00:51:20	00:52:13	01:00:30	01:05:22	01:02:59	00:56:51	01:01:52	00:56:02	01:01:09	00:59:26	01:00:45

**HAMILTON EMERGENCY MEDICAL SERVICES
GENERAL STATISTICS**

	2008	2009	2010	2011	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
EMS OPERATIONS												
Hours spent in ED (Emerg. calls)	29,338	29,109	30,473	20,800	3,345	2,872	2,937	2,865	2,751	2,956	3,074	3,070
Hours spent on Calls (Emerg. calls)	50,339	50,764	53,344	34,177	5,375	4,702	4,917	4,632	4,637	4,827	5,087	5,060
% Task Time spent in ED	58%	57%	57%	61%	62%	61%	60%	62%	59%	61%	60%	61%
Total street hrs (incl. overruns)	350,657	367,315	373,782	213,053	31,657.9	27,790.3	30,707.7	30,443.1	31,451.8	29,948.4	31,053.8	31,596.7
Street Hours/Day	961	1,006	1,024	1,005	1,021	993	991	1,015	1,015	998	1,035	1,053
All Patients transported, all return priorities	40,426	41,371	42,031	24,213	3,615	3,196	3,577	3,266	3,409	3,466	3,684	3,637

Source: ADDAS Data Warehouse, Transfer of Care, EMS Scheduling.

Updated: 13 Sep 2011

Note: Data is subject to change as updates are received from the MOHLTC.