Appendix G of the 2004 Physician Services Agreement prescribes that total funding for each AHSC AFP will be based upon the number of FTEs in each specialty at each AHSC. The FTE Working Group was established by the AHSC Task Force to make recommendations on a methodology for calculating an FTE that is consistent across all AHSCs.

The recommended FTE definition is intended solely for the purpose of measuring physician complement in order to allocate the new investment to Governance Organizations. This FTE definition will have no bearing on the independent contractor/employment status of any physician nor are Governance Organizations or Practice Plans expected to adopt this FTE definition for the allocation of funds at the local level.

In its report, the FTE Working Group has endorsed the following recommendations:

- An academic physician full-time equivalent should be based on a 70% clinical and 30% academic workload concept.

- The estimation of clinical FTEs should be based on average income (all income used to support in-scope clinical activity) using the methodology developed by the Canadian Institute for Health Information (CIHI).

- The estimation of academic activity (both teaching and research) is most reliably measured using medical training days (with refinements).

The FTE Working Group committed considerable time to developing this preliminary report and is continuing to work with the Task Force on developing and examining the elements necessary to support and model the proposed methodology. Next steps for the Task Force and FTE Working Group include:

- Generating a list of specialties and sub-specialties to be used (and options to identify sub-specialties in the OHIP database)
- Considering what, if any, changes to the instructions for submission of medical trainee day data are required for AHSCs to better meet data needs of this initiative.
- Deciding how/if to include fellows and possible weighting depending on student type.
As noted earlier, the FTE calculation will be used to determine, by specialty the number of FTEs at each AHSC. The FTE count, once validated by an external auditor, will become the basis on which the New Investment is allocated. For this reason, you are strongly encouraged to submit any feedback, comments or concerns you may have to the Task Force. We would ask that you submit your comments through your department and/or Governance Organization.

If you wish to also copy your comments to the Task Force or have any questions you may need answered, the Working Document section of this website contains a feedback button that enables you to submit comments/questions directly to the AHSC AFP Task Force Project office. You can also e-mail your comments to Brenda.Edwards@moh.gov.on.ca or submit them by mail to:

Brenda Edwards  
AHSC AFP Project  
Ministry of Health and Long-Term Care  
1075 Bay Street, Suite 301  
Toronto, Ontario  
M5S 2B1

The Task Force will consider all comments before final recommendations are developed. If you have any questions or require further information, please do not hesitate to contact us.
ACADEMIC HEALTH SCIENCE CENTRES
ALTERNATIVE FUNDING PLAN TASK FORCE

REPORT OF THE FULL-TIME EQUIVALENT
WORKING GROUP

September 21, 2006

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MSH UHN Academic Medical Organization

Barry Rubin BSc MD PhD FACS FRCSC
Chair, FTE Working Group

On behalf of the Members of the FTE Working Group
FTE Working Group
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I. Executive Summary

The mandate of the AHSC AFP Task Force is to enable the distribution of the New Investment funds in a manner that fosters the retention and recruitment of physicians at Academic Health Science Centers (AHSC) in Ontario. In order to deliver on this mandate, a measure of the work performed by physicians engaged in the practice of medicine at AHSC in Ontario is necessary – this work includes contributions to clinical care, research, teaching and administration. The mandate of the Full Time Equivalent (FTE) Working Group is to develop a definition of a FTE that enables measurement of the work performed by academic physicians, and that is based on data that is verifiable, reproducible and can be collected prospectively.

The FTE Working Group developed principles that would guide its work. We agreed that the definition of an FTE must account for work provided by full-time and part-time physicians, be applicable to all physicians practicing at AHSCs in Ontario and enable the rapid assessment of changes in physician complement. We also agreed that the number of FTEs at each AHSC must be verified by an independent auditor, as provided in Appendix G of the 2004 Framework Agreement, and that the value assigned to an FTE in the same subspecialty practicing at different AHSCs, for the purpose of distributing New Investment funds to AHSCs, must be identical.

To gain an in-depth understanding of the methods used to measure FTEs in Canada, the FTE Working Group interviewed physician compensation experts in British Columbia, Alberta, Manitoba, Nova Scotia and New Brunswick, developed and solicited responses to an inter-Provincial FTE methodology questionnaire, and carried out a detailed examination of the literature devoted to the measurement of physician FTE.

After identifying and studying eight potentially viable FTE definitions, the FTE Working Group supported the use of an FTE definition that combined fee-for-service data (clinical FTE component) and teaching data (academic FTE component) as a proxy to measure work done by academic physicians in Ontario. To better understand the impact of this FTE definition on the distribution New Investment funds, the FTE Working Group strongly endorses modeling of this definition before it is actually used to distribute funds.
Acknowledgements and Membership

The FTE Working Group would like to extend its sincere appreciation to all those who participated in the research process and development of FTE definition options. The insight and advice of all participants, both within Ontario and from other provinces, were instrumental in assisting with the development of the FTE Working Group’s final recommendation to the AHSC AFP Task Force.

FTE Working Group Members:

Dr. Barry Rubin - Chair, MSH UHN Academic Medical Organization

Jeff Murphy - Director, MSH UHN Academic Medical Organization

Dr. John Brown - Chair, Academic Medical Organization of Southwestern Ontario

Dr. Joel Jeffries - Chair, Centre for Addiction and Mental Health Medical Services Association

Dr. Chris Morgan - Chair, Sunnybrook & Women's College Medical Services Association

Dr. Peter Dent - Chair, Hamilton Academic Health Sciences Organization

Dr. Martin Green - Chair, University of Ottawa Heart Institute Academic Medical Organization

Dr. Ken Edwards - Southeastern Ontario Academic Medical Organization

Dr. Bob Howard - Representative, Ministry of Health

Karen Stanley - Representative, Ministry of Health

OMA Representative - Boris Kralj

CMA Consultant - Lynda Buske
II. Definitions

Academic Health Science Centres (AHSCs) are the coming together of Medical staff who hold both privileges at the teaching hospital and an academic appointment from the university; fully affiliated teaching hospital(s); and a university with a faculty of health sciences or a school of medicine. The function of an AHSC is to provide education, research and clinical services.

Alternative Payment Plans (APP) refer to actual arrangements to pay physicians by alternative modes. Salaried physicians in under-serviced areas would be an example of physicians compensated through an alternative payment plan.

Alternative Funding Plans (AFPs) refers to methods other than fee-for-service used to fund clinical departments (e.g. practice plans or academic medical centers) or specific programs. The agency that receives the funding is responsible for determining the nature and amount of payment to individual physicians.

Fee For Service is the reimbursement of health care providers by the Ontario Health Insurance Plan on the basis of claim(s) submitted for clinical service(s) rendered.

Sessional Payments are time based remuneration, and refer to a rate paid to clinical providers based on an amount of time spent performing clinical services (e.g. $300 for 2.5 hours of clinical care).

Shadow Billing is an administrative process whereby physicians submit service provision information using provincial/territorial fee codes. Shadow billing data can be used to maintain historical measures of service provision based on fee-for-service claims data.

Academic Services refer to teaching, research and administrative related services provided by academic physicians.

Clinical Service refers to medical care provided by academic physicians.
III. Background

Background on the AHSC AFP Initiative

The 2000 Agreement between the Ontario Medical Association (OMA) and the Ontario Ministry of Health and Long-Term Care (“Ministry”) provided for the creation of Alternate Funding Plans (AFPs) for Academic Health Science Centers (AHSCs). Seventy five million dollars in new annual base funding was invested as part of the 2000 Physician Services Framework Agreement to stabilize physician services at AHSC in Ontario. Queens University did not participate in the Phase I AHSC AFP as a comprehensive AFP Agreement was already in place at Queens under the governance of the South Eastern Academic Medical Organization (SEAMO). By late Fall 2003, thirteen Phase I AHSC AFP Agreements were in place with affiliated teaching sites, representing approximately 3000 physicians at AHSCs in Toronto, London, Ottawa and Hamilton.

In March 2005, the Ministry and OMA finalized the 2004 Physician Services Framework Agreement which provided for, among other things, 150 million dollars in New Investment funds to further support the AHSC AFP initiative. Appendix G of the 2004 Physician Services Framework Agreement addressed the AHSC AFP initiative, and called for the establishment of the AHSC AFP Task Force to advise on the development of a common AHSC AFP template and the allocation and distribution of the New Investment funds.

During the summer of 2005, the membership of the AHSC AFP Task Force was determined, and the first meeting of the Task Force took place on November 1, 2006. The AHSC AFP Task Force is comprised of 1 Chair, 4 members representing academic physicians, 2 members representing the teaching hospitals, 2 members representing the Universities, 2 members representing the Ontario Medical Association and 2 members representing the Ministry of Health and Long-Term Care.

In January 2006, the AHSC AFP Task Force agreed to strike five ad hoc working groups and two expert panels to allow various work streams to be completed
concurrently, and to enable the Task Force to move forward at a progressive pace. The five ad hoc working groups are the Full-Time Equivalent Working Group, Calculation of Current Funding Working Group, Governance Working Group, Template Drafting Working Group and the Academic Mission Working Group. The expert panels are the Academic Physician Human Resources Expert Panel and the Accountability Expert Panel. In the spring of 2006, the membership and Chair for each Working Group and Expert Panel was determined by the AHSC AFP Task Force, and Working Groups and Expert Panel meetings commenced thereafter.

The FTE Working Group’s project objective and project description appear below.

**Project Objective**

Recommend to the AHSC AFP Task Force a definition of an academic physician full time equivalent (FTE) that is applicable to diverse specialties and sub-specialties and that allows for the inclusion of partial time equivalents. The proposed FTE definition must be supported by the AHSC AFP Task Force and by Participating Physicians.

**Project Description**

The FTE Working Group will undertake broad based research of current and previous models for defining an FTE by meeting with representatives from other Provincial jurisdictions, review current FTE literature and consult with National and Provincial health research Institutions. The advice of recognized experts from outside the membership of the FTE Working Group will also be pursued. The FTE Working Group will seek consultation from AHSC AFP Organizations, AFP participating physicians, the Academic Physician Human Resources Expert Panel and the AHSC AFP Task Force in the course of its work, and will conduct its business in an open and transparent fashion.

The FTE Working Group will prepare a final report that will outline the research undertaken, consultation process, stakeholder advice, FTE definition options and recommendation of the FTE Working Group for the definition of a FTE at AHSCs in Ontario.
V. **Research**

**Approach**

A significant amount of research has been contributed to the topic of measuring physician supply. The need for such measures varies, depending largely upon its intended use. Researchers, policy advisors and provincial health care planners require a consistent and broad based tool for evaluating physician supply to assist in determining physician resource needs and to forecast future demand. An FTE definition enables health care planners to quantify physician supply in a manner that accounts for variations in the type and volume of services provided by physicians.

Appendix G of the 2004 Physician Services Framework Agreement indicates that the total funding for each AHSC will be based, to a significant degree, on the determination of the number of FTEs in each specialty and sub-specialty in each AHSC. Thus, the primary objective of the FTE Working Group was to develop an FTE definition that enabled an accurate measurement of the supply of academic physicians, taking into account the level of clinical and academic activity provided by participating physicians in each specialty and sub-specialty group.

The FTE Working Group identified two significant challenges in the research of possible FTE definitions. The first challenge concerned the lack of a universally accepted methodology for defining a physician FTE in a manner that takes into account the full breadth of an academic physician’s job description, which may include clinical, teaching, research and administrative activities. Indeed, to the best of our knowledge, there has not been a consistent approach identified within Ontario or between other provinces in Canada that enables the tracking and evaluation of academic activities, and that would serve as the basis to produce a reliable proxy for the supply of these services.

The second, equally significant challenge to researching possible FTE definitions concerned the confidential nature in which FTE definitions are discussed and ultimately used in the AFP context. While national health research and information organizations
such as the Canadian Institute for Health Information (CIHI), Health Canada, and the Institute for Clinical Evaluative Sciences (ICES) publish the methodologies they use to define a FTE, the FTE methodologies developed by Provincial governments, regional health authorities and associations representing health professionals are usually not made available for public evaluation. In many cases, FTE definitions are used in whole, or in part, to determine the base funding of negotiated AFP Agreements, and are therefore considered confidential. Thus, some parties have expressed concern that making the definition of an FTE known may interfere with current or future contract negotiations. As a result, the FTE methodologies used in AFP negotiations are often not discussed publicly and are rarely, if ever, made available in written format.

In consideration of the above, the FTE Working group endorsed a three phase approach to researching FTE definitions that are currently used in Canada:

1) **Literature scan.**

The purpose of the literature scan was to identify FTE definitions that have been published and made available by National health research and information organizations.

2) **Interviews.**

The interview process was intended to address the confidential nature of FTE methodologies and lack of publicly accessible published documentation of FTE definitions. The FTE Working Group decided it would be appropriate to engage in conference call discussions with physician compensation experts from each Province, where possible. Provincial experts would be sought from a broad spectrum of organizations involved with negotiating and implementing AFPs, including Provincial Governments, regional health authorities, Hospitals, Universities and Provincial associations representing health professions.
3) **Survey.**

An Inter-Provincial FTE Methodology Questions survey was developed and distributed to provincial physician compensation experts to confirm the information provided during conference call discussions. Survey responses provide an independent and objective source of information from provincial compensation experts regarding the definition of an FTE used in their jurisdictions, and constitute an important resource for review by the FTE Working Group.
V. Results

1. Literature Scan

CIHI, Health Canada and ICES currently employ the same methodology for defining an FTE for the purpose of determining physician supply in each province (herein referred to as the “CIHI” approach). Although published materials regarding the CIHI methodology are specific to a national approach for calculating physician supply (adjusting for fee schedule variations across different provinces), this discussion of the CIHI model will focus specifically on a single province methodology.

The stated objective of the CIHI FTE methodology is to provide a consistent approach to quantify the supply of physicians in Canada (at AHSCs or elsewhere), to provide a consistent basis for comparison and evaluation of physician supply across time, and to account for variations in workload across specialties. The CIHI FTE methodology is summarized below:

1. Select a base year and establish a database of fee for service payments (including technical fees) for all participating physicians for each specialty group. Physicians without one full year of billings are excluded from the database. Specialty groups are based on specialty certification, and do not necessarily take into account all sub-specialties.

2. Establish lower and upper payment benchmarks within each specialty group, with the 40th percentile taken as the lower benchmark, and 60th percentile taken as the upper benchmark. Payments are measured by gross fee for service payments to physicians.

3. Inflate or deflate the provincial lower and upper payment benchmarks for each specialty after consideration of specialty specific annual fee increase percentages (this step is only required if the selected base year of fee for service payments is not current and therefore, does not account for future year fee increases).
4. Physicians below the lower payment benchmark are assigned a linear proportion of 1 FTE based on the ratio of the physician’s payments to the lower payment benchmark. Physicians with payments within or equal to the lower and upper benchmarks are considered 1 FTE. The FTE value assigned to physicians with payments above the upper benchmark are based on a log linear methodology, resulting in an FTE valuation equal to 1 FTE plus the logarithm of the ratio of the physician’s payments to the upper benchmark.

CIHI Formula:

\[ FTE = \begin{cases} 
\frac{B}{B_{40}} & \text{if billings (B) are below the 40th percentile for the physician's specialty (B}_{40}). \\
1 & \text{if billings are between the 40th and 60th percentile.} \\
1 + \log \left( \frac{B}{B_{60}} \right) & \text{if billings (B) are above the 60th percentile for the physician's specialty (B}_{60}).
\end{cases} \]

The frequently cited advantages of the CIHI formula are that this methodology:

a) enables recognition of productivity differences between physicians providing similar types of services, as it permits a physician to be more or less than one FTE,

b) uses income ranges to recognize that physicians working at the same level of intensity may receive different payments as a result of differences in the type of medical services that such physicians provide,

c) is inclusive in that it takes into account all physicians that are compensated for medical services provided on a fee for service basis.

A recognized shortcoming of the CIHI approach is that application of the log linear methodology to physicians with earnings above the 60th percentile yields FTE values that are shifted downward towards 1 for such physicians; the same cannot be said of
physicians with payments below the 40th percentile. As previously noted, physicians with payments below the 40th percentile are assigned a proportion of 1 FTE based on the ratio of the physician’s payments to the lower payment benchmark. Thus, the CIHI methodology leads to a disproportionate effect on FTE valuations for physicians with payments outside the lower and upper payment benchmarks.

The exclusion of other forms of physician remuneration, such as Alternative Payment Plans (APPs), Alternative Funding Plans (AFPs), Sessional payments, salaried payments and capitation models is another significant disadvantage of the CIHI methodology. Where these forms of remuneration are becoming more and more prevalent, their exclusion from the FTE dataset diminishes the accuracy of the FTE values as determined by the CIHI model. It can be stated that the ongoing use of the CIHI methodology to measure physician complement will lead to a progressively less accurate measurement of physician human resources over time – this fact illustrates the need to develop a more representative measure of an FTE for physicians practicing medicine at AHSC in Ontario.

Other potential disadvantages of the CIHI methodology include the distortion of physician workload when including technical fee payments, the exclusion of physicians that do not have a full year of billings and the classification of physicians by specialty certification as opposed to type of practice.

The FTE literature also considers two other less complex methodologies for estimating physician supply. The first methodology is to simply count the number of physicians billing OHIP (or other Provincial funding agencies) in a given year. This methodology yields an inaccurate index of physician supply, due to the inclusion of physicians who generate billings for medical services that are low in comparison with the majority of their colleagues. It is estimated that approximately 15% of physicians receive low payments for medical services (defined as less than $35,000/year), and that these physicians account for only 1.5% of total payments. Inclusion of these physicians (payment < $35,000/year) in a simple count of all physicians will tend to overestimate the
supply of physicians. The second CIHI methodology involves counting physicians with payments above a minimum earnings threshold. A level of $35,000 is frequently referenced as the minimum earnings threshold for this analysis, and is adjusted for changes in the value of fee codes from year to year.

The FTE literature review identified notable alternatives to the CIHI methodologies. One such methodology is based on an approach used in the United States to estimate physician FTEs, wherein patient care hours provided by physicians are used as a proxy for the supply of physician services. FTEs are calculated by dividing the aggregate patient care hours provided by each physician by the average patient care hours provided by physicians in the same specialty group. The data that is used for these calculations is collected through surveys that are distributed to physicians on an ongoing basis.

Another alternative approach to defining FTEs is the relative value unit approach. This model requires an expert panel to review fee for service payments within each specialty group to identify the typical workload of a physician and translate it into relative value units per FTE. From this assessment, the number of relative value units in each specialty group can be determined. The use of relative value units is proposed to offer a better alternative to the use of fee for service data as the sole source for measuring physician workload, as the relative value unit methodology captures the duration and intensity of medical services provided. A significant challenge with this approach is the difficulty associated with reaching agreement on translating current and future fee for service payments into relative value units per FTE by an expert panel. In Ontario, significant resources were invested into the development of a relative value unit system, but the implementation of this system was ultimately not supported.

Other approaches that have been used to estimate FTEs rely on mathematical manipulations that are applied to the mean of the fee for service payment dataset for each specialty group to determine a 1.0 FTE. The basic mean approach involves averaging all fee for service payments of physicians in each specialty group to determine a 1.0 FTE. The trimmed mean provides a slight adjustment to the basic mean approach, by removing
extreme values from the fee for service payment dataset (e.g. the highest and lowest 10%) before calculating the mean as a 1.0 FTE. The mid-mean approach requires the fee for service payments to be sorted in numerical order, from lowest to highest, and then 50% of the payments that fall in the middle of the distribution are averaged to determine a 1.0 FTE. The windsorized mean attempts to change outliers, or extreme values of the fee for service payments dataset, to values that are closer to the centre of the fee for service payment distribution.

2. Interviews and Surveys

The interview process with physician compensation experts in other provincial jurisdictions was an intriguing and informative process that identified multiple examples of distinct FTE methodologies. Three provinces, British Columbia, Alberta and Nova Scotia provided examples of divergent methods to calculate a FTE. Although other provinces had experience in developing alternatives to fee for service payment arrangements for physician services, none of these jurisdictions had established AHSC AFP arrangements in place with experience in defining FTEs for the purpose of either determining contract funding or evaluating AFP contract deliverables.

The AFP experience in British Columbia, Alberta and Nova Scotia provided helpful insights into the challenges associated with developing an FTE definition that effectively measures the complexity and variety of activities carried out by academic physicians. Alberta and Nova Scotia have the most experience with AHSC AFPs, and have taken significant steps in developing and evolving their FTE methodologies. Recently, both Alberta and Nova Scotia have succeeded in merging the clinical, academic and administrative sources of AFP funding to provide all inclusive AFPs with a fairly comprehensive accountability structure. The FTE methodologies used by Alberta and Nova Scotia were both initially based on variations of the CIHI model, but have since evolved into a more complex formula that takes into account a variety of funding sources. British Columbia does not strictly adhere to an FTE methodology for the purpose of determining contract funding, but instead identifies a benchmark that is generally attainable by most participating physicians. British Columbia Health Authorities then
negotiate AFP compensation rates at close to the same amount for all academic physicians.

The following represent summaries of the FTE methodologies used in the British Columbia, Alberta and Nova Scotia AFP contexts. Each summary is a synopsis of the information gathered from the interview process with provincial physician compensation experts, as well as the responses that were received to the survey document (Appendix D).

**British Columbia.**

While the British Columbia Clinical Academic Services Contracts are the only arrangements in British Columbia that contain academic deliverables, the British Columbia Clinical Academic Services Contracts do not contain an explicit FTE definition. The deliverables identified in the British Columbia Clinical Academic Services Contracts identify administrative roles and a description of teaching and research expectations, with a requirement to report hours of teaching as well as a number of indicators of academic activity, including but not limited to peer-reviewed publications, grant support and presentations. The clinical deliverables in the British Columbia Clinical Academic Services Contracts are more proscriptive in that these contracts identify expected volumes of service by major category and an expectation of continuous service coverage. The British Columbia Clinical Academic Services Contract for Anaesthesia goes further in this regard – it defines a Day Equivalent (about 9.445 hours/day) and provides for an annual reconciliation and payment adjustment based on Day Equivalents worked.

Other British Columbia physician agreements are entirely based on the provision of clinical services, and provide an explicit FTE definition. The British Columbia Provincial Services Agreement defines an FTE as a minimum of 1680 hours/year. The minimum 1680 hours/year was determined by taking the paid hours for non-contract staff of 1957.5 hours/year, and then deducting the number of hours in 11 Statutory Holiday days, 20 vacation days and 5 continuing medical education days. The minimum 1680
hours/year commitment is used as a benchmark for negotiating per physician compensation rates, as set out in an Appendix to the Physician Services Agreements.

**Alberta.**

We have not been able to identify any consistent FTE definitions that are currently in use in Alberta. Existing Academic Alternative Relationship Plans do not differentiate between clinical and academic FTEs, but rather use an extraction rate per academic physician based on historical fee-for-service billings as calculated at the time of the original agreement. Extraction rates were initially established for each Academic Alternative Relationship Plan based on the physician group’s average fee for service billings over the most recent 12 month period. Extraction rates are adjusted yearly to reflect general fee increases negotiated by the Alberta Medical Association. The total amount of funding from the Physician Services Budget for the clinical portion of the Academic Alternative Relationship Plan is calculated by multiplying the extraction rate by the number of Physician FTEs. An individual academic physician can represent up to a maximum of 1.0 FTE. More than one physician can make up a single FTE, however when a physician has a considerable amount of time dedicated towards research, administration and/or teaching, it is expected that the clinical FTE valuation for such a physician would be less than 1.0.

The methodology used to determine a clinical FTE in the Clinical Alternative Relationship Plan contracts is based on clinical billing events data for each physician and their particular specialty group. The Province has established an Alternative Relationship Plan contractual base payment rate for each specialty group that identifies the average payments and average number of days worked by each physician. The average payments figure for a specialty group is determined by the average of all payments that fall between the 40th and 60th percentile for the specialty group. The average number of days worked by physicians in each specialty group is determined by calculating the average number of billing event days per physician in each specialty group (i.e. the average number of days per year in which a clinical payment is paid by the Provincial plan to physicians in each specialty group).
To determine the FTE value for an eligible physician in a Clinical Alternative Relationship Plan, the actual number of days in which a billing event is paid to a physician is divided by the average number of billing event days for physicians in the specialty group. The FTE value is then multiplied by the base rate for the specialty group to determine the Alternative Relationship Plan payment for each physician.

**Nova Scotia.**

Nova Scotia initially adopted the CIHI methodology for defining an FTE for the purpose of calculating funding in their AFPs. There are currently more than 100 alternate payment arrangements across Nova Scotia, many of which are based on different methodologies for determining contract funding. The methodologies used to determine total contract funding do not contemplate a FTE definition, but instead, determine funding by different methodologies that vary by the payor. The Nova Scotia Department of Health funds clinical activity, Dalhousie University funds academic activity, and the Regional Health Authority funds administrative and other activities. However, recent AFP contracts in Nova Scotia have established FTE definitions that relate to the provision of clinical services. Thus, the AHSC AFP contracts for Critical Care and Anesthesia in Nova Scotia have defined FTEs in terms of hours of clinical service provided, and use these FTE definitions to measure the clinical deliverables outlined in these contacts. For example, the Anesthesia AFP contract defines an FTE as the provision of clinical service 55 hours per week for 45 weeks per year.

The Nova Scotia Department of Medicine AFP provides an innovative and complex model for defining an FTE for the purpose of monitoring clinical and academic deliverables and allocating AFP funds between specialty groups. The Department of Medicine developed an FTE index that includes both clinical and academic components—the clinical component of the FTE index is based on shadow-billing records. Although many components of the clinical work carried out by members of the Department of Medicine are not accurately represented by shadow billing, it is assumed that the extent of clinical activity is generally proportional to billing. The FTE value for physicians is
based on median clinical output calculated over multiple years of shadow billing records. An increase in the index per FTE likely indicates that more clinical work is being done, and triggers incentive-based additional remuneration or consideration of additional recruitment. In contrast, a decrease in the index per FTE prompts a detailed review of the deliverables to ensure that there is ongoing provision of clinical services, and to confirm that each Division in the Department of Medicine is meeting its commitments.

The academic component of the FTE index represents an attempt to monitor expected Departmental academic productivity per FTE. The academic component of the FTE index is modeled on an assumption, which has been repeatedly verified by the Department of Medicine by analysis over many years, that an average of approximately 65-70% of physician activity is devoted to clinical work, while an average of approximately 30-35% of physician activity is devoted to academic work, the latter being divided almost evenly between research and teaching.

The numerator in the calculation of the academic FTE is defined as hours of activity, and the denominator is defined as the total number of academic FTEs. The denominator is derived from annual departmental reports, and is based on annual individual and divisional position descriptions. Thus, the denominator represents the number of Department of Medicine FTEs in the AFP doing work other than clinical and clinical administration activities. The numerator consists of calculated hours of educational and research activity, however, any attempt to equate this calculation of hours with actual hours spent would be inappropriate, since the calculations are largely based on outputs (such as research grants obtained and the number of student rotations supervised) rather than any actual time-clock approach. The formula used to relate grants and publications to hours spent in the pursuit of these activities was not explicitly provided.

For research, the outputs considered include the number of peer-reviewed grants plus the number of peer-reviewed publications plus the number of research presentations, which are translated into total research hours. For education, the outputs include the number of year 1 and 2 student hours plus the number of year 3 and 4 student hours plus
the number of year 3 and 4 rotation weeks plus the number of postgraduate students. Adjustments are factored into each output in order to balance research and educational work.

Based on this formula, it was determined that the mean number of hours per academic FTE in Nova Scotia is 2099, with a standard deviation of 143, based on an analysis of academic activity in 2001 – 2002, 2002 – 2003 and 2003 – 2004. Based on 46 work weeks per year (assuming 5 weeks vacation and 1 week at meetings) this generates a working week of about 46 hours. Therefore, a 100% academic FTE is expected to produce approximately 2100 hours of “outputs” using the formula above.

The theoretical advantages and disadvantages of the CIHI FTE definitions and the FTE definitions employed in British Columbia, Alberta and Nova Scotia are discussed in Section VIII of this document.
V. FTE Definition Principles

The FTE Working Group endorsed the following set of principles to guide the development of FTE definition options:

1. The definition of an FTE should take into account clinical, research, teaching and possibly administrative deliverables that compose an academic physician’s job description.

2. The definition of an FTE must account for deliverables provided by full-time and part-time physicians.

3. The definition of an FTE must be based on data that is verifiable, reproducible and may be collected prospectively.

4. The proportion of New Investment funds distributed by Governance Organizations to Practice Plans will be based, in whole or in part, on the number of FTEs in such Practice Plans.

5. The determination of the number of FTEs at each AHSC must be verified by an independent auditor.

6. The definition of an FTE must be applicable to all physicians practicing at AHSCs in Ontario.

7. The definition of an FTE must enable rapid assessment of changes in physician complement.

8. The value assigned to an FTE in the same subspecialty practicing at different AHSCs, for the purpose of distributing New Investment funds, shall be identical.
VI. Options for Defining a FTE

The FTE Working Group considered 8 distinct FTE methodologies, including the CIHI Methodology, Clinical Linear Methodology, Clinical Payment Groupings Methodology, Billing Events Methodology, Minimum Hours Spent Clinical Methodology, Clinical plus Equal Academic Methodology, Clinical plus Academic Hours Assessment Methodology and Clinical plus Academic Teaching Data Methodology. A review of these methodologies appears below. In Section VIII of this document, an analysis of these options is presented.

1. CIHI Methodology.

The CIHI methodology is based on the approach used by the Canadian Institute for Health Information (CIHI) for defining FTEs in physician resource supply comparisons within and across geographic jurisdictions. The CIHI methodology benchmarks payment levels in each specialty group in a base year, as described in Section V. Lower and upper income benchmarks are established for each specialty group, with the lower benchmark based on the 40th percentile of physician payments and upper benchmark based on the 60th percentile of physician payments. The benchmarks are measured by gross fee-for-service payments to physicians within each specialty group.

As noted, the CIHI methodology defines FTEs based on each physician’s relationship to the lower and upper payment benchmarks. Physicians with gross compensation below the lower payment benchmark are assigned a proportion of 1 FTE based on the linear ratio of the physician’s payments to the lower payment benchmark. Physicians with payments within or equal to the lower and upper benchmarks are considered 1 FTE. The FTE value assigned to physicians with payments above the upper benchmark is based on a log linear methodology, resulting in an FTE valuation equal to 1 FTE plus the logarithm of the ratio of the physician’s payments for medical services to the upper payment benchmark.

The intention of the log linear component of the CIHI methodology is to mitigate the extent to which individual physicians may be assigned FTE values greater than 1.0. For
example, a physician with payments for medical services equal to three times the 60th percentile benchmark would have a FTE valuation of 2.1, while a physician with payments that are four times the 60th percentile benchmark will have a FTE valuation of 2.4.

2. **Clinical Linear Methodology.**

The clinical linear methodology is a mirror image of the CIHI methodology for defining FTEs, with the exception that the FTE value assigned to physicians with payments above the upper benchmark is not based on a log linear formula. Instead, physicians with payments above the upper payment benchmark are assigned a proportion of 1 FTE based on the linear ratio of the physician’s payments to the upper payment benchmark (i.e. a pure linear formula).

With this methodology, physicians with clinical earnings that are significantly higher than the upper benchmark for the specialty group are assigned a proportionately higher FTE value. Consider the scenario where the upper benchmark (60th percentile) is determined to be $200,000 for a particular specialty group. In this case, a physician with gross payments of $400,000 would be assigned an FTE value of 2.0 with the linear methodology. In contrast, this physician would be assigned an FTE value of 1.3 if the log linear CIHI methodology were applied.

3. **Clinical Payment Groupings Methodology.**

The clinical payment groupings methodology arbitrarily establishes four separate payment groups, each with a different FTE value, that are based on payment groups for each specialty group in a base year. The payment groups are based on physician payments that are less than the 25th percentile (referred to as Part Time), equal to the 25th percentile and less than the 49th percentile (referred to as Major Part Time), equal to the 50th percentile and less than the 74th percentile (referred to as Full Time), and equal to or greater than the 75th percentile (referred to as Major Full Time). The benchmarks are measured by gross fee-for-service payments to physicians within each specialty group in the base year.
FTE values are assigned to physicians based on which of the four payment groups their clinical payments fall into. One option for allocating FTEs with this methodology would be to assign physicians whose payments fall within the Part Time group with a FTE value of 0.50; the Major Part Time group with a FTE value of 0.75, the Full Time group with a FTE value of 1.0, and the Major Full Time group with a FTE value of 1.25.

For example, assume for specialty A that payments at the 24th percentile are $100,000 in the base year. Thus, if Physician X’s payments in the base year are determined to be $75,000, then Physician X is assigned an FTE value of 0.50. As noted, physicians with payments less than the 25th percentile are referred to as Part Time, and physicians with payments that fall within the Part Time payment benchmark are assigned an FTE value of 0.50.


The billing events methodology utilizes billing events data to evaluate the level of clinical activity performed by participating physicians. This methodology is used to calculate funding in the Alberta Clinical Alternate Relationship Plan contracts. For the purposes of this methodology, a billing event is simply defined as a day in which a fee-for-service claim is paid by the Health Insurance Plan. This methodology records one billing event for every day that a billing event is paid, even if multiple claims are submitted by an individual physician on a given day. Thus, one or more claims paid on one day equal one billing event.

The billings events methodology initially identifies a base year and then determines the average number of billing events that took place in that year for each specialty group. FTE values are then assigned on a per physician basis, based on the actual number of billing events recorded for each physician in the base year divided by the average number of billing events recorded for the physician’s specialty group.

For example, if the average number of billing event days per year for a specialty group was 240, and Health Insurance Plan records showed that an individual physician
performed 180 billing events in a given year, the physician would be assigned an FTE value of 0.75 (= 180/240).

5. **Minimum Hours Spent Clinical Methodology.**

   With this methodology, physician FTE’s are based on a minimum number of hours spent performing clinical services per year. This methodology is based on the FTE definition used in the British Columbia Physician Services Agreements. The British Columbia Physician Services Agreements defines 1 FTE as any physician that provides at least 1680 hours of clinical services in each year. It is understood that physicians providing more or less than the minimum 1680 hours of clinical services per year are to receive a proportionate amount of compensation, but the methodology used to determine this proportional amount of funding was not provided to us. The determination of the specific FTE value to be assigned to each physician could be based on a pure linear relationship. For example, a physician providing 1500 hours of clinical services would be valued as 0.89 FTE if a linear model was applied (1500 hrs / 1680 hrs = 0.89). However, within the context of the British Columbia Physician Services Agreements, physicians that exceed the minimum 1680 hrs commitment are identified as 1 FTE.

6. **Clinical plus Equal Academic Methodology.**

   The clinical plus equal academic methodology assumes that a portion of the total FTE value (i.e. less than 100%) will be based on one of the clinical FTE definitions described above (options 1 – 5). The remaining portion of the total FTE valuation is based on academic deliverables, and is not subject to a methodology that assigns a different academic FTE value to each physician. Instead, every physician is assigned the same academic FTE value.

   For example, assume that it has been determined that 70% of the total FTE value will be based on a clinical FTE definition, with the remaining 30% based on a guaranteed academic component. Using one of the aforementioned clinical FTE definitions (options 1 – 5), assume that Physician X is assigned a clinical value of 1.25 FTE. If 70% of the total FTE value is subject to the clinical definition, the portion of the total FTE for
physician X that is clinical is $1.25 \times 0.70 = 0.88$. The remaining 30% of the total FTE value is a guaranteed academic component, resulting in a total FTE value for Physician X of 1.18 (0.88 clinical + 0.30 academic).

As another example, assume a 70% clinical and 30% academic split of the total FTE value, and that Physician Y is assigned a clinical value of 0.50 FTE using the clinical FTE definition. With 70% of the total FTE valuation subject to the clinical definition, the portion of the total FTE value that is clinical is $0.5 \times 0.70 = 0.35$. The inclusion of the 30% guaranteed academic component results in a total FTE valuation for Physician Y of 0.65 (0.35 clinical + 0.30 academic).

7. Clinical plus Academic Hours Assessment Methodology.

The clinical plus academic hours assessment methodology assumes that a portion of the total FTE value will be based on one of the clinical FTE methodologies described above (options 1 – 5). The remaining portion of the total FTE valuation is based on academic deliverables, and is calculated by considering time spent performing teaching (undergraduate and postgraduate students) and/or research activities.

The number of hours spent performing teaching and/or research activities are not currently tracked or collected by a central source at any University in Ontario, to the best of our knowledge. As a result, this methodology requires the development of a survey that would measure time spent on teaching and research by participating physicians. The survey would be distributed to each AHSC governance organization and practice plan for completion by participating physicians. Responses to the survey could then be reviewed by the FTE Working Group, which could recommend the number of hours spent on teaching and/or research that constitute 1 academic FTE. Individual physician responses to the survey would then be compared to the 1 FTE standard to determine per physician academic FTE values.

For example, assume the FTE Working Group determined that 1.0 FTE for teaching activity is equal 30 hours per week. If Physician X is determined to have spent 25 hours
per week performing predefined teaching activities, the resulting FTE valuation for Physician X would be \( \frac{25}{30} = 0.83 \) academic FTE. Assuming the academic FTE value represents 30\% of the total FTE, the academic portion of the FTE value for Physician X would be \( 0.83 \times 0.30 = 0.25 \) academic FTE. In this example, the remaining 70\% of the total FTE value is clinical, and as stated above, would be subject to a clinical FTE definition, as described in Options 1 – 5.

8. **Clinical plus Academic Teaching Data Methodology.**

The clinical plus academic teaching data methodology does not link a clinical and academic component to a final per physician FTE value. Instead, a clinical FTE value is determined using one of the clinical FTE methodologies described above (Options 1 – 5). Then, academic FTE values are assigned based on a measurement of teaching. Undergraduate and postgraduate Medical Training Days (MTD) data for each AHSC, collected by the Ontario Ministry of Health and Long-Term Care, may be a useful measurement of teaching by participating physicians. Using medical training day data, an aggregate of the total academic FTE valuation for each AHSC could be calculated. It is important to note that in this model, no attempt is made to determine a per physician academic FTE value, as medical training day data is available at the Institutional level, and is not available at the level of individual participating physicians or practice plans.

The clinical plus academic teaching data methodology requires the FTE Working Group to determine the number of medical training days that constitute 1.0 academic FTE. Once this number has been established, the number of medical training days provided at each AHSC would be calculated, and then divided by the number of medical training days that were deemed to represent 1 academic FTE. This calculation will yield the number of academic FTEs at each AHSC. For example, assume AHSCs X, Y and Z are determined to have provided 100,000, 150,000 and 200,000 medical training days, respectively, and that the FTE Working Group determines that 100 medical training days represents 1.0 academic FTE. AHSC X, Y and Z would be assigned 1000, 1,500 and 2,000 academic FTEs, respectively. The Governance Organization at each AHSC would have to determine how academic FTEs are allocated to each of their respective practice
plans. It is important to note that the number of medical training days that are determined by the FTE Working Group to represent a 1.0 academic FTE has no impact whatsoever on the percentage share of academic FTEs allocated to each AHSC.

An example of the use of medical training days to determine academic FTE valuations for each AHSC in Ontario, based on 2004 – 2005 data provided by the Ontario Ministry of Health and Long-Term Care, Finance and Information Management Branch, appears in Appendix A.

In order to distribute the New Investment funds through the use of the clinical plus academic teaching data methodology, the portion of the New Investment funds that will be allocated to fund academic FTEs and clinical FTEs will have to be determined. For example, 30% of the New Investment funds may be allocated to fund academic FTEs and 70% of the New Investment funds may be allocated to fund clinical FTEs (less funds set aside to fund new complement). Then, 30% of the New Investment funds could be distributed to AHSC Governance Organizations, based on the number of academic FTEs at each AHSC, and 70% of the New Investment could be distributed to AHSC Governance Organizations based on the number of clinical FTEs at each AHSC. The FTE Working Group unanimously endorsed an FTE definition that was comprised of 70% clinical and 30% academic activity.
VII. Discussion.

It is widely accepted by FTE Working Group members that an essential requirement to achieving support for an FTE definition is that such a definition be based on data that is verifiable, reproducible, and may be collected prospectively. The use of clinical fee-for-service payment data in the CIHI (Option 1), clinical linear (Option 2) and clinical payment grouping methodologies (Option 3) achieves this objective. There are, however, a number of drawbacks in relying on FTE definitions that are based solely on fee-for-service data. As noted in Section V, the exclusion of other forms of physician remuneration such as Alternative Payment Plans (APPs), Alternative Funding Plans (AFPs), sessional payments, salaried payments and capitation models are a significant weakness of any FTE methodology that is based on fee for service payments. An alternative to the CIHI, clinical linear or clinical payment grouping methodologies would be required in order to assign clinical FTE values to physicians being compensated through these other forms of remuneration.

It is important to note that the CIHI, clinical linear and clinical payment grouping methodologies determine FTE values based solely on clinical payments, and that these methodologies fail to consider academic activities. The failure of these methodologies to recognize non-clinical activities as a component of the definition of a FTE constitutes a second major deficiency in each of these models, the extent of which may be considered to be proportional to the volume of teaching, research and administration carried out by academic physicians. The billing events and minimum hours spent clinical methodologies also fail to incorporate a measure of academic activity into the definition of an FTE. FTE Working Group members emphasized that the definition of an academic FTE would be incomplete if it did not take into account some measure of academic activity, such as research or teaching and, less importantly, administration.

The Clinical plus Equal Academic, Clinical plus Academic Hours Assessment and Clinical plus Academic Teaching Data Methodologies each incorporate a measure of academic activity into the definition of an FTE. The challenges associated with including an academic component in the definition of an FTE are principally related to the
limitations in the academic activity data set. These limitations include but are not restricted to the accuracy with which the data measures academic activity, and the requirement that data used in the academic FTE definition be reproducible and verifiable.

Teaching volume may be used as an index of academic activity, and may be estimated by considering the number of medical students and residents taught (medical training days) or counting the number of medical students and residents (undergraduate and postgraduate) at each AHSC. To the best of our knowledge, there is currently no data set available for measuring and translating research activity into an FTE value that is in use at every AHSC in Ontario. While the members of the FTE Working Group recognize that information could be obtained that would provide a measure of research activity, such as the number of research grants held and the number of peer reviewed publications generated by academic physicians, there is currently no accepted formula or even a shared understanding among the parties as to how to comparatively rate these indicators of research activity and establish corresponding academic FTE values. As such, the FTE Working Group decided to exclude research activity from each of the three academic FTE methodologies proposed herein, thereby creating a significant drawback in the ability of these methodologies to accurately represent the full breadth of academic activity. However, this compromise was deemed necessary by FTE Working Group members in order to achieve the central mandate of the FTE Working Group – to establish an FTE definition applicable to physicians engaged in the practice of medicine at AHSCs in Ontario.

An analysis of each of the 8 methodologies outlined in section VII appears below.

**CIHI Methodology (Option 1) and Clinical Linear Methodology (Option 2).**

The CIHI and clinical linear methodologies represent the most frequently referenced formulas for measuring physician FTEs in Canada. The CIHI methodology is often used by federal, provincial, and territorial governments, as well as medical stakeholders and researchers as a resource for estimating physician FTEs. From this perspective, the CIHI
and clinical linear methodologies are appealing, as they currently enjoy well established and broad based support.

The significant difference between the CIHI and clinical linear methodologies concerns the process used to assign FTE values to physicians with earnings above the 60th percentile. As indicated in Section V, the effect of the log linear formula used in the CIHI methodology is to shift FTE values for physicians with fee for service payments above the 60th percentile closer to 1. This effect is not observed when the clinical linear methodology is applied, as physicians with payments above the 60th percentile are assigned a proportion of 1 FTE based on the ratio of the physician’s payments to the upper payment benchmark. Thus, where the CIHI methodology disproportionately determines FTE values for physicians with payments outside the lower and upper payment benchmarks, the clinical linear methodology determines FTE values using a consistent formula on both the upper and lower ends of the clinical fee for service payment spectrum.

Drawbacks associated with the CIHI and clinical linear methodologies, other than those noted above, include the requirement to analyze a large volume of physician payment data and the requirement to maintain the confidentiality of information related to payments to physicians. Indeed, the work required to review and validate FTE values for all academic physician in Ontario who participate in the next phase of the AFP process is likely to be very significant, and will dwarf past attempts to assign FTE values to physicians in a single jurisdiction in Canada. Further, the requirement to ensure the accuracy and integrity of the physician payment dataset will require confidential physician payment information to be shared between the parties, a process that will require the consent of every participating physician. It is anticipated that the review of this large data set by the parties will be a lengthy and potentially cumbersome process. As noted in Appendix G of the 2004 Framework Agreement, the number of FTEs in each AHSC must be validated by an independent third party.

It is understood that academic physicians will be required to formalize their support for participation in the next Phase of the AFP process. A key component of this process
will be the acknowledgement and acceptance by participating physicians of the methodology used to calculate FTE values, as well as the acceptance of individual physician FTE assignments. The fact that the CIHI and clinical linear methodologies each assign participating physicians different FTE values may create a divisive environment among groups of physicians. In addition, the communication process required to inform governance organizations, practice plans and ultimately physicians of their individual FTE valuations will be challenging, given the volume of academic physicians in Ontario and the complexity of the CIHI and clinical linear methodologies.

**Clinical Payment Groupings Methodology (Option 3).**

The clinical payment groupings methodology avoids the assignment of different FTE values to every participating physician and may provide a more easily understood formula for defining an FTE than the CIHI or clinical linear methodologies. From a communications standpoint, the clinical payment groupings methodology may provide a less cumbersome process for governance organizations and practice plans to inform physicians of their assessed payment groupings and associated FTE values. Physicians may simply be informed that they have been assessed as Major Full Time, Full Time, Major Part Time or Part Time based on their fee-for-service payments. Through use of the clinical payment groupings methodology, physicians will be able to independently identify the FTE value that corresponds with their payment grouping.

Avoiding the allocation of different FTE values to every participating physician may also be viewed as a less divisive approach to assessing clinical activity than the approach inherent to the CIHI or clinical linear methodologies. In addition to service volume fluctuations that may affect physicians in any given year that may be related to patient, physician or external factors, many argue that the fee-for-service payment system fails to appropriately address matters of case complexity. Thus, translating relatively small variations in fee-for-service payments between physicians within the same specialty group into different FTE values, as contemplated by the CIHI and clinical linear methodologies, may be an approach that is not well received by physicians. The clinical payment groupings methodology mitigates this potential issue.
It is not known whether physicians will support being aggregated with their colleagues into the payment groupings proposed in the clinical payment grouping methodology. FTE Working Group members recognize that physicians may prefer to be assigned an individual FTE value that is directly related to their own clinical activity, as determined by payment for clinical services.

**Billing Events Methodology (Option 4) and Minimum Hours Spent Clinical Methodology (Options 5).**

The stated goal of the billing events methodology is to move away from a FTE valuation system that is based on clinical fee-for-service payments. Instead, the volume of claims for clinical services submitted for payment is the source data for this methodology. Moving away from the clinical payment data set as the source data that is used to assign FTE values is attractive to many, as there is a widely held belief that the fee-for-service system fails to appropriately address matters of time and case complexity, as noted previously. However, the billing events methodology does not yield a true measure of claims volume, as this methodology mandates the recording of billing event days, and does not record the actual number of billing events that occur on a given day. For example, as described in Section VII 5, the application of the billing events methodology would record one billing event day for a physician that performs 1 or 30 medical services on a given day. Thus, it can be seen that application of the billing events methodology may over-estimate the FTE value of part time physicians and physicians working at less than full capacity, and may under-estimate the FTE value of some full time physicians.

The minimum hours spent clinical methodology may be an attractive formula to some as it provides a relatively simple benchmark by which physicians may be assigned an FTE value of one, if the reference number of hours spent providing clinical activity per year is relatively low. The cumulative effect of the minimum hours spent clinical methodology is that the majority of physicians will be treated in an equal manner, i.e. assigned an FTE value of one. The clear disadvantage of this formula is that it does not differentiate between physicians based on their actual clinical and/or academic output.
An additional drawback of this methodology is that it assumes that hours spent on clinical and academic activities are being tracked by physicians and practice plans, and that this information may be produced for verification in the FTE assignment process. Furthermore, the billing events and minimum hours spent clinical methodologies are based on self reported data that has not been shown to be accurate, verifiable or reproducible. It should also be noted that tracking of hours is a methodology that lends itself to the perception of an employee – employer relationship.

Clinical plus Equal Academic Methodology (Option 6), Clinical plus Academic Hours Assessment Methodology (Option 7), and Clinical plus Academic Teaching Data Methodology (Option 8).

The clinical plus equal academic methodology (Option 6) represents an attempt to factor in an academic component to the FTE definition and establish a per physician FTE valuation that recognizes both the clinical and academic contributions made by participating physicians. As the academic portion of the FTE is guaranteed in this model, application of the clinical plus equal academic methodology will cause every physician to realize an increase in their FTE valuation above their clinical FTE value, unless the physician’s clinical FTE value is initially determined to be greater than 1. Consider the example of the two physicians identified in section VII 6, Physician X and Physician Y. Physician X had an initial clinical FTE value of 1.25 that was reduced to 1.18 once the 30% guaranteed academic component of the total FTE value was factored in. Conversely, Physician Y was initially assigned a 0.50 clinical FTE value, which increased to a 0.65 total FTE value with the inclusion of the 30% guaranteed academic component. Therefore, it can be seen that the application of the clinical plus equal academic methodology tends to drive FTE values towards a central mean value. This outcome may be viewed favorably by some physicians, many of whom believe that the next Phase AFP Agreement should treat all academic physicians equally, rather than attempting to quantify the clinical and academic activity of academic physicians, given weaknesses in the clinical and academic activity data sets that have been identified.
The inherent weakness associated with the clinical plus equal academic methodology is that it assigns every academic physician an equal academic FTE valuation, despite the fact that the academic contribution of individual physicians varies widely. While application of the clinical plus equal academic methodology obviates the problems inherent to assembling a comprehensive assessment of academic activity, the large variation in academic contribution that exists between academic physicians may make this an unfavorable methodology to define an FTE. However, it must be noted that New Investment funds will be allocated to Governance Organizations and ultimately to practice plans that could modify the distribution of funds allocated on the basis of the clinical plus equal academic methodology, to more closely align the distribution of such funds with academic activity.

The clinical plus academic hours assessment methodology (Option 7) is an attractive formula for evaluating academic activity as hours are an easily understood continuous variable that can be translated into an FTE value. Some of the key challenges associated with the clinical plus academic hours assessment methodology are the requirement for agreement to be reached regarding which academic activities are to be tracked, and whether all academic activities are to be treated equally or are to be assigned a relative value that is based on complexity, workload, originality, significance or some other measure. Another key weakness with the clinical plus academic hours assessment methodology is the lack of an applicable and current data set, as time spent in the pursuit of academic activities are not generally collected and validated by AHSCs. In addition, hours spent on academic activities would have to be self-reported, and would therefore be subject to possible errors, bias and manipulation.

The clinical plus academic teaching data methodology (Option 8) represents the only option for measuring academic activity that the FTE Working Group is aware of that relies on prospectively collected academic data that can be used to determine academic FTE values. The medical training day data, which may be considered to represent an index of teaching carried out by academic physicians, is submitted by Ontario Public Hospitals to the Ontario Ministry of Health and Long-Term Care. Medical training day
data is collected by the Ministry – this data is used to assist in the development of an equitable funding allocation to Ontario Public Hospitals. The Hospital Funding Committee uses medical training day data to calculate the Teaching Data Adjustment for the funding formula, and for accountability purposes. The collection of medical training day data is subject to a comprehensive information management strategy that validates data quality, assesses the accuracy of the data and reconciles issues related to the data set. Thus, each AHSC submits information regarding the number of medical training days provided at their Institution to the MOHLTC, Finance and Information Management Branch. The MOHLTC subsequently evaluates this data, to ensure that each medical student or resident is only counted once at each Institution on a given day. As such, the medical training day data appears to represent an accepted, verifiable and reproducible data set which meets the requirements set forth for data to be used in the calculation of FTE values by the FTE Working Group. The above notwithstanding, some FTE Working Group members have expressed concerns regarding the accuracy of the medical training day data set. The FTE Working Group requires a more in depth understanding of the mechanisms used to collect and validate the medical training day data before it can endorse the use of this data set as the source data that will be used to calculate the number of academic FTEs at each AHSC in Ontario.

A key flaw with the medical training day data is that it does not breakdown training days to the Departmental or individual physician level, and only identifies the aggregate number of medical training days at each AHSC site. As a result, medical training day data cannot be used to generate academic FTE values on an individual physician basis, and can only be assigned on a per AHSC site basis. Therefore, application of the clinical plus academic teaching data methodology will lead to the requirement that each AHSC Governance Organization allocate academic FTEs to individual practice plans, which will ultimately assign academic FTE values to individual participating physicians.
VII. **Recommendations.**

The FTE Working Group endorses the use of the Clinical plus Academic Teaching data methodology, to define and measure full time equivalents at Academic Health Science Centers in Ontario. The FTE Working Group further recommends that 70% of the FTE valuation should be based on a measurement of clinical activity, while 30% of the FTE valuation should be based on academic activity, as this distribution is thought to be representative of the work carried out by the average physician engaged in the practice of medicine at Academic Health Science Centers in Ontario. Validation of the medical training day data set is required before this data can be used to calculate academic FTE valuations for Ontario Academic Health Science Centers participating in the alternative funding plan process. Modeling of the effect of using the FTE definition endorsed by the FTE Working Group on the allocation of New Investment funds is also required.
VIII. Conclusion

The mandate of the Full Time Equivalent (FTE) Working Group is to develop a definition of a FTE that enables measurement of the work performed by academic physicians in Ontario. The FTE definition is required to implement the next phase of the AHSC AFP process, and may be used to enable the distribution of the New Investment funds to academic physicians in Ontario.

To identify FTE definitions currently in use in Canada, the FTE Working Group undertook a rigorous process, endorsed by the AHSC AFP Task Force, which included interviews with physician compensation experts, construction, distribution and analysis of an inter-Provincial FTE methodology questionnaire and a detailed examination of the literature devoted to the definition of an FTE.

Following analysis of this information, the FTE Working Group identified eight possible FTE definitions, each with specific strengths and weaknesses. After careful consideration, it was clear that none of the proposed FTE definitions adhered to all of the principles for a FTE identified by the FTE Working Group. However, the clinical plus academic teaching data methodology adhered to the majority of these principles and was the only option identified by the FTE Working Group to contain a clinical and an academic component based on data that is verifiable, reproducible and could be prospectively collected. For these reasons, and after taking into account the inherent limitations in the available clinical and academic data sets, the FTE Working Group endorsed the use of the clinical plus academic teaching data methodology, as this definition provides the most accurate assessment of the work carried out by full-time and part-time academic physicians considered by the FTE Working Group. Before implementing this definition, FTE Working Group members strongly endorse the execution of two processes: 1) independent validation of the accuracy of the medical training day data set; and 2) modeling of the effect of the FTE definition on the allocation of New Investment funds.
### Appendix A - FTE Analysis Using MTD Trainee Days$^a$

<table>
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<tr>
<th>AHSC</th>
<th>Days for Funding Formula</th>
<th>FTE per AHSC (100 MTD days = 1.0 FTE)$^b$</th>
<th>Percentage Share</th>
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<tr>
<td>ROYAL OTTAWA HEALTH CARE GROUP PSYCHIATRY</td>
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$^a$This data includes medical training days allocated to Undergraduates, postgraduates, Fellows and International Medical Graduates. There were no medical training days independently reported by the Ottawa Heart Institute in 2004 – 2005. The identity of each of these sites as AHSCs was confirmed by cross referencing the Institutions name with the corresponding Facility Number (Master Number Index, MNI). Data supplied by the Ontario Ministry of Health and Long-Term Care, Finance and Information Management Branch (2004-05 MTD Training Days).
b Arbitrary assignment of MTD days to represent a 1.0 FTE (does not have any impact on the percentage share of FTEs at each AHSC).

c Hamilton Health Sciences includes St. Joseph’s Health Care System Hamilton (58,557) and Hamilton Health Sciences Corporation (140,194).

d London Health Sciences includes St. Joseph’s Health Care – London (40,558) and London Health Science Center (154,507).

e MSH – UHN includes Mount Sinai Hospital (87,858) and University Health Network (199,743)
Appendix B - List of Provincial Compensation Representatives (Interviews)

British Columbia

Jim Fisher – Vancouver Regional Health Authority

Alberta

Jim Huston - Calgary Regional Health Authority
Linette McNamara - Edmonton Regional Health Authority
Laura Querengesser – University of Alberta, Department of Medicine
Ric Mah - University of Alberta, Department of Medicine
Sharon McCaughan – Alberta Health and Wellness

Manitoba

Sean Drain - Winnipeg Regional Health Authority
Eric Mann - Winnipeg Regional Health Authority

New Brunswick

Brian Wheelock - St. John Regional Hospital

Nova Scotia

Dr Allan Purdy – Department of Medicine, QEII
Dr. David J Hirsch – Department of Medicine, QEII
Graham McIntyre - Department of Medicine, QEII
Bob Vandine – Doctors Nova Scotia
Carol Walker – Doctors Nova Scotia
Appendix C - Inter-Provincial FTE Methodology Questionnaire

AHSC AFP Task Force
FTE Working Group

Inter-Provincial FTE Methodology Questions

1. Do alternative funding arrangements or alternative funding plans AFA/AFPs with academic physicians incorporate a definition of a full time equivalent (FTE)?

2. What is the methodology that is used to define a FTE? Please describe this methodology in detail, including any mathematical formulas.

3. Is the definition of a FTE applicable to part time academic physicians and if so how are the activities weighted?

4. Is the FTE definition described in response to Question 2 used exclusively or in part to calculate the funding provided as part of the AFA/AFP agreement with academic physicians? Please describe the reasons why the FTE definition is used in this way.

5. Is the FTE definition described in response to Question 2 used to account for changes in complement that result from the departure, retirement or recruitment of physicians?

6. How does the flow of funds to the AFA/AFP change when physician complement or FTE counts in the AFA/AFP change? How frequently are such changes assessed?

7. Which entity is responsible for receiving and distributing AFA/AFP funds transferred from your Ministry of Health to support academic physicians (e.g. regional health authority, local Governance Organization, University Department, etc.).

8. What methodology does the entity identified in Question 7 use to distribute AFA/AFP funds to physicians, physician groups, practice plans and/or Departments?

9. What entity represents physicians in the AFA/AFPs in your Province (e.g. individual physicians, physician groups, practice plans, Departments or the entire Faculty)? What are the reporting lines?

10. How are the participating physicians’ clinical deliverables tracked?

11. Are academic deliverables (teaching, research) a component of the AFA/AFPs with academic physicians? If so, are the academic deliverables outlined in the
AFA/AFPs tracked and measured against established benchmarks in the contracts? Are these academic deliverables consistent with the methodology used to define an FTE?

12. What are the key challenges associated with the current methodology used to define an academic FTE? Are alternative methods for defining a FTE being considered by your Province? If so, please explain the options and entities or bodies that are considering such options.

Thanks very much.

Jeff Murphy  
AFP Director  
Mount Sinai Hospital – University Health Network Academic Medical Organization

Barry Rubin MD  
Chair, FTE Working Group  
AHSC AFP Task Force
Appendix D – Responses to Inter-Provincial FTE Methodology Questionnaire

British Columbia

AHSC AFP Task Force
FTE Working Group

Inter-Provincial FTE Methodology Questions

1. Do alternative funding arrangements or alternative funding plans AFA/AFPs with academic physicians incorporate a definition of a full time equivalent (FTE)?

The only arrangements in BC to engage physicians that also provide academic deliverables are the legacy Clinical Academic Service Contracts (“CASCs”) and those agreements in Vancouver Coastal Health Authority (“VCHA”) do not reflect an explicit definition of an FTE.

2. What is the methodology that is used to define a FTE? Please describe this methodology in detail, including any mathematical formulas.

The methodology used to define the expected deliverables is generally as follows:
- Administrative…a description of the admin roles to be supported
- Academics…a description of both the teaching and research expectations, with a requirement to report hours of teaching as well as numbers of peer-reviewed publications, successful grant support applications, presentations, etc.
- Clinical…expected volumes of service by major category as well as expectations of continuous service coverage
  - The Anesthesia CASC goes furthest in this regard, using the notion of Day Equivalent (about 9.445 hours) and providing that annual reconciliation and payment adjustment to the DEs is required.
  - While the other CASCs identify an FTE rate, this CASC defines a DE rate.

3. Is the definition of a FTE applicable to part time academic physicians and if so how are the activities weighted?

The CASCs allow for part-time physicians and allow that portions of a Physician’s time may be applied to the various components of deliverables. All categories of deliverable are weighted and valued equally.

4. Is the FTE definition described in response to Question 2 used exclusively or in part to calculate the funding provided as part of the AFA/AFP agreement with academic physicians? Please describe the reasons why the FTE definition is used in this way.
5. Is the FTE definition described in response to Question 2 used to account for changes in complement that result from the departure, retirement or recruitment of physicians?

6. How does the flow of funds to the AFA/AFP change when physician complement or FTE counts in the AFA/AFP change? How frequently are such changes assessed?

[When the physician numbers change, a discussion is undertaken as to what impact that will have on the deliverables. It is that impact that influences whether a change in resources is warranted.]

7. Which entity is responsible for receiving and distributing AFA/AFP funds transferred from your Ministry of Health to support academic physicians (e.g. regional health authority, local Governance Organization, University Department, etc.).

[Health Authority…there are six (6) in BC of which two…VCHA and Provincial Health Services Authority (“PHSA”) have CASC agreements.]

8. What methodology does the entity identified in Question 7 use to distribute AFA/AFP funds to physicians, physician groups, practice plans and/or Departments?

[The CASC agreements prescribe the level of funding. Changes (increases) were anticipated in the agreements where recruitment initiatives were underway. In addition, there are activity accelerators usually based on a defined % by which workload is exceeded, except for Anesthesia which directly reflects Day Equivalents (“DES”) of activity.]

9. What entity represents physicians in the AFA/AFPs in your Province (e.g. individual physicians, physician groups, practice plans, Departments or the entire Faculty)? What are the reporting lines?

[To begin, physicians are represented by BCMA with respect to negotiations, if the physicians so choose. All of our negotiations are with physician groups related to particular services or defined components of a service stream…some may be described as practice plans. We do not have any Departmental or entire Faculty agreements at this time.]

10. How are the participating physicians’ clinical deliverables tracked?

[Periodic reporting is required and the reporting uses or is validated through our OR information system and through a clinical information system that was introduced to manage quality and utilization (QUIST).]
11. Are academic deliverables (teaching, research) a component of the AFA/AFPs with academic physicians? If so, are the academic deliverables outlined in the AFA/AFPs tracked and measured against established benchmarks in the contracts? Are these academic deliverables consistent with the methodology used to define an FTE?

[As described above, academic deliverables are included and reporting of the elements described in 2 above is required. It is unclear what, if any, standards this reporting is measured against.]

12. What are the key challenges associated with the current methodology used to define an academic FTE? Are alternative methods for defining a FTE being considered by your Province? If so, please explain the options and entities or bodies that are considering such options.

[The CASCs were introduced in response to a pending crisis among the physician groups with the most significant academic roles. Though the Ministry was involved in the negotiations, it did not follow through on full funding support and in fact issued a moratorium on planned additional agreements. With the current expansion of the Medical School and the required involvement of additional HAs, this need has been given added priority. There is a small group, led from within the Ministry that is leading the development of the new process by which physicians that also provide academic services will be engaged. RP Options has been engaged and a great deal of review of a Pediatric Practice Plan developed by BC Childrens’ and Women’s Hospitals has been used as the focus for the review. The timeline for implementation of the process is uncertain.]
Alberta
AHSC AFP Task Force
FTE Working Group

Inter-Provincial FTE Methodology Questions

1. Do alternative funding arrangements or alternative funding plans AFA/AFPs with academic physicians incorporate a definition of a full time equivalent (FTE)?

Alberta is moving toward the use of a Clinical FTE definition. Although a standard Clinical FTE is being considered, the Academic and Leadership FTEs remain loosely defined.

2. What is the methodology that is used to define a FTE? Please describe this methodology in detail, including any mathematical formulas.

No consistent definition of FTE is presently in place in Alberta.

Academic Health Centres use the term FTE to represent physician job profiles. Operationally, one FTE is estimated to work approximately 50 hours per week, but this number varies considerably by specialty and would only be used periodically by regional health authorities (RHAs) to establish accountability of the individual physician towards group (collective) deliverables. At the end of the day, the funding is derived from a provincial definition of FTE (described below) while regional accountabilities may define an FTE using slightly different variables as long as the group deliverables are met per the provincial definition.

Alberta Health and Wellness uses the term FTE to determine the amount of funding from the Physician Services Budget for the Insured Clinical Services included in an Academic Alternate Relationship Plan (Academic ARP).

An Academic ARP involves the merger of multiple funding sources for the remuneration of medical staff for all activities: teaching, research, clinical service and administration.

Existing Academic ARPs do not differentiate between Clinical and Academic FTEs, but rather use an extraction rate per academic physician based on historical fee-for-service billings as calculated at the time of the original agreement. The extraction rate – which is paid from the Physician Services Budget – was established for each Academic ARP based on the average FFS billings of the physician group as calculated at the outset of the agreement based on the most recent 12 months of FFS billing data. Extraction rates are adjusted each year to reflect the Alberta Medical Association negotiated general fee increases.
In an Academic ARP, the Per Physician FTE assumes all Participating Physicians have a portfolio which includes a proportion of clinical, teaching, research and/or administrative time. The total FTE of a participating physician represents the combined Clinical and Academic portfolio FTE.

An individual physician can represent up to a maximum of 1.0 Physician FTE.

The total amount of funding from the Physician Services Budget for the clinical portion of the Academic ARP is calculated by multiplying the Extraction Rate by the number of Physician FTEs.

Under the Tri-Lateral Master Agreement, Clinical FTEs and Provincial Base Payment Rates are being defined.

3. Is the definition of a FTE applicable to part time academic physicians and if so how are the activities weighted?

The FTE definition is applicable to part-time academic physicians. Depending on their main job functions, physicians may be paid from different sources.

Physicians with a portfolio of exclusively teaching, research and/or administrative time are not included in the total Physician FTE for the purposes of calculating the Physician Services Budget Draw. More than one physician can make up a Physician FTE, but when a physician has a considerable amount of time dedicated towards research, administration, and teaching, it is expected that their Clinical FTE (e.g. the Physician Services Budget Draw) would be less than 1.0.

The overall mandate of Academic Medicine is generally regarded holistically. An Academic ARP values clinical, research, administration and teaching efforts equally. For example, one department which is currently enrolled in an Academic ARP tailors job descriptions to individual physicians. The proportion of clinical, research, administration and teaching activities varies by individual job description. Collectively, the proportion of individual job descriptions dedicated to each of the four components of Academic Medicine (clinical, teaching, research and administration) does not change. The collective group of academic physicians is held accountable for delivering specified outcomes of an Academic ARP, and measures are established within the department to ensure that individual physicians meet their job descriptions.

An Academic FTE is estimated based on a 50 hour work week (described above). The funding requirement to pay for physician salaries (known as a compensation grid) combines the various FTE definitions.

Alberta Health and Wellness provides conditional grant funding to address potential shortfalls between revenues and expenditures, and support the four mandates of Academic ARPs (teaching, research, clinical service/innovations and
leadership/administration). Conditional grant funding contributes to the remuneration of academic and research physicians and is above the Physician Services Budget Draw.

4. Is the FTE definition described in response to Question 2 used exclusively or in part to calculate the funding provided as part of the AFA/AFP agreement with academic physicians? Please describe the reasons why the FTE definition is used in this way.

In Alberta, funding for Academic Medicine is shared. The Clinical FTE is funded by the Physician Services Budget, whereas research, administration and teaching are funded by other sources.

5. Is the FTE definition described in response to Question 2 used to account for changes in complement that result from the departure, retirement or recruitment of physicians?

Payments to an Academic ARP, which are based on the total number of FTEs, are adjusted to account for departures, retirement or recruitment of physicians. This is accomplished by having a standardized reporting mechanism detailing dates of departures and arrivals for each Academic ARP (which is in keeping with an approved workforce plan).

6. How does the flow of funds to the AFA/AFP change when physician complement or FTE counts in the AFA/AFP change? How frequently are such changes assessed?

Academic ARPs submit quarterly reports, including a list of participating physicians and respective per physician FTEs or Clinical FTEs to the budget for overall program funding.

For clinical funding (drawn from the Physician Services Budget), the tri-lateral committees approve a maximum annual number of FTEs, including recruitment. An Academic ARP is not permitted to increase FTEs beyond the approved annual total without formal consent from the tri-lateral committees.

Funding from all sources that contribute to the overall funding of the Academic ARP program is adjusted as required to account for the impact of changes to the physician complement. Clinical funding is adjusted quarterly and/or annually, depending on the Academic ARP. Conditional grant funding is adjusted annually with any outstanding surplus returned to Alberta Health.

7. Which entity is responsible for receiving and distributing AFA/AFP funds transferred from your Ministry of Health to support academic physicians (e.g. regional health authority, local Governance Organization, University Department, etc.).
Funding for an Academic ARP is provided from its numerous stakeholders to an Academic ARP through a management committee which disburses the funds. Payments are made to the management committee, through either the RHA or University, depending on the banking arrangements.

In addition to the workforce who are remunerated by the Academic ARP, the Regional Health Authority (RHA) and/or the University also pay support workers and salaried physicians directly.

8. What methodology does the entity identified in Question 7 use to distribute AFA/AFP funds to physicians, physician groups, practice plans and/or Departments?

The RHA or university has some discretion regarding how this is best handled. In one instance: A lump sum is provided to a management committee for the Academic ARP. In accordance with the budget, the management committee administers the funding that is used to compensate physicians, other health professionals and support the overall program. Physicians receive funding in line with their status on the University’s compensation grid.

In another instance: A steering committee which consists of RHA representatives is tasked with determining a compensation grid and overall budget for the program. This grid would then be used to create individual services agreements between each physician and the RHA. The RHA would then set up biweekly or monthly payments to that physician and the accounting and reporting would be handled by the RHA.

9. What entity represents physicians in the AFA/AFPs in your Province (e.g. individual physicians, physician groups, practice plans, Departments or the entire Faculty)? What are the reporting lines?

The Alberta Medical Association represents physicians in Alberta. The Faculty of Medicine and Departments within the Faculty also represent physicians in Academic ARP Agreements. A tri-lateral relationship between the Alberta Medical Association, Alberta Health and Wellness and Regional Health Authorities specifies a shared responsibility among the three signatories to share responsibility for the delivery of insured clinical services in Alberta. Physicians form groups through association agreements and are represented on the management committee by authorized representatives.

10. How are the participating physicians’ clinical deliverables tracked?

Shadow billing is the mechanism to track clinical deliverables under an Academic ARP. There are limitations associated with shadow billing, specifically with regard to compliance and tracking non physician clinical services and
interventions. Another major limitation to shadow billing is its inability to track innovative activity (often the primary reason for implementing ARPs in the first place).

Each Academic ARP undergoes a formal evaluation at the end of the agreement term. A standardized evaluation framework was developed to measure improvement in seven key areas: staff retention and recruitment, accessibility of specialist medical care, quality of medical education and training, research excellence, quality of health care, effectiveness of governance and management and health care delivery innovation.

11. Are academic deliverables (teaching, research) a component of the AFA/AFPs with academic physicians? If so, are the academic deliverables outlined in the AFA/AFPs tracked and measured against established benchmarks in the contracts? Are these academic deliverables consistent with the methodology used to define an FTE?

Academic ARP deliverables are monitored through a comprehensive evaluation framework, which is conducted at the end of the agreement term.

Other measures used to track deliverables include:
   a. Department Reports to the Management Committee
   b. Individual Participating Physician Reports to the Management Committee
   c. Academic ARP Quarterly Manpower Reports
   d. Quarterly Budget Reports
   e. Annual Reports

12. What are the key challenges associated with the current methodology used to define an academic FTE? Are alternative methods for defining a FTE being considered by your Province? If so, please explain the options and entities or bodies that are considering such options.

A consistent definition of a Clinical FTE is currently in development in Alberta.

There is an inability to clearly divide clinical/teaching and research time (i.e. would clinical teaching be considered clinical, teaching or split as 50/50) yet the Academic ARP’s funding sources require a clear delineation. Attempts to separate clinical service delivery from education, research and administrative activities have not been successful. An academic physician's job cannot be split into silos on a temporal basis. An academic physician thinks and functions concurrently in all academic missions.

Given the interdependent nature of clinical service delivery, education, research, and administration, one component cannot exist without the others in an Academic Medicine environment.
New Brunswick
AHSC AFP Task Force
FTE Working Group

Inter-Provincial FTE Methodology Questions

1. Do alternative funding arrangements or alternative funding plans AFA/AFPs with academic physicians incorporate a definition of a full time equivalent (FTE)? Not defined for academic physician. An FTE works at least 37.5 hours per week in clinical service. No recognition of academic research or other responsibilities except for call.

2. What is the methodology that is used to define a FTE? Please describe this methodology in detail, including any mathematical formulas. As in #1. Must shadow bill.

3. Is the definition of a FTE applicable to part time academic physicians and if so how are the activities weighted? N/A

4. Is the FTE definition described in response to Question 2 used exclusively or in part to calculate the funding provided as part of the AFA/AFP agreement with academic physicians? Please describe the reasons why the FTE definition is used in this way. Exclusively. It is a clinical contract only

5. Is the FTE definition described in response to Question 2 used to account for changes in complement that result from the departure, retirement or recruitment of physicians? No

6. How does the flow of funds to the AFA/AFP change when physician complement or FTE counts in the AFA/AFP change? How frequently are such changes assessed? No. It is per agreed on number of physicians. Number is agreed between the neurosurgeons, the Department of Health and the NB Medical Society

7. Which entity is responsible for receiving and distributing AFA/AFP funds transferred from your Ministry of Health to support academic physicians (e.g. regional health authority, local Governance Organization, University Department, etc.). N/A

8. What methodology does the entity identified in Question 7 use to distribute AFA/AFP funds to physicians, physician groups, practice plans and/or Departments? Department of Health through the Regional Health Authority

9. What entity represents physicians in the AFA/AFPs in your Province (e.g. individual physicians, physician groups, practice plans, Departments or the entire
Faculty)? What are the reporting lines? **NB Medical Society. There is a liaison rep responsible for interaction.**

10. How are the participating physicians’ clinical deliverables tracked? **Shadow billing. There will be wait times required when the software is obtained.**

11. Are academic deliverables (teaching, research) a component of the AFA/AFPs with academic physicians? If so, are the academic deliverables outlined in the AFA/AFPs tracked and measured against established benchmarks in the contracts? Are these academic deliverables consistent with the methodology used to define an FTE? **N/A**

12. What are the key challenges associated with the current methodology used to define an academic FTE? Are alternative methods for defining a FTE being considered by your Province? If so, please explain the options and entities or bodies that are considering such options. **No this is a one of. The APP is exclusive of payment by Dalhousie University for teaching. The rest does not apply to either neurosurgical unit.**

**Regards,**

**Brian Wheelock**
FTE definition and FTE Activity Index

Purpose of these definitions:

These parameters are derived for the following purposes:

1. The existence of a defined expectation of output per clinical and academic FTE will inform future analysis of proposed changes in physician complement. Although the indices are necessarily retrospective, certainly they will be sensitive to major changes in clinical or academic service provision. Major increases in such outputs per FTE should support an increase in complement, provided that an analysis of the annual deliverables reporting (more detailed) supports that trend. Obviously in the case of prospective major changes in deliverables (eg proposed new service/administrative provisions or expansion of academic deliverables) these retrospective indices will not be helpful, so that physician complement discussions by the operations committee must also take into account negotiated changes in deliverables in future years of any contract.

2. These indices should provide a useful measure of productivity, so that all parties to the agreement can be assured that from year to year there is monitoring of both clinical and academic activity per FTE. This would allow the operations committee to be sure that activities under the “fixed” component of DoH/CDHA/Dal funding are maintained.

3. Academic/clinical split of activities, as determined by pooling individual member position descriptions throughout the Department, will be monitored as part of the determination of these indices. The academic component should be maintained as 30±5%.

4. Incentive remuneration could be triggered by these indices. This process would be best suited to the academic component, whereby a pool of funds should be available to the Department when the academic productivity index identifies a 1 sd or more increase in overall calculated hours/FTE. Inasmuch as such activity is performed as a pooled Departmental activity and facilitated by clinical support from members with a lesser educational commitment, these funds should be applied to the overall Departmental budget: a fundamental principle of DoM holds that academic activity is considered to be as important as clinical.

We believe that incentive payments applying to clinical work are much more accurately determined via shadow billing and deliverable data; the indices outlined in this document are not as precise.

Full Time Physician Equivalent (FTPE)

A full time physician equivalent means a Full-Time Physician and is defined by a set of (measurable) indicators of output, time, productivity and outcomes associated with clinical, academic, research
and education activities. For each Year of this agreement, each Department Physician will be prospectively assigned an FTPE value proportionate to the anticipated level of activity.

**FTPE Index**

An FTPE Index will be developed and will include an agreed upon set of measures which will provide a basis for annual comparisons of anticipated, actual, and required FTPEs. This index will include measures that are both Divisional and Departmental in nature.

**Development of an FTE index:**

Both components of the index are reported per FTE. Note that our standard remains rooted in existing numbers of FTEs and productivity over the recent past. We see no practical system of building a useful “ground up” index given the complex patterns of activity within the DoH, especially because some activities for an individual proceed simultaneously (example clinical + education).

**Academic Component (departmental)**

The following represents a preliminary attempt to derive from easily available, currently reported, and mutually verifiable data a rough index to monitor expected Departmental academic productivity per FTE. This index will not be adequate to monitor individual dept member output, and probably even at the divisional level will be too sensitive to small variations to be reliable. However variations of more than 2 sd of the index (analysed over several previous years) would imply that a significant change has occurred, and should then trigger an evaluation of the detailed deliverables we now report.

The index is modeled on the assumption, which has been consistent in DoM analysis over many years, that about 65-70% of our activity is devoted to clinical work and clinical administration, while 30-35% is academic, divided about evenly between research and education. Note that this percentage (and index) includes the academic administrative component within the overall index. The adjustment factors applied to the various measures of academic activity are selected to produce an output (hours per FTE) which is evenly balanced between those two endeavours.

For convenience we calculate a numerator as hours of activity, and a denominator as number of academically employed FTEs. The denominator is derived from annual departmental reports, and in turn the aggregate estimate of % academic activity for the dept is made up of individual and divisional reports which are based upon individual annual position descriptions. Thus the denominator represents the number of DoM FTEs
in the AFP doing work other than clinical and clinical administration activities (number of AFP FTEs * % non-clinical activity).

The numerator consists of somewhat arbitrarily defined hours of educational and research activity, but adjustments have been factored in to balance research and educational outputs, assuming that over the modeled years our activity reports represent an accurate analysis. Any attempt to equate this calculation of hours with actual hours spent would be inappropriate, since the calculations are largely based on outputs (such as research grants obtained and number of student rotations supervised) rather than any actual time-clock approach.

For research the outputs considered include:

Number of peer-reviewed grants * 768\(^1\) + no. peer-reviewed publications*96 + no of research presentations * 29 = research “hours”.

For education the outputs include:

(No of year 1+2 student hours ) + (number of year 3+4 student hours) + (number of year 3,4 rotation weeks*8) + number of postgrad students (PGY1-9/fellows,etc) * 312

The results of such an analysis are available for 3 years of RAM reports, and show fair stability, but we should note that the educational commitments of the department are inherently fairly stable, whereas variations in research parameters seem to account for most of the variation. Given that the Department has not changed its intended time distribution much over the past 3 years, it seems reasonable to pool these years to provide a baseline for the index.

<table>
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<td>Research hours</td>
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<td>45149</td>
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<td>Academic FTE count</td>
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<td>Hours/academic FTE</td>
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<td>2165</td>
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<tr>
<td>% academic time</td>
<td>34.7</td>
<td>34</td>
<td>30.5</td>
</tr>
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</table>

The mean for hours/academic FTE is then 2099, sd= 143. For 46 weeks per year (assuming 5 weeks off and 1 at meetings) this generates a working week of about 46 hours, which is a reasonable order of magnitude number.

\(^1\) For these estimates I divided our reported total value of such grants by the CIHR average $ value of Dalhousie grants in that year to estimate the number of grants. If we can obtain grant number, further tweaking could be applied, or we could use the $ value instead and re-factor.
A 100% academic FTE equivalent is expected to produce about 2100 hours of “outputs” using the formulae above. Hopefully 2004-05 data will be available soon to further test the model. Given that the existing data over three years generates an sd of 143, we would suggest that a shift of >1 sd (150 hours, which represents about a 7% change) should be regarded as requiring internal practice plan review; an increase of this magnitude should ideally trigger an incentive-based increment to DoM academic funding. A shift of > 2 sd (about 300 hours or 15%) should be regarded as administratively significant and should trigger full review by the operations committee.

Clinical Care Component (Divisional)

This component includes both clinical and clinical administrative time. The index is divisionally-based, because differences in fee codes and work patterns make comparisons between different sub-specialties impossible. For convenience and verification, the index is shadow-billing based. Obviously detailed deliverable reporting will also be required to fully assess Departmental activity. For example, some innovative care models employed by the DoM are not well described by shadow billing. Although many components of DoM clinical work are not perfectly represented by shadow billing, it is reasonable to assume that the extent of clinical effort is generally proportional to billing. An increase in this index per FTE likely indicates that more clinical work is being done, and a decrease should prompt a detailed review of the deliverables reports to ensure that there is ongoing productivity.

For each division we propose to determine the shadow billing generated per individual, normalized to 1.0 FTE using that physician’s assigned clinical/clinical admin FTE value. These data are available for several years from the Department (thanks to Graham MacIntyre) and the recent audit indicates that these data if anything underestimate actual work done. Within each division the median, quartiles, and standard deviation is then determined. We propose that this median (for 2004 and 2005) be taken as the expected divisional clinical output per FTE. This information could be generated annually or twice yearly. Major deviations from this value downward should trigger an evaluation of detailed deliverables by the governance committee to ensure that the DoM is meeting its commitments. Significant deviations upward might trigger incentive-based additional remuneration or consideration of additional recruitment. We propose that a deviation of the shadow billing per clinical FTE index outside the median quartiles (covering 50% of the range) be regarded as administratively significant.

In some divisions chronic manpower shortages may indicate that the existing median shadow billing per FTE is an inappropriately high standard of comparison; specific review will need to examine such situations.
Future developments:

We believe that it would be useful to add some quality/outcome indicators to these indices over time. The deliverables document includes some such data for the academic side already. The clinical indicators by division should ideally include the wait times for urgent consultations or for certain critical procedures as identified by individual divisions. Once the peer review process for specialty practice is up and running, these assessments would be relevant. In addition each division could include one or two relevant markers (e.g. technical success or complication rates for angioplasty procedures in Cardiology) which would enhance the role of indices in monitoring our activities.

-Ian Bower and David Hirsch