Conseil des Services du District de
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District Services Board

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Report To:	Program Planning Committee
From:	Michael MacIsaac Chief of EMS
Date:	May 27, 2015
Re:	EMS 5-Year Staffing Plan – Issue Report

Recommendation

That the Program Planning Committee accepts and approves this report as a new direction in terms of an EMS 5-Year Staffing Plan.

Background

In June 2011, a five year staffing report was approved in principle by the Board, directing a model for staffing enhancements aimed at providing more appropriate service response where deemed beneficial. The enhancement model provided for increased on-site Ambulance coverage in 7 of the 8 bases where there existed a mix of on-site and on-call coverage. The plan was designed to be implemented over the course of 5 years. One outcome from the plan was enhanced coverage for the Manitoulin Island area through 24/7 staffing in Mindemoya.

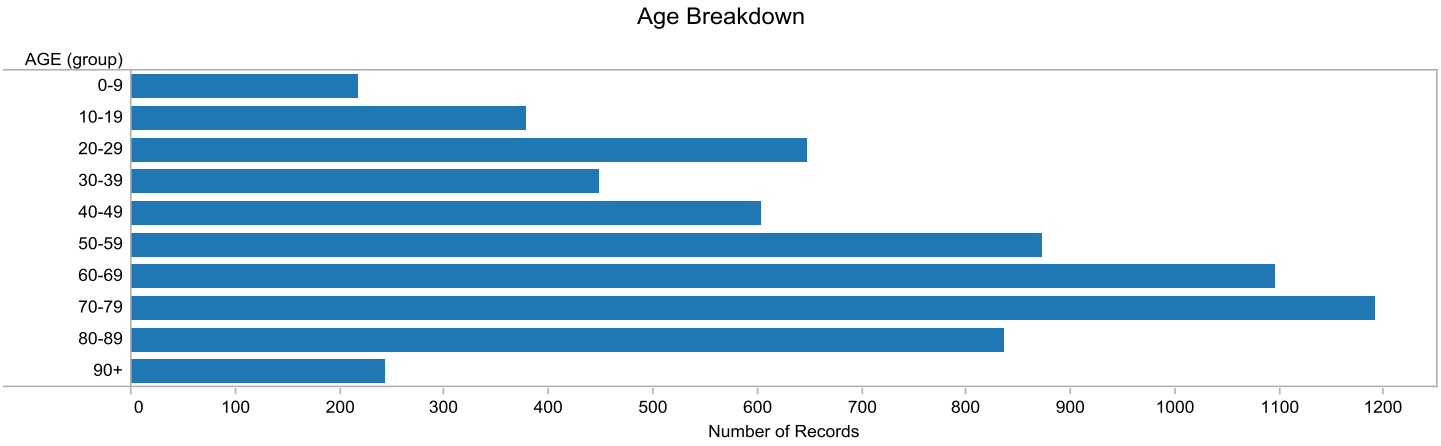
In 2012 it became apparent that the financial impact of phase two of the plan were too high, thus the plan required revisions. In 2013 an updated report was produced and again approved in principle by the Board. The 2013 plan proposed a variety of options, allowing the Board the greatest opportunity for service enhancements while focusing on efficacy and efficiency. Over the course of the next 2 years enhancements were made as set out in the 2013 revision. Many of the steps within the 2013 plan were completed by the 2015 budget year. It has become apparent that a new 5 year staffing enhancement plan is required.

Current State of EMS in Manitoulin-Sudbury DSB

A preponderance of evidence confirms that health care in Ontario is a costly endeavour, and one that will continue to rise over the next decades. The aging population is the main causal factor in health care cost increases. A variety of reports confirm that Ontario is on an upward trend in access to the health care system, primarily by the elderly demographic. It has been reported that in 2013 18.8% of the population of Northeastern

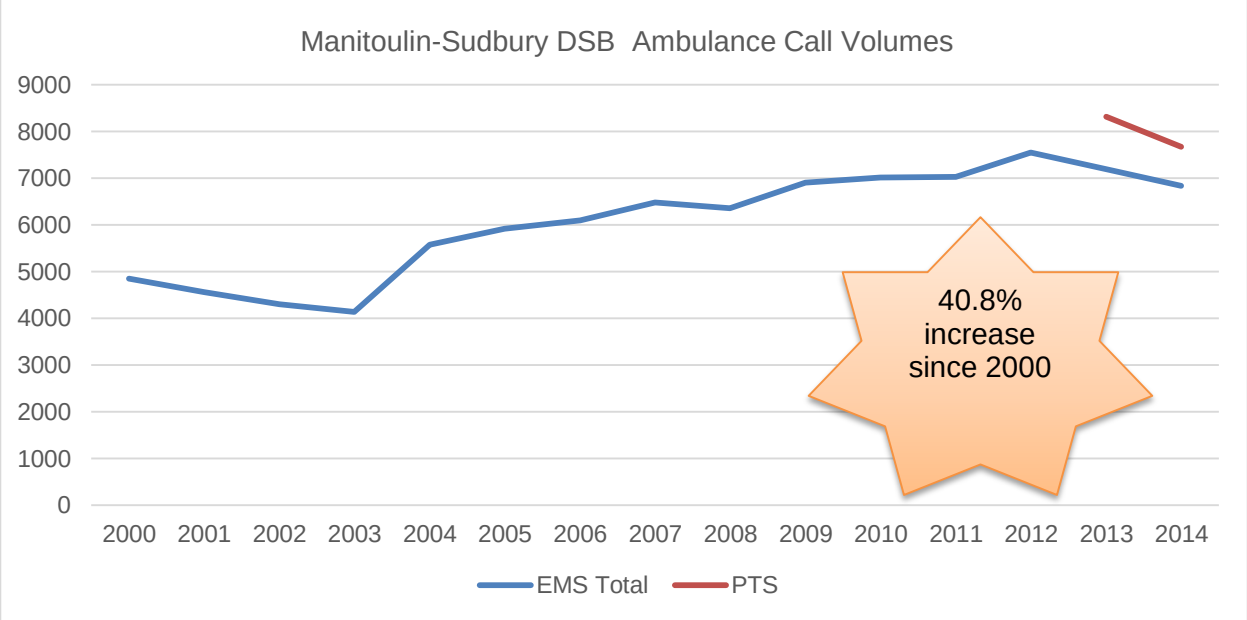
Ontario were seniors citizens, and that by 2041, seniors will represent 35% of Manitoulin and Sudbury's population.[1]

Reviews of patient age demographics within the District mirrors the rest of the Province. The highest users of Ambulance services are older adults as demonstrated in the chart below.



Nearly 52% of our ambulance calls involved patients who are over 60 years of age. The top 4 demographic age subsets were for patients between the ages of 50 and 89. Additionally, call data reveals a consistent overall increase in call volumes since municipal download in 2000.

Historical perspective of our service experiences also reveal an overall increase in call volumes since municipal download.



The call volume data above includes a diminishing number of non-urgent patient transfers in 2013 and 2014 due to the introduction of a very successful Patient Transfer Service

[1]Ministry of Finance, 2014, *Ontario Population Projections, 2013-2041,* Queen's Printer for Ontario

(PTS) pilot project in partnership with the Espanola Regional Hospital & Health Centre and Manitoulin Health Centre, sponsored by the North East Local Health Integration Network (NELHIN). The small trending line in the above graph, in 2013 and 2014 reflects an adjusted number including calls performed by the Non-Urgent PTS. When the non-urgent activity of the pilot project is factored into the total percentage increase from 2000 to 2014 the relative volume increase was 58%. A termination of the pilot PTS program by the LHIN would result in a significant increase in EMS activities. While the NELHIN has suggested that a permanent PTS model would be an effective alternative to ambulance utilization, they have been unsuccessful in confirming a permanent funding formula. As such, it is important to recognize that service deployment cannot rely on the pilot PTS program.

As detailed in a previous 2015 Board Report, Manitoulin Sudbury DSB response time performance, as defined by the Ministry of Health & Long Term Care (MOHLTC) is poor. Population density remains a significant causative factor in this performance, and while there is nothing that can be developed to mitigate the impact of long response times due to rural population design, there are however options that can make a positive difference. A review of historical data confirms that on-call deployment directly impacts on response times. On-call deployment can increase every call for service by 8 minutes (the normally mandated 2 minute response to be mobile to a call increases to 10 minutes). The review also confirmed the presence of calls serviced by a geographically sub optimal station. The assumed explanation is that the optimal station was servicing a call and therefore unavailable for the second call. These “stacked” calls are extremely problematic, but mitigation strategies present an opportunity for improvement. Managing the above areas of opportunity will allow the organization to explore service improvement. In addition to the above described opportunities, the addition of a permanent PTS system would allow for a formal evaluation of the continued requirement of the Monday to Friday day shift to accommodate non-urgent patient transportation. The deployment of this extra ambulance has historically been for use during high volume time periods where non-urgent patient transfers are greatest. It is important to evaluate the usage of that ambulance in concert with an efficient PTS system to assess its overall effectiveness.

On-Call

As noted above, on-call staffing has a negative impact on response times. It should be restated that the response criteria while on-call represents a potential 400% increase in reaction time. The issue of on-call is of such concern that previous staffing plans dealt exclusively with changes to on-call stations. Seven of the twelve stations have on-call associated with their normal scheduling. The following table details the 3 different on-call designs within the stations.

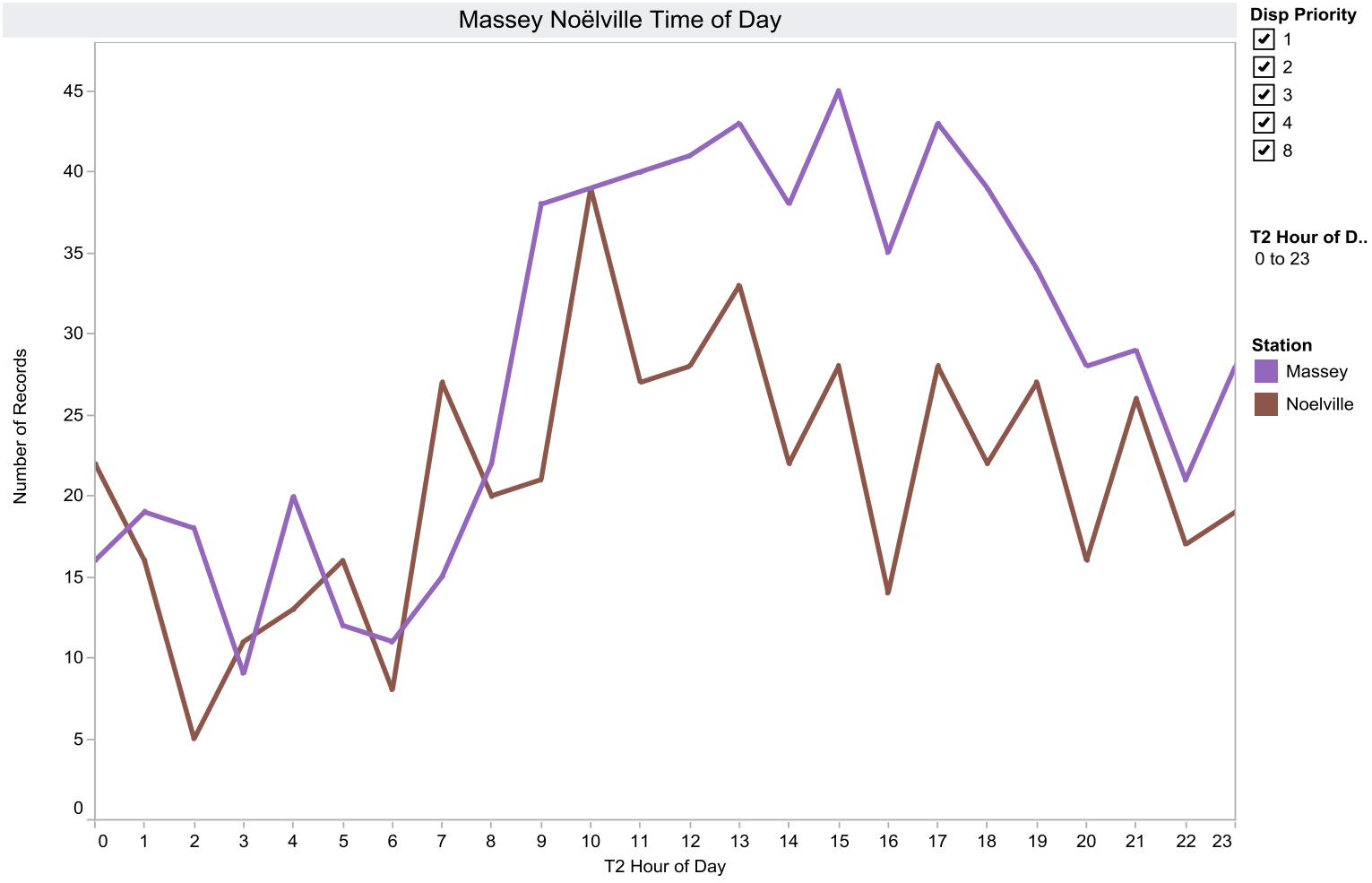
	Massey & Noëlville	Chapleau & Gore Bay	Killarney, Foleyet & Gogama
Daily On-Call Hours	4	12	14
Hours of the Day	04:00 – 07:00	19:00 – 07:00	18:00 – 08:00

It is necessary to compare the deployment of on-call stations as consistent schedules are operationally essential to ensure the effectiveness for comparable call statistics.

Massey & Noëlville

Massey & Noëlville last had an increase to on-site deployment hours in March 2014. This was predicated on the fact that on-call response numbers were occurring 50% of the time. The result was an abundance of calls being “missed” by on-site staffing, but was also a significant concern over hours of work and the health and safety of paramedics. The regular call assignment of paramedic while in the on-call state had become the norm rather than the exception. Increased on site staffing became necessary.

A review of call data from April 1, 2014 to March 31, 2015 has now been initiated. The data source is the ZOLL EPCR database. Historically, MOHLTC ADRS database, which is known to be inaccurate has been utilized for deployment considerations. The MOHLTC database must still be used in certain cases as specific data sets are required however for purposes of this report the ZOLL EPCR Database has been used exclusively.



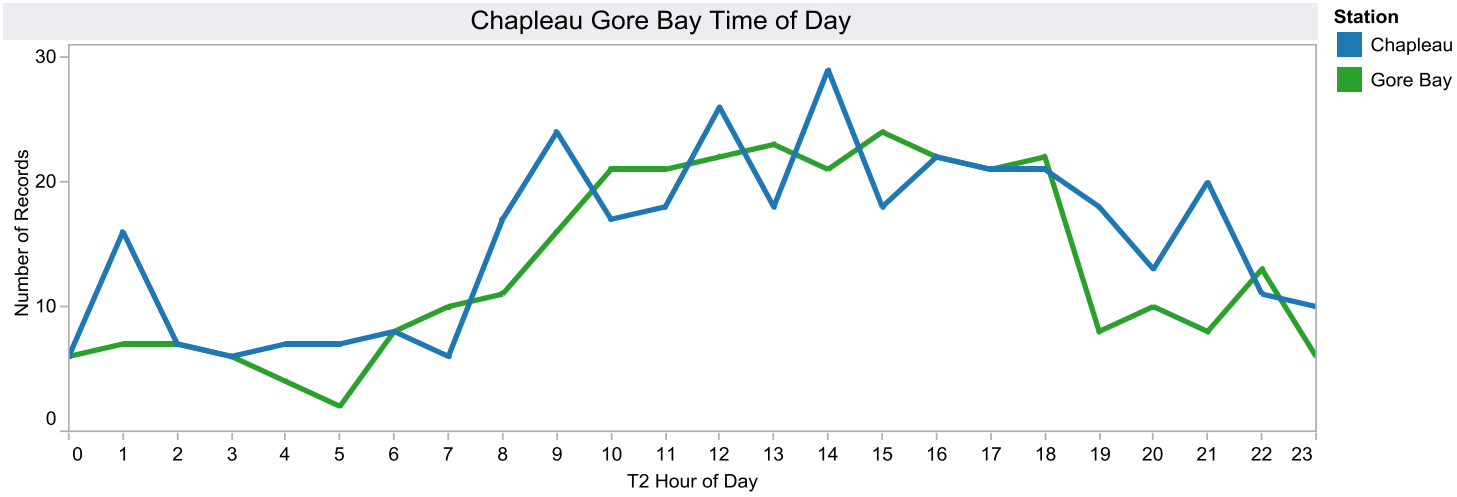
Station	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Massey	16	19	18	9	20	12	11	15	22	38	39	40	41	43	38	45	35	43	39	34	28	29	21	28
Noelville	22	16	5	11	13	16	8	27	20	21	39	27	28	33	22	28	14	28	22	27	16	26	17	19

From the table above it is evident that the busiest hours of service are between 07:00 and 03:00 (on-site hours).

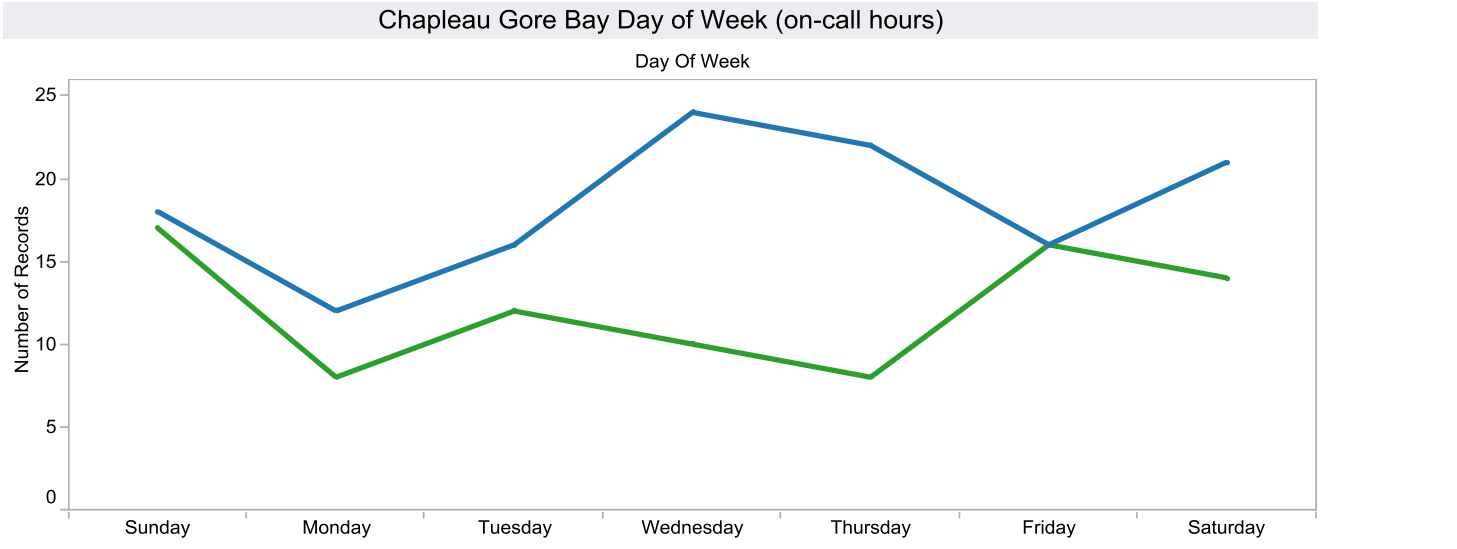
The data review focused on the 4 hours of on-call each day (03:00-07:00). This 4 hour period equates to nearly 17% of the day. In Massey, 52 calls were performed during the on-call period. This equates to 7.6% of the stations total calls. In Noëlville, 48 calls were performed during the on-call period which equates to 9.5% of that stations total calls. These statistics would suggest that there remains a proportionately low number of calls during the on-call period and as such staffing in these stations should remain unchanged.

Chapleau & Gore Bay

Neither station in Chapleau nor Gore Bay have received additional staffing hours during the course of the recent enhancements.



Station	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Chapleau	6	16	7	6	7	7	8	6	17	24	17	18	26	18	29	18	22	21	21	18	13	20	11	10
Gore Bay	6	7	7	6	4	2	8	10	11	16	21	21	22	23	21	24	22	21	22	8	10	8	13	6



Station	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Chapleau	13.95%	9.30%	12.40%	18.60%	17.05%	12.40%	16.28%
Gore Bay	20.00%	9.41%	14.12%	11.76%	9.41%	18.82%	16.47%

There is evidence of a proportionately higher service utilization at the Chapleau station during on-call hours. A review of the day of week response volumes, during the on-call period, reveals a trend in Chapleau of 42%, and in Gore Bay of 55% during the weekend evenings (Fri, Sat & Sun). The on-call period was representative of 43% of the week. As such there is a disproportionately high number of call volume in Gore Bay during the weekend evening hours while on-call. The evidence suggests that an increase in hours to the "hybrid" model of staffing last operationalized by the DSB in March 2014 is warranted. A hybrid model of scheduling is one where there are different staffing levels depending on the day of the week. This deployment model was previously used in Mindemoya, Massey and Noëlville.

During the assessment period in Chapleau, 129 calls were performed during the on-call period. This equates to 35.2% of the total station calls. In Gore Bay 85 calls, or 26.6% of all station calls were performed during the on-call period. While the data is not overwhelming, Chapleau has experienced a clear "busy" period of time with late evening and early morning spikes in volumes. A deeper review of the data reveals that 92.3% of Chapleau's overall call volume occurs between the hours of 07:00 and 03:00. This trend would suggest an increase to on site deployment to the 10-10-4 schedule currently in use in Massey and Noëlville would present a benefit to response capacity.

The impact on paramedic health and safety caused by the current on-call period is of interest to the organization. Understanding that with the 12 hour length of on-call there may be issues with crew safety. For this reason protocols limit the maximum shift number to five. The average total call length in both Chapleau and Gore Bay is over 2 hours. Such impact during the on-call period is something the organization must consider during the proposed five year EMS staffing plan.

The impact of risks associated with on-call staffing in Chapleau and Gore Bay is one that requires continual monitoring. Recommendations for improvement in these stations might include enhancement of hours in Chapleau bringing it to 20 hours on-site with 4 hours on-call, while a shift to the hybrid scheduling model in Gore Bay of increased on site hours during weekends.

A further pressure in Chapleau revolves around non-urgent patient transportation as detailed in a report to the DSB Board. Through the original NELHIN Expression of Interest regarding Non-Urgent Patient Transportation, a joint submission was submitted by Chapleau Health Services and Manitoulin-Sudbury DSB. While the submission was not accepted by the NELHIN as part of the Pilot Project, there was a need established for non-urgent transportation. The NELHIN Consultants report on the matter detailed the need for this alternative offering the concept of EMS up staffing to handle the volume of patient movements. Furthermore, the report goes on to say that funding is recommended to support such endeavour. With this in mind up staffing for Chapleau must be part of this enhancement report albeit with funding coming from the NELHIN.

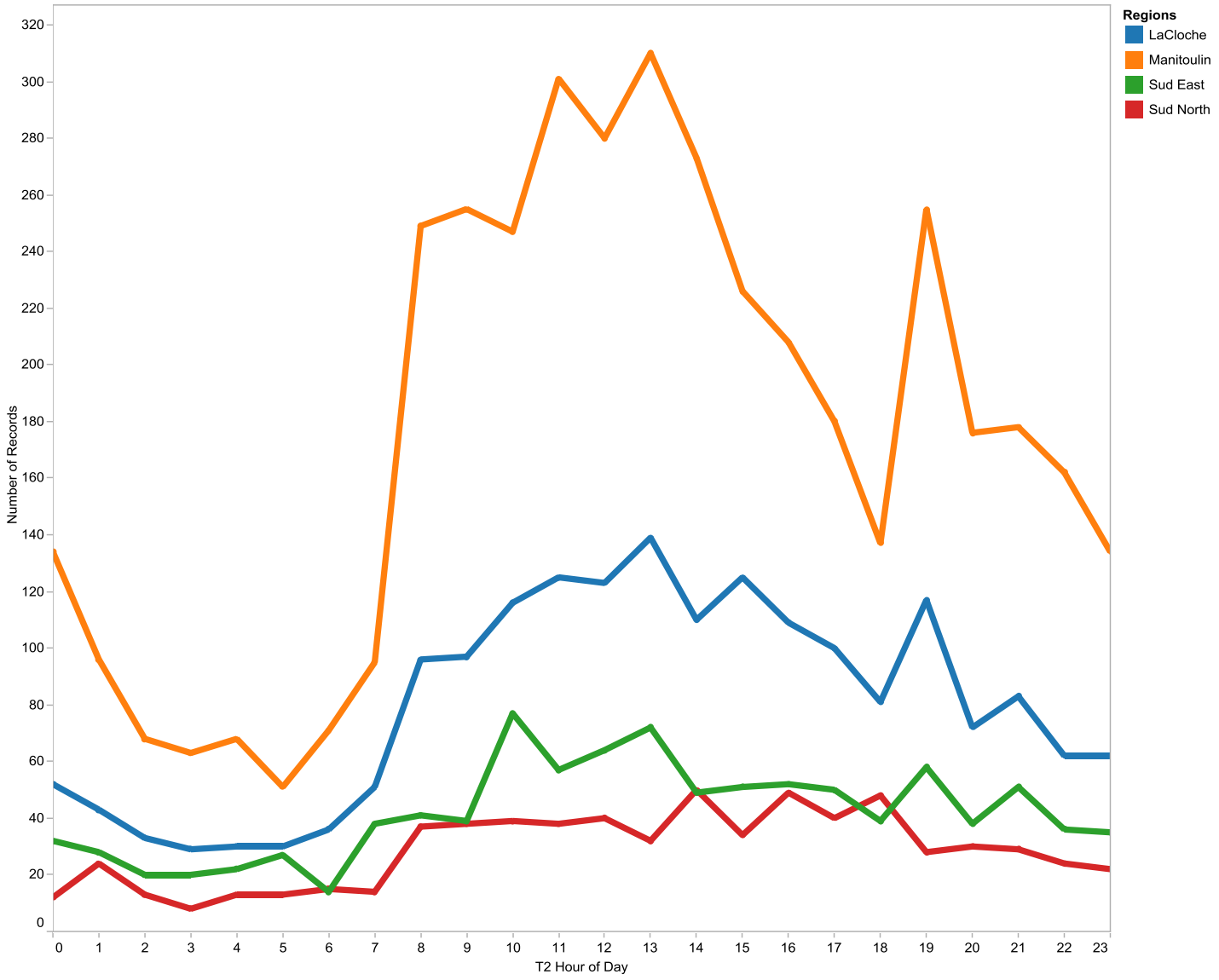
Killarney, Foleyet & Gogama

Killarney, Foleyet & Gogama benefited from increased on-site hours during the most recent staffing plan in March, 2015. An ongoing evaluation to response effectiveness following the change is under way.

Stacked Calls

As stated at the outset of this document, “stacked” calls represent an opportunity for service improvement. The approach in analyzing this issue mirrors the methodology previously reported in a recent Wikwemikong Business Case. This document has detailed a large increase in overall call volumes across the District over the past 15 years. The evaluation of “stacked calls” requires global picture. The Wikwemikong business case was unique in that the station is geographically located at the periphery of Manitoulin Island, on its own. The assessment clearly pinpointed 2 general areas of response, Wikwemikong and Manitowaning. Wikwemikong base volumes are second highest of all stations and the area itself does not have a hospital contained within. Additionally, Wikwemikong is funded 100% provincially. As such a business case was produced concentrating on Wikwemikong, although the MOHLTC concept of seamless coverage ambulance response would apply to any enhancements in Wikwemikong.

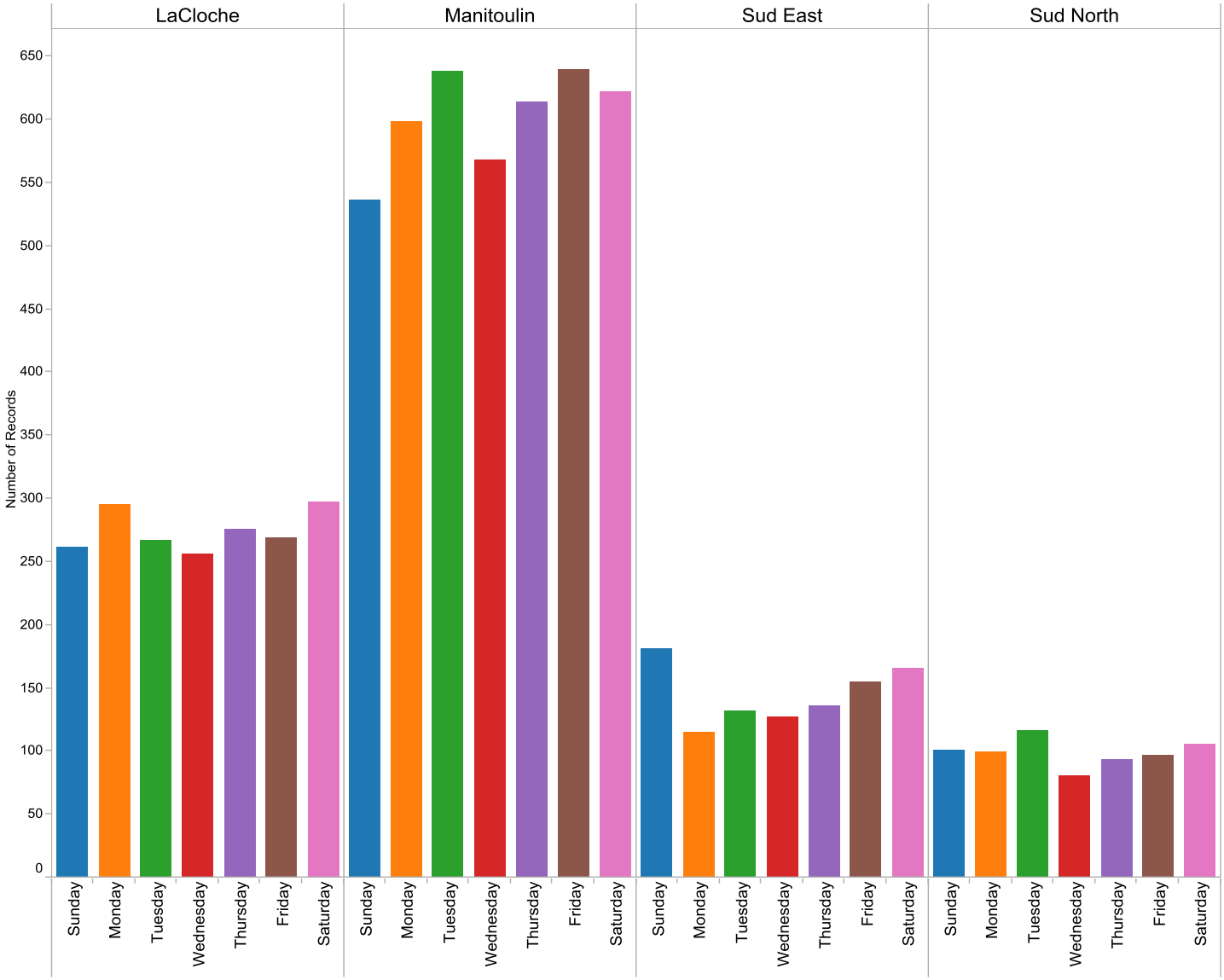
Understanding that we deliver services in 3-4 unique geographic areas, it is necessary to explore statistics within those geographic boundaries, focusing on regional solutions. The regional breakdown of time of day usage is set out in the following graphic.



The statistical analysis reveals that the busiest service area is Manitoulin Island followed by LaCloche, then Sudbury East, and finally Sudbury North. It is important to note that there are 4 stations on Manitoulin Island and only 2 in LaCloche. Broadly speaking, the 6 stations to the west of Sudbury account for 75% of our overall call volume. The volumes in the 2 areas west of Sudbury has actually decreased since implementation of the PTS pilot project.

The time of day by regional statistics generally reveals an overall call volume trend revealing higher utilization between 07:00 and 19:00, with an additional brief period of increased volume at the 19:00 hour.

A breakout of regional day of week information reveals the following:



The day of week statistics reveal a fairly level distribution of calls throughout the week. Based upon the above data, as shown in the charts above, volumes are highest during daytime hours, and evenly distributed by day of week. With the call distribution identified, the next factor is the pervasiveness of “stacked” calls throughout our area.

Reviewing overall community response is essential for an effective evaluation of any staffing enhancement. It is important to note that there is only one deployed ambulance in each community that has an EMS Station with the exception of the second vehicle in Mindemoya, Monday to Friday from 08:00 to 16:00. Essentially, once an ambulance is deployed for service in any one of those communities, the optimal response capacity is lost.

A review of stacked calls in our communities was undertaken. Station geographic response boundaries were established, and a comparison assessment confirming which station performed all responses was performed. Data from April 1, 2014 to March 31, 2015 was again used to confirm currency and relevance.

The following table details the volume, percentage, and response times for all calls performed by the optimal community ambulance vs. an ambulance responding from another community. The final column displays the response time differential between the two.

Community	Community Ambulance Response			Other Community Ambulance Response			Resp. Time Dif. (%)
	# Calls	% Calls	Resp. Time	# Calls	% Calls	Resp. Time	
Chapleau	324	98%	10:31	8	2%	38:22	**265%**
Espanola	993	66%	8:11	507	34%	24:56	**205%**
Foleyet	70	76%	22:20	22	24%	42:05	**88%**
Gogama	215	85%	20:56	39	15%	21:53	**5%**
Gore Bay	242	80%	14:41	62	20%	28:35	**95%**
Hagar	326	84%	14:25	60	16%	20:28	**42%**
Killarney	62	91%	11:04	6	9%	13:56	**26%**
Little Current	626	57%	8:17	479	43%	20:55	**153%**
Massey	533	90%	13:17	57	10%	22:45	**71%**
Mindemoya	623	84%	9:35	122	16%	21:26	**124%**
Noëlville	415	80%	19:29	102	20%	28:43	**47%**
Wikwemikong	1057	71%	8:08	441	29%	28:53	**255%**

On the surface the assessment findings are quite staggering. Upon deeper review, there are some clear conclusions. Both Espanola and Little Current are communities with hospitals. As such the volume of activity reflects the significant movement of patients to the regional referral centre in Sudbury. Mindemoya also has a local hospital but as stated there is a second ambulance from Monday to Friday during daytime hours. The additional vehicle assists with the increased demand.

The above table reveals that the stacking of calls is quite problematic in Espanola, Little Current and Wikwemikong. Foleyet also presents with a large incidence of stacked calls, but when those calls are analyzed, 21 of the 22 calls that were responded to by another ambulance were relays of non-urgent patients. The Hwy. 101 corridor is the only area in the Districts where the relaying of non-urgent patients occurs with any regularity; a protocol related to the great distances travelled without coverage within a reasonable amount of time.

Understanding the issue of stacked calls, a business case was submitted to the MOHLTC for enhanced staffing in Wikwemikong. That business case introduced the concept of a Paramedic Response Unit (PRU) deployment. Reiterating the concept, a PRU would be staffed by one paramedic which enables the ability to provide a response to an emergency call inclusive of all treatment possibilities but without the ability to transport a patient to a hospital.

A number of factors were reviewed in coming to the decision that a PRU model would be most effective in meeting our current needs. PRU deployment has a benefit of response capacity without transportation. As such the resource cannot be utilized for non-urgent transfers, ensuring the availability and reliability of the resource for provision of response and treatment. Additionally, from a budgetary perspective, the PRU model costs half of a full ambulance in staffing dollars. In exchange, as previously mentioned, transportation is not within the scope of the PRU. The data analysis confirms that the addition of a PRU 7 days a week for 12 hours a day would be beneficial in Manitoulin and LaCloche.

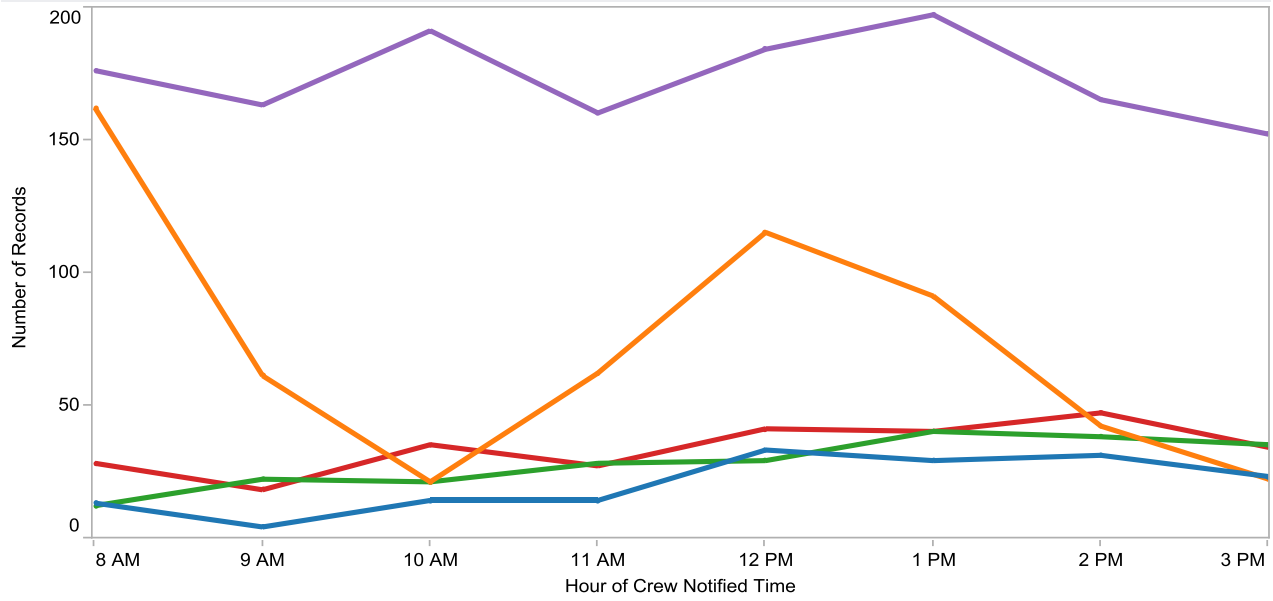
Mindemoya Extra Ambulance

The weekday 8 hour ambulance in Mindemoya has been in place since the DSB assumed control of EMS. It was instituted originally to help assist with the substantial demands of non-urgent patient transfers to Health Sciences North in Sudbury. The vehicle has also provided a valuable resource to mitigate increased emergency call volume. The PTS pilot project will allow for an effective analysis of the value of this 8 hour day ambulance, but requires a permanent alternative model.

Data analyzed for consideration of the extra ambulance deployment requires a large data set (time frame). An analysis was done involving 4 years' worth of data (2 without the PTS and the two most recent years with the PTS). This allowed for a significant enough set of data to ensure validity. The only variable other than the addition of the PTS within that timeframe is the elimination of mandatory standbys within the deployment plan in June of 2013.

It also must be stated that the data below expresses volumes from the Mindemoya station entirely, not just the extra weekday ambulance. From a data collection perspective there is no clear indicator to stratify which shift is assigned any call. The goal of the analysis below is to evaluate overall station busyness during the hours where the extra ambulance is available. The following charts and tables detail statistics on Monday to Friday between the hours of 08:00 and 16:00 (Second vehicle deployment).

Mindemoya Time of Day Apr 1/11 - Mar 31/13



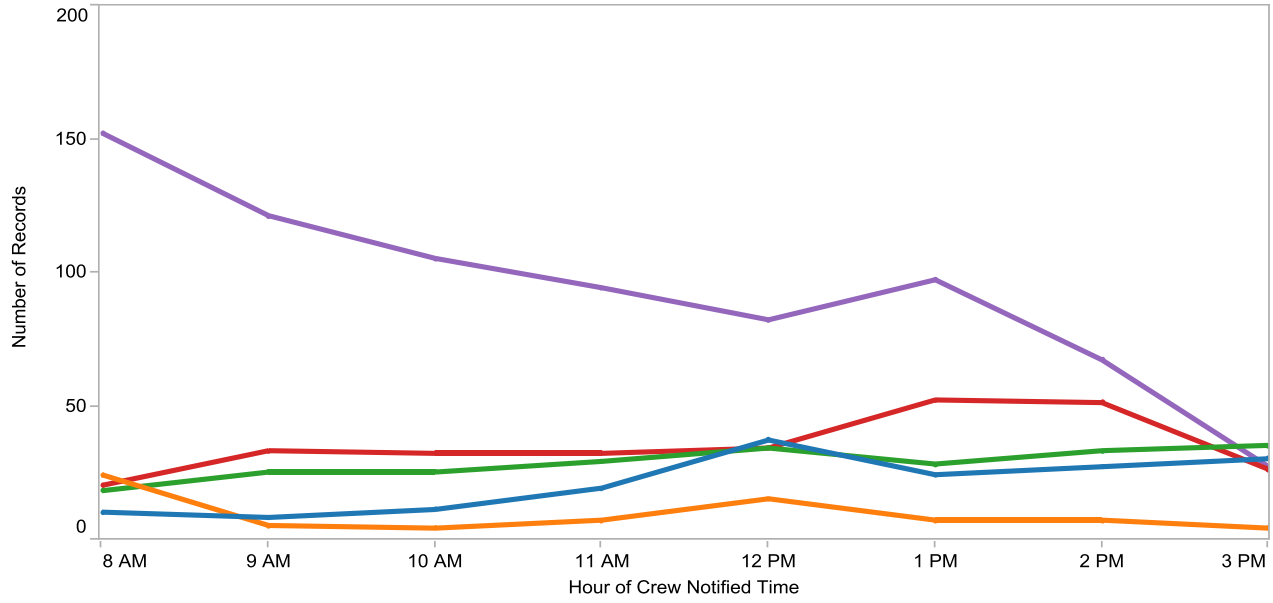
Dispatch Priority
- [x] 1
- [x] 2
- [x] 3
- [x] 4
- [x] 8
- [ ] 9 - Service/Ad..

Weekday of Call ..
- [ ] Sunday
- [x] Monday
- [x] Tuesday
- [x] Wednesday
- [x] Thursday
- [x] Friday
- [ ] Saturday

Dispatch Priority
- 1
- 2
- 3
- 4
- 8

Dispatch P..	8	9	10	11	12	13	14	15	**Grand Total**
1	13	4	14	14	33	29	31	23	161
2	162	61	21	62	115	91	42	22	576
3	12	22	21	28	29	40	38	35	225
4	28	18	35	27	41	40	47	34	270
8	176	163	191	160	184	197	165	152	1,388
Grand Total	391	268	282	291	402	397	323	266	2,620

Mindemoya Time of Day Apr 1/13 - Mar 31/15



Dispatch ..	8	9	10	11	12	13	14	15	**Grand Total**
1	10	8	11	19	37	24	27	30	166
2	24	5	4	7	15	7	7	4	73
3	18	25	25	29	34	28	33	35	227
4	20	33	32	32	34	52	51	26	280
8	152	121	105	94	82	97	67	27	745
Grand T..	224	192	177	181	202	208	185	122	1,491

The above date confirms evidence that the PTS has made a positive impact in the utilization of the Mindemoya station. This has resulted in mitigation of impact throughout the Island and even the LaCloche area due to emergency back fill when other crews are on emergency calls.

There has been a 75% (1,129) decrease in non-urgent call volume between the 2 years prior to the PTS and the 2 years with the PTS. It must be noted that during the 2 year PTS pilot project, 2,179 patient transfers have been diverted from EMS resources, a number that would have resulted in a significant increase in volume (40% increase) without the presence of the PTS resource.

Finally, when reviewing data for Mindemoya it was essential to review a comparison of similar stations (Little Current & Espanola). Reiterating our inability to discern between the 2 day shift vehicles in Mindemoya, it was important to review overall volumes with comparators. The following is the data from the 3 stations over the period of April 1, 2014 to March 31, 2015.

Stations	**Hour of Day**								**Grand Total**
	8	**9**	**10**	**11**	**12**	**13**	**14**	**15**	
Espanola	52	39	53	64	57	74	56	57	**452**
Little Current	53	58	43	55	52	66	62	47	**436**
Mindemoya	118	107	99	93	112	125	88	51	**793**
Mindemoya % difference	**125%**	**121%**	**106%**	**56%**	**106%**	**79%**	**49%**	**-2%**	**79%**

It might be asserted that call volumes in Mindemoya with two ambulances, should be significantly greater in comparison to the other single vehicle stations. The statistics reveal an overall 79% comparative increase in call volumes at the Mindemoya station. It must be stated that a pilot model of non-urgent patient transportation is in place for a finite period. Without the PTS pilot program, given extrapolated volume distribution between all the communities, the Mindemoya base would realize a 133% relative representation which presents a significant ratio.

As stated earlier, a review of stacked calls was performed. The evidence confirmed that 16% of requests for service in the Mindemoya deployment area were being performed by ambulances from stations other than Mindemoya, without consideration of time of day/day of week. An assumption could be made that there should be a substantial drop in that percentage during deployment of the extra ambulance in Mindemoya. When the same data set was reviewed during the timeframe of deployment of the extra Mindemoya ambulance, 15.2% were being performed by another ambulance. That represents a minimal drop in “stacked” calls in Mindemoya during extra ambulance deployment. A deeper review reveals that if the second ambulance were to be removed, a 37% stacked call incidence would exist, making Mindemoya the second highest area of concern. As such, the removal or redistribution of the hours of the extra weekday ambulance in Mindemoya would present the organization with a risk; however this concept does require further monitoring in the future.

Recommendations

Evaluations were conducted on three different areas of concern; on-call impact, stacked calls, and the extra Mindemoya weekday ambulance.

There are 7 of 12 stations with varying periods of on-call staffing. The issue of on-call staffing was the single focus of the previous 5 year EMS staffing enhancement plans. Over the last 4 years there have been staffing enhancements including increased on-site hours in Mindemoya, Massey, Noëlville, Killarney, Gogama and Foleyet. While there is less on-call present in the deployment today, it remains an important focus of this plan.

Paramedic Response Unit (PRU)

Mitigation of stacked calls, results in two obvious options; PRU deployment on Manitoulin or PRU deployment in LaCloche. Statistical analysis of included calls resulted in the conclusion that a PRU should be based on Manitoulin. This first option will be addressed with the MOHLTC approval of a Wikwemikong PRU enhancement. This Wikwemikong staffing enhancement was approved by the Board in April 2015 with the approval of the Wikwemikong Staffing Enhancement – Issue Report. This enhancement which is estimated to cost a total of $365,674 will be paid for 100% by the MOHLTC should they approve the DSB budget submission for the 2015-16 fiscal year.

The second option would involve deployment of a PRU in Espanola to allow increased capacity in the LaCloche area, and would pair optimally with a Wikwemikong PRU.

The costing of a PRU in Wikwemikong was laid out in the Wikwemikong Staffing Enhancement – Issue Report. The issue report included $293,674 in salary & wages & benefits with $60,000 allocated to a new response vehicle and $12,000 allocated for ongoing operational costs of the response vehicle. The estimated breakdown to do this in either Little Current or Espanola would breakdown as set out below, with a difference related to amortized costs related to response vehicle purchase:

S&W	Benefits	Trans & Com	Vehicle	Supplies & Equipment	Transfer to Vehicle Reserve	TOTAL
$ 207,586	$ 66,557	$ 3,729	$ 11,421	$ 5,816	$ 8,571	**$ 303,680**

With respect to PRU deployment, there is no cost per call comparison because an ambulance also has to respond with any PRU to facilitate transportation. The concept surrounding a PRU involves rapid response to the patient, and “stopping the clock”, and providing much needed emergency care in a timelier fashion. As noted in a recent Board report our response times are suffering. The implementation of a PRU program aims to rectify this.

Chapleau Inter-Facility Up Staffing

To account for the costs of up staffing in Chapleau there are many factors to consider. A review of medical transportation data in the Chapleau area over the course of 22 months (June 2013-March 2015) reveals on average nearly 4 transfers per month into Timmins with a yearly average of 46. It is estimated that each of these transfers will take up to 7.5 hours to complete. Although this amounts to roughly one transfer per week, it must be understood that this number equates to 345 hours per year where the community of Chapleau is without ambulance coverage due to inter-facility medical transportation necessitated by our provincial regionalized system of healthcare. As noted above in relation to stacked calls there were 8 occurrences from April 1, 2014 to March 31, 2015 where the primary response ambulance did not come from the Chapleau station. These situations pose significant risk to the community.

The following table reveals the estimated average yearly costs. The hourly rate below is based upon current paramedic rates of pay (straight time) with an estimated benefits cost. Additionally, an amount is included which accounts for vehicle costs (fuel & maintenance) related to these transfers. Again, these costs are to be covered by the NELHIN as per the final report on non-urgent patient transportation.

# of yearly Transfers	Time per Transfer	Hourly Rate	TOTAL
46	7.5 hrs.	$ 120	**$ 41,400**

Chapleau Staffing

With respect to a staffing option for Chapleau, a deployment shift from 12 hours to 20 hours on-site (10-10-4 schedule), there would be an enhanced capacity to respond more effectively. 92% of all calls performed by Chapleau could be achieved with on-site hours if the 10-10-4 schedule was implemented. Using a cost blend from Massey and Noëlville (currently deployed with 10/10/4 model)) as the comparative, a general costing for this option could be expressed.

	Chapleau	Massey/Noëlville Avg.	difference
S&W + Benefits	$ 633,888	$ 935,620	$ 301,732

The costing for the Chapleau enhancement is greater than any move in Noëlville, or Massey as there is need to add an additional 8 hours being added to the Chapleau station every day of the week.

Gore Bay Staffing

The recommendation related to on-call challenges is to institute a hybrid model of deployment for the Gore Bay station. There is no current comparative for this deployment model. A historical review was performed in an attempt to determine an averaged budgetary impact. Additionally, some rough calculations were performed utilizing base wages and applying the standard benefit percentage, while backing out the current on-call dollars. The following details the estimates.

	Gore Bay	No Comparator	difference
S&W + Benefits	$ 641,079	(est. amt. based on experience and rough calculations)	$ 150,000

Massey & Noëlville Staffing

Massey and Noëlville have seen a great improvement in on-site hours, and now have 20 hours on-site per day. The two stations, combined have responded to an additional 196 calls during on-site hours. The next logical step in enhancing those stations involved moving to 24/7 on-site coverage, but there are only a small number of calls left that are not part of the on-site period. A budgetary review of a 24/7 on-site coverage model can be performed during the full annual budgetary review process over the coming summer months. The numbers detailed herein provide an estimate for costing only.

Using budgetary comparators we find Massey can relate to Espanola, and Noëlville can relate to Hagar.

	Massey	Espanola	difference
S&W + Benefits	$ 953,414	$ 1,095,965	$ 142,551

	Noëlville	Hagar	difference
S&W + Benefits	$ 917,826	$ 1,076,907	$ 159,081

The differences listed above are 100% budgetary figures. As the MOHLTC funding model would be applied, a 50% grant to the budget would result in a cost half of the identified costing.

Mindemoya Weekday Ambulance

Lastly, the utilization of the extra Mindemoya weekday ambulance has been reviewed. With respect to consideration of any action related to the continued deployment of the second Mindemoya ambulance, there is a need to further examine potential benefits garnered from the utilization of the PTS resource. It has been two years since we implemented a LHIN sponsored pilot project regarding non-urgent patient transportation. That program has been highly successful in moving patients between facilities and such has reduced call volumes in the Mindemoya station. The fact however that the LHIN has

raised questions regarding the sustainability of the program would lead us to conclude any decisions predicated on the presence of the PTS could not be considered.

Options for Moving Forward

Presented within this document are many solutions to achieve a more responsive Ambulance service. Throughout this document evaluations were completed with respect to rationalization of station staffing enhancements. In order of priority the following recommendations are being made.

1. PRU in Manitoulin (MOHLTC Business plan submitted for Wikwemikong)
2. PRU in LaCloche
3. Chapleau Up Staffing to coverage for long distance transfers (NE LHIN)
4. Chapleau 10-10-4
5. Gore Bay Hybrid
6. Massey 24/7
7. Noëlville 24/7

In the previous plans there has been a single guiding principle with respect to EMS enhancements. The ongoing principle adopted by the Board in previous years was that EMS enhancements would account for no more than a 1% increase on the municipal share. In 2015 the municipal share of the DSB budget was $11,280,264, therefore 1% would represent $112,802. Understanding this, there are options below which continue to follow that ideology.

It must be noted that in previous years we have been successful in obtaining grant money from the MOHLTC for staffing level enhancements. These monies are always a year behind as per the way the MOHLTC plans its finances. This past year in reconciling our budget with the MOHLTC again the question was asked in writing as to whether or not enhancements were made to staffing. There has been a suggestion recently that the MOHLTC is willing to look at a way for services to receive enhancement funding in the year they make the change in service. This is a departure from years past where the MOHLTC suggested that enhancements should be approved in advance. There is always caution though as you move forward with unknown financial situations at a provincial level.

A variety of options have been presented offering differing levels of municipal investment. There must be a balance in responsiveness to medical emergencies, Health & Safety of both the communities and employees, and overall cost effectiveness. It is with these factors in mind that the following recommendations are being made for progress into the future.

Ongoing Annualized Costs

Rank	Station	Staffing Hours	Estimated Cost	Municipal Share	Yearly Cost	% of Municipal Budget **
1	Wikwemikong	PRU*	$365,647	$0	$0	**0.00%**
2	Espanola	PRU*	$303,680	$151,840	$151,840	**1.35%**
3	Chapleau	Up Staff	$41,400	$0	$0	**0.00%**
4	Chapleau	10-10-4	$301,732	$150,866	$150,866	**1.34%**
5	Gore Bay	Hybrid	$150,000	$75,000	$75,000	**0.66%**
6	Massey	24/7	$142,551	$71,276	$71,276	**0.63%**
7	Noëlville	24/7	$159,081	$79,541	$79,541	**0.71%**

In order to reduce the annualized cost of full implement, options are listed below.

Option #1

To institute this option, in the first year the Espanola PRU Paramedics would be used to contain costs of backfilling for other employees while they are on vacation. This will be done for a period time equaling up to 35% of the cost of PRU deployment to backfill for staffing absences. This would occur in 2016 with the full-fledged PRU model in operation for 2017, assuming the Board approves the second part of the enhancement in the 2017 budget. The benefit of this option is that it lessens the financial burden as it spans over 2 years, however the problem with this model is that it does not accomplish the goals of this report in terms of providing the needed PRU enhancement in its entirety nor in a purely consistent format. The second instance of slower implementation lies within the 2 year implementation for Chapleau. Starting the enhancement at the midway point of one year allows for half the costs to be borne in one year while the other half of the financial impact then becomes part of the following years budget. While instituting an enhancement over the course of 2 years does span the financial impact over a longer period of time it also does commit the Board to go through with the second half of the financial burden in the subsequent year.

Rank	When	Station	Staffing Hours	Estimated Cost	Municipal Share	Yearly Cost	% of Municipal Budget **
1	2015/16	Wikwemikong	PRU*	$365,647	$0		**0.00%**
2a	2016	Espanola	PRU*	$151,840	$98,696	$98,696	**0.87%**
3	2016	Chapleau	Up Staff	$41,400	$0		**0.00%**
2b	2017	Espanola	PRU*	$151,840	$53,144	$53,144	**0.47%**
4a	July 2018	Chapleau	10-10-4	$150,866	$75,433	$75,433	**0.67%**
4b	Jan. 2019	Chapleau	10-10-4	$150,866	$75,433	$75,433	**0.67%**
5	2020	Gore Bay	Hybrid	$150,000	$75,000	$75,000	**0.66%**
6	TBD	Massey	24/7	$142,551	$71,276	$71,276	**0.63%**
7	TBD	Noëlville	24/7	$159,081	$79,541	$79,541	**0.71%**

*** The PRU would operate 12 hours a day / 7 days per week**

**** % of Municipal Budget is based upon 2015 Budgetary figures.**

Option #2

Under this option the Espanola PRU is brought in again over the course of 2 years as above. The only difference in this case is that there is a pure 50/50 split in implementation costs for the Espanola PRU.

Rank	When	Station	Staffing Hours	**Estimated Cost**	Municipal Share	Yearly Cost	**% of Municipal Budget ****
1	2015/16	Wikwemikong	PRU*	$365,647	$0	$75,920	**0.00%**
2a	2016	Espanola	PRU*	$151,840	$75,920		**0.67%**
3	2016	Chapleau	Up Staff	$41,400	$0		**0.00%**
2b	2017	Espanola	PRU*	$151,840	$75,920	$75,920	**0.67%**
4a	July 2018	Chapleau	10-10-4	$150,866	$75,433	$75,433	**0.67%**
4b	Jan. 2019	Chapleau	10-10-4	$150,866	$75,433	$75,433	**0.67%**
5	2020	Gore Bay	Hybrid	$150,000	$75,000	$75,000	**0.66%**
6	TBD	Massey	24/7	$142,551	$71,276	$71,276	**0.63%**
7	TBD	Noëlville	24/7	$159,081	$79,541	$79,541	**0.71%**

*** The PRU would operate 12 hours a day / 7 days per week**

**** % of Municipal Budget is based upon 2015 Budgetary figures.**

Conclusion

Serious consideration must be given once again to the enhancement of the areas as listed above. To assess the order of increased staffing, we reviewed on-call hours, “stacked” calls, and the extra Mindemoya weekday ambulance. Call volumes generally continue to climb although we have deflated those numbers to some extent with the addition of the highly successful non-urgent PTS pilot project. The Ambulance Response Time Standard-Issue Report highlighted response times to a somewhat negative extent. While we realize that population density is a large factor in poor response times there are some areas we can look to assist in improving those times. We need to be responsive within our busiest communities and the current publicly posted response time standard makes it all the more important. We also need to be aware of our responsibilities to our employees. We have to be mindful that the increase in call volumes particularly during on-call hours can lead to hours of work and Health & Safety implications.

The original idea towards staffing enhancements began 4 years ago with the first EMS 5-Year Staffing Plan - Issue Report. Since then, with the continued foresight of the Board, the plan has seen an update and has resulted in enhancements in 6 stations. We are now faced with emerging issues and the plan has again been re-established.

Enhancing staffing under the options listed above will have the greatest effect in the areas of greatest need. The final mix of staffing should provide for better response times and less reliance on geographical sub-optimal responses to emergencies. The continued enhancement in areas with on-call staffing, where it makes a statistical difference should prove to assist with current and future predicated call volume patterns.

Staff are recommending that the Program Planning Committee approve this EMS staffing enhancement plan and ask the Board to approve the staffing plan in principal. The implementation of the plan would rest with the DSB's Finance Committee as it deliberates the budget on an annual basis.