

## MEMORANDUM

This Memorandum records the understandings reached between the Government of British Columbia and the British Columbia Medical Association concerning physician staffing at 19 service contracted Emergency Departments in British Columbia. The affected departments are listed at the end of this Memorandum.

### A. Workload Model

1. The parties agree to the workload model developed by Drs. Vertesi and Rongve, a description of which is attached as Appendix B to this memorandum. The parties acknowledge that to date, Drs. Vertesi and Rongve have not agreed on how to incorporate teaching requirements in the workload model.
2. For the purposes of allocating additional resources as described in Section 1 of Part B. of this Memorandum, the parties have applied Dr. Vertesi's methodology for incorporating teaching requirements that was previously used in 2007 into this workload model.
3. The parties will request that Drs. Vertesi and Rongve attempt to reach agreement on the appropriate methodology for incorporating teaching requirements into the workload model by December 31, 2010.
4. Until an agreement is reached on the appropriate methodology for incorporating teaching requirements into the workload model, the parties agree that when communicating any results achieved from the application of the workload model, they will acknowledge that such an agreement has not yet been reached.
5. The parties agree that for the fiscal year 2011/12, the workload model will be run using 2010/11 fiscal year emergency room (ER) visit data and 2011/12 fiscal year clinical teaching data.
6. The parties will hold further discussions with respect to the future application of the workload model beyond March 31, 2012. Included in such discussions will be the issue of which input data components (LWBS, IVT, direct to consultant) should or should not be used in determining FTE requirements.

### B. Additional Resources

1. From July 1, 2010 to March 31, 2012, the Government will increase the funding commitment for physician services in British Columbia's 19 contract ER by up to \$6 million annually (i.e. in each of the 2010/11 and 2011/12 fiscal years) according to the following:

#### (a) Base Contract Funding

Up to \$3 million in annual funding will be used to support the addition of 10.6 new FTEs that have been allocated based on the application of the workload model. This 10.6 FTE increase will be effective July 1, 2010, and will be allocated to the various sites as set out in Appendix "A" to this memorandum.

(b) Additional Annual Funding

Up to a further \$3 million in annual funding will be allocated to the various sites to support up to an additional 17,800 hours of service reflecting the volume increases experienced by individual sites from fiscal year 2008/09. This additional funding will be allocated as follows:

- (i) An initial allocation for the time period from July 1, 2010 to October 31, 2010 using unaudited HAMIS data for fiscal year 2009/10 and based on an annualized figure of 17,800 hours, as set out in Appendix "A" to this Memorandum.
- (ii) A re-allocation for the time period from November 1, 2010 to October 31, 2011 using audited HAMIS data for fiscal year 2009/10 following consultation between the parties. If the increase in volume at a site from fiscal year 2008/09 to fiscal year 2009/10 using audited HAMIS data for 2009/10 is less than the increase in volume using unaudited HAMIS data for 2009/10, there will be a proportionate reduction in the hours allocated to that site.
- (iii) A second reallocation for the time period from November 1, 2011 to March 31, 2012 using audited HAMIS data for fiscal year 2010/11 following consultation between the parties. If the increase in volume at a site in fiscal year 2010/11 using audited HAMIS data is less than the increase in volume at that site in fiscal year 2009/10 using audited HAMIS data there will be a proportionate reduction in the hours allocated to that site. If the increase in volume at a site in fiscal year 2010/11 using audited HAMIS data is greater than the increase in volume at that site in fiscal year 2009/10 using audited HAMIS data, there will be a proportionate increase in the hours allocated to that site, subject to (c) below.

(c) Limits on Allocation Using Workload Model

The parties agree that the application of the workload model sets the upper limit of coverage for the combined allocation of resources from both (a) and (b) above for those sites experiencing increases. In no case will the allocation of the additional funding in the 2010/11 or 2011/12 fiscal years result in total hours of service at a site that is greater than that identified in the application of the workload model.

**C. Evaluation**

- I. The parties agree that until March 31, 2012, they will undertake the evaluation of service delivery at the contract sites listed in Appendix "A" in comparison to Fee-for-Service ER sites in British Columbia and to other provinces and national benchmarks. The BCMA and the contract ER physicians will collaborate with their hospitals, the health authorities, the Health Services Purchasing Organization and the Ministry of Health Services in such evaluation. Specific measures to be examined include but are not limited to:


- (a) Average wait time for ER patients by Canadian Triage Acuity Scale (CTAS) category at each location;
- (b) Average physician time spent on ER patients by CTAS category at each location;
- (c) Average patient age by CTAS category at each location; and
- (d) Percentage of patients who Left Without Being Seen at each location.

**D. Local Contracts**

- 1. The BCMA and the Government will work with the affected physicians and health authorities at the nineteen contract sites to amend the current contracts to reflect the agreed upon new allocation of physician resources (both base FTEs and additional hours) effective July 1, 2010 as per Appendix "A". All other terms and conditions of the existing contracts will continue for the 2010/11 and 2011/12 fiscal years.

  
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Sheila Taylor  
for the Government of British Columbia

Date: Sept 21, 2010

  
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Geoff Holter  
for the British Columbia Medical Association

Date: 21/09/10

**Appendix "A"**

<b>Site</b>	<b>Annual FTE Allocation Effective July 1, 2010</b>	<b>Additional Hours of Service for Period: July 1, 2010 to October 31, 2010</b>
BC Children's Hospital	12.55	153
Cowichan District Hospital	10.10	216
Delta Hospital	8.84	175
Eagle Ridge Hospital	12.73	614
East Kootenay Regional Hospital	7.28	0
Lions Gate Hospital	15.06	688
Mount Saint Joseph Hospital	6.20	181
Nanaimo Regional Hospital	15.74	613
Richmond General Hospital	13.95	248
Royal Columbian Hospital	20.84	1009
Royal Inland Hospital	14.34	437
Royal Jubilee Hospital	14.10	264
Saanich Peninsula Hospital	6.32	113
St. Joseph's Hospital (Comox)	8.15	42
St. Paul's Hospital	19.98	97
UBC Hospital	5.10	40
University Hospital of Northern BC (Prince George)	14.73	241
Vancouver General Hospital	27.05	408
Victoria General Hospital	13.38	395
<b>TOTAL</b>	<b>246.44</b>	<b>5,934</b>

## Appendix B

### BC Emergency Department Workload Model Summary Description (2010 Version)

**Purpose of the Model:** To provide a standardized method of calculating the number of physician hours (on duty in the Emergency Department) required to maintain patient waits of an average of 60 minutes.

**Method:** It is a patient-flow simulation model which represents; the flow of Emergency Department (ED) patients to and within EDs, assignment of Canadian Triage Acuity Scale (CTAS) level, waits in queues for treatment, treatment time by physicians according to CTAS level, and leaving the ED after treatment.

**Input Data:** the model requires; annual visits of ED patients by CTAS level and ED, arrival date/time of patients by ED, CTAS recommended treatment time (based on the preliminary results of the POWER study developed in Ontario (1996)), and the target wait time for patients.

#### Model Variables:

##### 1. Patient Arrivals

The model uses the non-homogenous Poisson process to simulate the patient's arrival patterns. Using the Poisson process, the model generates the variability of arrivals by rejecting a number of arrivals with various rates depending on time (day-of-week and 4-hour group).

##### 2. Adjusted CTAS Distribution

There is variation in the way CTAS scoring is done from one facility to another. Because CTAS level determines the time the physician spends with each patient, the model is very sensitive to any variation in CTAS distribution and this makes the use of raw CTAS scores in a model problematic. Therefore, the raw CTAS score must be adjusted or normalized so variation is minimized.

##### 3. Queue Structure

After being assigned a CTAS score, patients enter an available queue and will leave the queue once they are seen by a physician (on a first-come-first-served basis). The maximum number of queues for each site was given by BCMA, where most sites were assigned two queues, though a few have one or three. If there is one physician (up to 24 hours) on duty, then one queue is used. If more than one physician (>24 hours) is working, then there would be more than one queue used, which could mean a mix of independent (one physician working independently) and common queues (two physicians working collaboratively).

#### 4. Allocation of Additional Emergency Physicians

The availability of physicians to treat patients at a certain time is not only determined by the number of physician hours, but also by the way in which the physician hours are scheduled. If the physician hours required is a multiple of 24 (48, 72, 96 hours, etc.), a whole number of physicians is on duty for 24 hours. Otherwise, hours are added one at a time, starting with the highest patient volume hour and working forward through the day.

**Output Data:** after the input data mentioned above has been entered, then the model may be run to generate output for each ED. The one input variable that changes is EP hours per day. That is, several model 'runs' are done for each ED, to see which level of physician hours produces the outputs that align with MOHS targets. The model produces various system-level results such as the:

- a. Average wait time of patients for treatment. The patient wait time is the difference between when the patient enters and leaves the queue. That is, the time between entering the ED and leaving the queue to receive treatment.
- b. Number of patients with no wait
- c. Number of patients with reasonable waits or the wait time lies within the CTAS recommended maximum wait time for each CTAS level.<sup>1</sup>
- d. Number of patients with excessive waits or the wait time exceeds the CTAS recommended maximum wait time for each CTAS level.
- e. On-Time Rate which is the proportion of patients who receive treatment within the CTAS recommended treatment time. It is the ratio between the number of patients with either no wait or reasonable wait and the total number of ED patients.

The physician hours that correspond with a 60 minute average wait time output is deemed to represent the needed physician hours at that site.

**Part-Time Hospitals:** Two EDs (University of British Columbia and Mount Saint Joseph) close in the evening and re-open in the morning. Instead of using four-hour segments to model them, the model uses one-hour segments and ensures no patients arrive when the ED is closed.

**Teaching:** Teaching when done concomitantly with clinical work is known to slow the progress of patients and adds to average physician time. The coefficients were set at the time of the previous contract settlement in 2007 and are added on to the model results as a percentage (Fowler method) based on the number of booked student hours provided by BCMA. Teaching time will be added into the model as an integrated component instead of a linear percentage as is currently done.

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<sup>1</sup> As per 2005 CIHI report "Understanding Emergency Department Wait Times II: Who Is Using Emergency Departments and How Long Are They Waiting?", the CTAS recommended maximum wait times for CTAS 1, 2, 3, 4, and 5 are 0, 15, 30, 60, and 120 minutes respectively.