

National Physician Database, 2006–2007

Data Release

Health Human Resources Database



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National Physician Database, 2006-2007

The National Physician Database (NPDB) provides information on the demographic characteristics of physicians and their level of activity within the Canadian medical care system. It is used by governments, professional associations, consulting firms, pharmaceutical companies, researchers and the media for medical human resource planning and utilization analysis.

The NPDB 2006–2007 data release provides information on physician payments through the provincial and territorial medical care plans and service utilization. The 2006–2007 data release combines data that were released in the past in three separate reports: *Physicians in Canada: Average Gross Fee-for-Service Payments, 2005–2006; Physicians in Canada: The Status of Alternative Payment Programs, 2005–2006.*

Payments to physicians are presented by average payments and full-time-equivalent (FTE) measures, both based on fee-for-service payments. Payments to physicians via methods other than fee-for-service are also presented. Service utilization is presented by looking at the number of services, dollar amounts and costs per service for services reimbursed by the provincial medical insurance plans on a fee-for-service basis.

Highlights

How are physicians billing for services in Canada?

- Total clinical payments to physicians increased 4.7% over the last year to \$14.75 billion in Canada in 2006–2007. Payments made to physicians for clinical services included fee-for-service payments, which accounted for 78.0% of what physicians earned collectively in Canada, with the balance (22.0%) coming from alternative clinical payments, such as salaries and contracts.
- In 2006–2007, the proportion of payments made through alternative clinical payment programs varied considerably across jurisdictions, ranging from 11.6% in Alberta to 36.3% in Prince Edward Island and 94.4% in the Northwest Territories.

Are there differences in workload patterns by type of physician?

 Out of 62,307 physicians across Canada,¹ 55,122 physicians billed for at least one fee-for-service clinical payment in 2006–2007. Based on fee-for-service billing data only, which accounted for 78.0% of total clinical payments, there were 42,817 FTE physicians.

Reference

1. Canadian Institute for Health Information, Supply, Distribution and Migration of Canadian Physicians, 2006 (Ottawa, Ont.: CIHI, 2007).

On average, what are the gross fee-for-service billings physicians are submitting?

- There are two different average payment calculations produced from the NPDB. There is an average gross payment per physician who received at least \$60,000 in fee-for-service payments and an average gross payment per FTE. The average gross fee-for-service billing per FTE physician was \$252,597 in 2006–2007. Removing physicians with less than \$60,000 in fee-for-service billings increased the average gross billing per physician to \$254,351. Physicians earning less than \$60,000 may reflect those who retired through the year, were semi-retired or received the majority of their income though other forms of payment than fee-for-service.
 - The average gross billing for family physicians was \$222,128 per FTE and
 \$216,575 per physician with a minimum of \$60,000 in fee-for-service billings.
 - The average gross billing for specialists was \$290,015 per FTE and \$297,575 per physician with a minimum of \$60,000 in fee-for-service billings.

What is the makeup of physician fee-for-service utilization in Canada?

- In 2006–2007, total fee-for-service payments (excluding reciprocal billing, radiology and laboratory services, anesthesia services and anesthesiologists) to physicians were approximately \$10.6 billion; approximately 249 million standardized services were delivered. Service counts were standardized for interprovincial comparability.
- Consultations and visits made up 68.1% of total fee-for-service payments to physicians, and services delivered for consultations and visits represented 75.1% of total services provided in 2006–2007.
- In 2006–2007, the average cost per service paid to physicians was \$42.67.
 - Family physicians billed an average cost per service of \$38.71, while specialists received an average of \$54.60 per service.

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1 Methodological Notes

1.1 Background

The National Physician Database (NPDB) was established in 1987 by the deputy ministers of health and in 1995 transferred to the Canadian Institute for Health Information (CIHI). CIHI is guided by the Advisory Group on Physician Databases on data quality, methodology and product development.

1.2 Data Sources and Collection

Data

NPDB data are derived from physicians' billings, including fee codes, which provincial and territorial medicare programs submit. Claims data and associated physician and patient demographic data are submitted in five separate files, usually within six months of the end of the quarter. Files that do not conform to standards defined in the NPDB Data Submission Specifications Manual are returned to the provinces and territories to be fixed and resubmitted.

CIHI gathers alternative payment information from a variety of sources, including provincial and territorial representatives on the advisory group. If a jurisdiction cannot provide alternative payment data, CIHI makes estimates based on the National Health Expenditures Database (NHEX). For more information on National Health Expenditures please see the report *National Health Expenditure Trends*, 1975 to 2008, released in November 2008.

A complete description of NPDB record layouts is available in the *NPDB Data Submission Specifications Manual*, at www.cihi.ca. For further information on NPDB, contact the program lead, NPDB, CIHI.

Type of Data

There are two fee-for-service data categories: billing data and payment data. Billing data reflect the full amount the physician billed the province for a particular fee-code item. Payment data are what was actually paid to the physician. The two can vary as the billed amount is adjusted for billing thresholds, income capping or clawbacks. All jurisdictions, except Quebec, submit payment data.

All jurisdictions, except Nunavut, provide aggregate alternative payment data. All jurisdictions except Alberta, Yukon and Nunavut provide alternative payment data at the physician specialty level.

Population Data

The Canadian population figures used are compiled by the Demography Division of Statistics Canada, which also prepares estimates of the covered population used with the NPDB data. The covered population consists of people who are eligible for medical services paid for by provincial and territorial medicare programs and is the total population less members of the Canadian Forces, the Royal Canadian Mounted Police and inmates in federal and provincial prisons. These groups of people have their medical services covered by a federal medical insurance program. Estimates are for October 1 in the fiscal year and are revised annually. See Appendix A for net population data.

Readers wishing further information on data provided through the cooperation of Statistics Canada may obtain copies of related publications by mail from

Publication Sales, Statistics Canada Ottawa, Ontario K1A 0K9 Phone: 613-951-7277 Toll-free: 1-800-267-6677

Fax: 613-951-1584

1.3 Data Quality

Error/Validation Routines

NPDB files are derived from provincial and territorial administrative systems. The data are checked by the jurisdiction before the NPDB files are submitted. But because CIHI has no control over the checks, all the files are processed through the NPDB error/validation routines. These are limited in scope because the data cannot be confirmed against the source, but they include reviewing total record counts, service counts and dollar amounts for each file, checking each value in the fields against acceptable values, checking for invalid fee codes, checking for unique physician identifier (UPI) numbers in illogical formats and logical review of the processed data. Time trending on service counts, dollar amounts and record counts is another method used to highlight potential issues with data quality. Any data that do not pass the error/validation routines are returned for correction and resubmission.

The provinces and territories are invited to review their own data for validity and consistency before publication. This data release was authorized by provincial and territorial medical insurance plan officials.

1.4 Data Definitions

Unique Physician Identifier (UPI)

To preserve anonymity, data providers submit an encrypted physician identifier that is unique to physicians.

Province or Territory of Practice

Province or territory of practice is the place of registration and the source of the physician's medicare payments. Some physicians practise in more than one jurisdiction in a given year—because they move or actually work in more than one province (such as a physician who works near a provincial border). The physicians are captured in multiple jurisdictions and only once in the national counts.

Specialty

Physician specialty designations are assigned by the provinces and territories; NPDB groups them with their national equivalents. Although there are two ways of defining specialties—by latest certification and by payment plan specialty—CIHI uses the latter for this report.

Internal medicine includes subspecialties such as cardiology, gastroenterology, hematology, rheumatology and medical oncology. Psychiatry includes neuropsychiatry. Neurology includes electro-encephalogram (EEG), and physical medicine covers electromyography. Doctors in the double specialty of ophthalmology/otolaryngology are included with ophthalmologists.

There are variations in how jurisdictions group certain specialists for reporting:

- Nova Scotia, Quebec and British Columbia report data for public health specialists with family medicine figures.
- All jurisdictions other than Ontario group community-medicine specialists with family medicine.
- Ontario reports doctors working in community medicine, public health, occupational medicine and pediatric cardiology as internal-medicine specialists.
- In Newfoundland and Labrador, New Brunswick, Saskatchewan and B.C., non-certified specialists are reported under their respective non-certified specialties. All other jurisdictions count them with family medicine.

For a complete listing of the specialty designations and their groupings, please see Appendix B.

Physician Full-Time Equivalent

Full-time equivalent (FTE) is the measure used to estimate whether a physician is working full-time. It is a weighted count, based on total fee-for-service payments received. A physician's FTE value is calculated using his or her total payments in relation to upper and lower payment benchmarks for that specialty in that jurisdiction:

Where:

- FTE: is the FTE value assigned to the ith physician;
- Total payments; is the sum of all payments made to the ith physician;
- Lower benchmark_i is the lower benchmark value set for the jth physician specialty group within the province or territory of practice of the ith physician; and
- Upper benchmark_i is the upper benchmark value set for the jth physician specialty group within the province or territory of practice of the ith physician.

Appendix C explains the measurement of FTE physicians, including historical measures.

Average Gross Fee-for-Service Payment per Physician

Average payment calculations use gross fee-for-service payments to physicians. They do not represent physicians' net incomes (such as what they take home after overhead payments).

Clinical Alternative Payment Programs

Alternative payment programs are arrangements to pay physicians directly by methods other than fee-for-service. Classifications vary across jurisdictions. Below are the different alternative payment programs classifications.

Salary: Physicians are paid based on annual salary scales, either part-time or full-time. The deduction of income tax at source and fringe benefits such as vacation are distinguishing features.

Sessional: Payments are based largely on the amount of time a physician spends—daily, weekly, monthly—delivering medical services to a defined group.

Capitation: Medical practices are paid a stipend for each patient registered with the practice. Payment rates may be adjusted based on the age and sex of patients.

Block funding: Annual budgets are negotiated for a group of physicians, often associated with an academic medical centre.

Contract: Funding is negotiated for physicians providing defined services to a defined population; the compensation arrangement usually specifies services to be provided or time commitments.

Blended: Mainly these are instances where physicians are compensated through fee-for-service along with some other form of remuneration. Province-specific variations exist. For provincial/territorial definitions see Appendix D.

Psychiatry: Some jurisdictions pay for psychiatric services either by salary, sessional or contract payments.

Northern and under-serviced areas: Most provinces and territories have special programs to ensure care in northern or under-serviced areas. These programs include several alternative payment modes, but those data are not broken out in CIHI reports; along with most emergency and on-call payments programs, they are also counted in alternative clinical payments for comparison purposes. Saskatchewan funds rural on-call and weekend relief coverage payments through fee-for-service.

Emergency and on call: These alternative payments are to ensure service in emergency departments or for physicians on call in rural areas. They may supplement or replace fee-for-service.

Non-Clinical Payments

Rural incentives: Paid in addition to earnings for clinical work, these are payments to encourage physicians to work in under-serviced areas and locum programs. They include moving expenses, recruitment or retention bonuses and so on.

Hospital-based physicians: Regions and hospitals may pay some physicians part or all of their earnings by salary; they include radiologists, pathologists, clinical chiefs of staff, medical health officers and those working in cancer and tuberculosis programs in some jurisdictions.

Benefits: Provinces and territories contribute to the costs of liability insurance and continuing medical education. Some also pay for disability insurance, contributions to retirement funds or maternity benefits.

National Grouping System Counts

The National Grouping System service counts and dollar amounts are created with data from the utilization file, which contains payments for fee-for-service claims by physicians, laboratories and diagnostic facilities as well as services received by people out of province or territory not processed through the reciprocal billing system—usually they are abroad, in Quebec or simply not covered by reciprocal billing.

Strata

Because all the medicare plans evolved separately in Canada, CIHI has to make adjustments to the data it receives to allow for comparisons across jurisdictions. Fees for services are paid according to payment schedules (or schedules of medical benefits), which set the amounts paid for each service. The schedules are different in every jurisdiction, because different fees have been negotiated and each has its own terminology and ways of organizing the information. To allow for all the variations, CIHI groups the data into 120 categories of service. Data in 16 categories that pertain to radiology and laboratory services are not included (they are included in the reciprocal billing data). There is a complete list of CIHI's national grouping system categories in Appendix E.

Reciprocal Billing Data

Reciprocal billing—payment for out-of-province or -territory services, billed through a special provincial/territorial agreement—accounts for less than one percent of total fee-for-service payments and less than one percent of total services.

1.5 Computations

Age

The age of physicians receiving fee-for-service payments is calculated as of the end of the fiscal year covered, March 31, 2007.

Counts

All provincial counts are based on the number of physicians receiving payments from each provincial medical care plan. Totals are the sum of the provincial numbers, except in the case of the average gross payment per physician for physicians earning at least \$60,000. For this indicator physicians are not double-counted in total because physician counts are not based on province or territory of practice.

Specialty

Two different specialty calculations are used in the associated data series.

- 1) Multiple specialties within the jurisdiction: If a jurisdiction reported more than one plan payment specialty for a physician during the year, NPDB reports on the specialty with the most payments.
- 2) Multiple specialties within Canada: If a physician works in more than one province under different payment plan specialties, his or her reported specialty for Canada would be the one with the most payments. This calculation only applies to the average gross payment per physician who received at least \$60,000 in payments data series.

Average Gross Fee-for-Service Payment

There are two different average payment calculations produced from the NPDB. There is an average gross payment per physician who received at least \$60,000 in fee-for-service payments and an average gross payment per FTE.

Average Gross Payment per Physician Who Received at Least \$60,000 in Payments

Average payment amounts are reported by medical specialty group for each province. Average gross payment amounts are calculated as the sum of all gross fee-for-service payments made to physicians who received at least \$60,000, divided by the number of physicians who received at least \$60,000.

For national-level calculations, physicians paid under more than one specialty designation, possibly in multiple provinces, are assigned to the specialty in which most of their payments were made and only counted once.

Average Gross Payment per FTE Physician

Average payment amounts are reported by medical specialty group for each province. Average gross payments per FTE are the sum of all gross fee-for-service payments made to physicians divided by the sum of all physician FTE values.

Physicians paid by more than one jurisdiction are included in the average payment calculations for each. To calculate national-level average gross fee-for-service payment per FTE, payments are summed for each physician who works in multiple jurisdictions. For example, a physician who earns \$50,000 in one province and \$50,000 in another will be included in the average payment calculations for each. He or she will contribute \$50,000 to the numerator of each provincial equation and his or her province-specific FTE value to the denominator. For national-level calculations, this doctor would contribute \$100,000 to the numerator and the sum of his or her province-specific FTE values to the denominator.

Adjustments

Differences among provincial and territorial fee schedules and assessment rules make it difficult to calculate comparisons between jurisdictions. In general, the data tend to be less comparable for visit services than for well-established and distinct surgical procedures. To compensate, CIHI adjusts service counts for certain procedures, visits and diagnostic/therapeutic procedures to improve the comparability of the data. Appendix F gives a complete list of adjustments.

1.6 Data Limitations

Due to the variation in the role that fee-for-service plays in physician compensation across jurisdictions, comparisons across jurisdictions of the NPDB indicators should be made with caution.

Data Exclusions

Medical services covered by third parties, such as hospital insurance and workers' compensation plans, are not included in this report. As well, members of the Canadian Forces and the RCMP and inmates of federal and provincial prisons (less than half of one percent of the population) are covered under other programs.

Certain payments made directly by patients are also omitted; for example, amounts extra-billed or balance-billed by physicians or cosmetic surgery.

Because of problems with comparability among jurisdictions, all anesthesia data are excluded from service counts and cost-per-service indicators, and anesthesiologists are excluded from FTE indicators, which are calculated in part using service counts.

Non-clinical alternative payments are excluded from the total alternative clinical payments because the data can be incomplete or include small amounts for clinical services. Also, in some jurisdictions, part of or all alternative payments are made through hospital budgets and not reported as physician payments.

Negative Numbers

Because of adjustments or corrections applied by the provinces or territories, data submitted to the NPDB may contain negative payment values. CIHI includes both negative and positive payment amounts when calculating average gross payments, but if a physician's total billings sum to a negative number, they are excluded.

Gross and Net Payments

Because overhead expenses vary across jurisdictions and specialties and are not clearly reported, CIHI does not adjust payment figures to account for them. All average payment figures are based on gross fee-for-service payments.

Specialty Designations

Provinces and territories are requested to provide two types of specialty information: latest acquired certified specialty and payment-plan specialty. The former must be designated by the Royal College of Physicians and Surgeons of Canada, the Collège des médecins du Québec or the College of Family Physicians of Canada. The payment-plan specialty may be different, because it shows the area in which the physician was paid for his or her services. Latest certified specialty is not provided by all provinces and territories.

CIHI FTE physician statistics and average gross payment per physician statistics may vary from provincial and territorial annual statistics because of differences in the way specialties are grouped. Appendix B gives CIHI specialty groupings.

Radiology and Pathology (Laboratory) Physicians

Radiologists, pathologists and laboratory directors are excluded from most of the NPDB data tables to improve interprovincial comparability, although payments for radiology and laboratory services performed by physicians who are not specialists in those areas are included. Medicare fee payments to radiologists or pathologists are nil or very small in the four Atlantic provinces, relatively small in Quebec, but substantial in other jurisdictions. See Appendix G for information on the extent of fee-for-service payments for radiology and laboratory services that are included in the NPDB data files but excluded from NPDB data tables. Radiologists, pathologists and laboratory directors are included in reciprocal billing data. Payments to radiologists, pathologists and laboratory directors may be included in alternative clinical payments.

De-Insured and De-Listed Services

From time to time, provinces and territories stop covering a service they once did, which CIHI calls de-insuring, or reassign a certain service to another fee code, which CIHI describes as de-listing. These services may differ across jurisdictions or from year to year and may explain some minor fluctuations over years or minor differences between jurisdictions.

For further information on de-insured and de-listed services please contact the program lead, NPDB, CIHI.

1.7 Privacy and Confidentiality

CIHI employs a variety of safeguards to protect the privacy and confidentiality of physician data.

Unique Physician Identifier (UPI)

CIHI uses encrypted physician identifiers created by data suppliers to protect the privacy and confidentiality of physicians. They allow tracking of physicians throughout their careers in Canada while maintaining anonymity.

Data Suppression

CIHI suppresses data where there are four or fewer members of a medical specialty group in a jurisdiction. Suppressed data are excluded from both FTE and head counts by jurisdiction and in total. It also suppresses data if the selection criterion (that is, physicians with earnings greater than \$60,000) produces a physician group between one and four. Some physicians who work in more than one place may have their information suppressed in one jurisdiction (where physician counts are low) but not in another. If a physician works in multiple jurisdictions and has payments included in the average payment results for at least one of them, all the payments are included in the total of average gross payment of at least \$60,000.

CIHI is committed to protecting the Canadian public's confidential health information. Although the level of aggregation in this report prevents identification of single individuals in large jurisdictions, such as Ontario or B.C., it might be possible in some smaller jurisdictions, such as Prince Edward Island. To ensure patient anonymity, cell counts with one to four services are suppressed. To do this, CIHI examined the service count summaries and excluded very low-volume services from provincial and territorial data columns and from aggregate-level row and column totals to avoid identification of individuals through subtraction or other methods of imputation.

The asterisk symbol (*) is used within data tables to identify cells where information was suppressed as a result of the methodology described above and is explained with a footnote to each table:

* Service value was between 1 and 4 for this cell. Data have been suppressed within the cell and are not included in aggregate-level row and column totals.

Please note that in some cases the * symbol may appear in the "total" column even though the service count is greater than four. This occurs when rows contain only zeros and * symbols. For example, if in one row all provinces and territories reported they had done 3 of a particular service, the unsuppressed total service count would be 33, but CIHI suppresses the totals as well to avoid revealing the underlying numbers.

CIHI applies the same standards to avoid disclosure when it releases data through ad hoc queries and special analytical studies.

NPDB Data Access/Release Policy

The Privacy Secretariat at CIHI developed a set of guidelines to safeguard the privacy and confidentiality of data received by CIHI. The document *Privacy and Confidentiality of Health Information at CIHI: Principles and Policies for the Protection of Personal Health Information, Updated November 2007, 3rd Edition* may be obtained from the CIHI website (www.cihi.ca).

Appendix A—Population Estimates

Table A.1 Statistics Canada Net Population Estimates (in Thousands), 2005–2006 to 2006–2007

Year	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
2005-2006	512.6	138.1	931.1	741.0	7,602.0	12,578.5	1,170.1	986.2	3,290.7	4,262.2	32,212.5
2006-2007	508.2	138.0	925.6	743.5	7,656.8	12,714.2	1,175.1	986.1	3,398.6	4,326.8	32,572.9

Notes

Net population estimates are produced by excluding from total estimates the members of the Royal Canadian Mounted Police, Canadian Forces personnel and the number of inmates in federal and provincial institutions. Estimates are updated post-censal estimates.

The estimates are based on 2001 census counts, adjusted for net census undercoverage.

These figures have been rounded independently to the nearest hundred.

Source

Statistics Canada Net Population Estimates (in Thousands), 2005-2006 to 2006-2007.

Appendix B—Physician Specialty Categories

Physician Specialty Categories as used in the NPDB.

Specialty of Family Medicine

01 Family Medicine

- 010 Residency
- 011 General Practice
- 012 Family Practice
- 013 Community Medicine/Public Health
- 014 Emergency Medicine

Medical Specialists

02 Internal Medicine

- 020 General Internal Medicine
- 021 Cardiology
- 022 Gastroenterology
- 023 Respiratory Medicine
- 024 Endocrinology
- 025 Nephrology
- 026 Hematology
- 027 Rheumatology
- 028 Clinical Immunology and Allergy
- 030 Oncology
- 031 Geriatrics
- 032 Tropical Medicine
- 035 Genetics

04 Neurology

- 040 Neurology and EEG
- 041 Neurology
- 042 EEG

05 Psychiatry

- 050 Psychiatry and Neuropsychiatry
- 051 Psychiatry
- 052 Neuropsychiatry

06 Pediatrics

060 Pediatrics

07 Dermatology

065 Dermatology

08 Physical Medicine/Rehabilitation

070 Physical Medicine and Rehabilitation

071 Electromyography

09 Anesthesia

075 Anesthesia

Surgical Specialists

10 General Surgery

080 General Surgery

11 Thoracic/Cardiovascular Surgery

086 Thoracic Surgery

087 Cardiovascular Surgery

088 Cardiovascular/Thoracic Surgery

12 Urology

090 Urology

13 Orthopedic Surgery

095 Orthopedic Surgery

14 Plastic Surgery

100 Plastic Surgery

15 Neurosurgery

110 Neurosurgery

16 Ophthalmology

115 Ophthalmology

116 Ophthalmology/Otolaryngology

17 Otolaryngology

120 Otolaryngology

18 Obstetrics/Gynecology

- 126 Obstetrics
- 127 Gynecology
- 128 Obstetrics/Gynecology

Technical Specialists

26 Radiology Specialties (reported in reciprocal billing only)

- 250 Diagnostic Radiology
- 251 Therapeutic Radiology
- 252 Therapeutic Radiology and Nuclear Medicine

27 Laboratory Specialties (reported in reciprocal billing only)

- 260 Nuclear Medicine
- 261 Bacteriology
- 262 Biochemistry
- 263 Microbiology
- 264 Pathology
- 265 Anatomo-Pathology
- 266 General Laboratory

Note: Although genetics is no longer a subspecialty of internal medicine, it is included in the internal medicine category because the number of physician records assigned to this specialty is relatively small.

Appendix C—Measurement of a Full-Time-Equivalent Physician

Historical Measures

In Canada, physician supply has historically been measured in terms of the number of physicians available. These data are often used in physician-to-population ratios and have been used for planning and assessing policy. The number of physicians is considered an important health economic indicator because of the gatekeeper role that physicians play in the health care delivery system. Knowing how many physicians there are helps people understand increases in the cost of medical care, determine how many physicians are needed and follow trends in physician remuneration.

However, using simple head counts implies that all physicians have equal capacity to provide patient care. This is clearly not plausible; many physicians work part time, some are semi-retired and others who are licensed do no clinical work. To try to produce a more meaningful measurement of physician supply, the concept of counting both full-time and full-time-equivalent (FTE) physicians was adopted.

One method of defining full-time physicians involves the use of income thresholds. A dollar amount was specified and any practitioner whose income met or exceeded it was counted as one full-time physician. Physicians who billed less were excluded from the count. The system was flawed because, depending on the choice of threshold, statistics could be generated that indicated anything from a serious lack of physician resources to a complete oversupply of all practitioner specialties. Later it was slightly improved by counting part-time physicians as fractions of full-time physicians.

Apart from the problems caused by the arbitrary choice of income threshold, the statistics are not suitable for any time-series analysis, because the subset of earnings above the benchmark will be affected over time by increases in fees. National comparisons are also questionable because the provinces and territories may pay different amounts for the same services.

To get better jurisdictional, inter-specialty and time-series comparisons, a new approach defines a full-time practitioner as one billing among the top 70% of physicians. Percentile thresholds are better than dollar values because they implicitly adjust for changes over time, including fee increases and changes in service use or volume per physician. They also improve comparability among jurisdictions, although because fees still differ there is no guarantee the full-time benchmark in one province or territory reflects the same intensity of work as the benchmark anywhere else. FTE methods based on average or median earnings are variations on this methodology.

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i. It should be noted that the term "income" used in this report refers to physicians' gross payments for fee-for-service claims only. These payments do not include alternative payments such as salary or sessional payments.

Development of an Improved Measure of Full-Time Equivalence

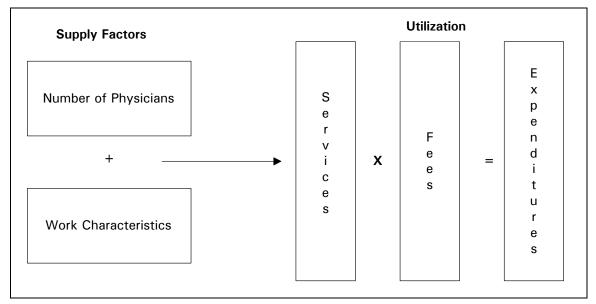
A national working group started developing a way to measure full-time equivalence in 1984. Its objectives were to:

- Provide a consistent basis for physician-supply comparisons within and across provinces and territories;
- Provide a consistent basis for measuring changes through time in physician supply; and
- Recognize workload differences among individual specialties.

Conceptual Model

All FTE measures are to some degree arbitrary, because there is no best measure to be derived through statistical techniques. The working group's choice was determined by the objectives and data availability. It was based on the following conceptual model:

Figure C.1 Conceptual Model of Supply, Utilization and Expenditures



In an economic context, physicians and hours of work are seen as measures of supply. Services produced by physicians are the most basic measure of utilization, while expenditure is the product of services and fees. The relationship between these three variables is illustrated in Figure C.1. The realistic choices for estimation of full-time equivalence were hours of work, services provided and payments.

An internal study indicated a high degree of variability in income per hour worked by fee-for-service physicians, after standardizing for specialty, which meant an FTE measure based on hours of work would not provide accurate estimates of the *potential output* (in terms of clinical services) of the physician population. As FTE measures are used most often in a context where output or expenditure is important, measuring output rather than hours of work (essentially an input measure) seemed preferable.

Services are measures of output, but they are not weighted for intensity or value. Expenditure, on the other hand, measures services weighted by fees—more difficult services are better paid. Payments to physicians were therefore chosen as the most appropriate measure of output for determining full-time equivalence.

Rationale

In the model adopted, gross income per physician is used to measure output or workload. But even in the same specialty, the amount of work doctors do can vary widely, so rather than using a single cut-off for full-time equivalence, the working group decided to use a range that would be realistic for a typical full-time physician. Because the range had to be statistically defined, the 40th and 60th percentiles of nationally adjusted payments were chosen as benchmarks to measure full-time equivalence.

Simulations of alternative percentiles showed the FTE counts were relatively insensitive to different benchmark ranges, as long as they were symmetric (for example, the 30th to 70th percentiles yielded approximately the same total counts as the 40th to 60th percentiles).

Comprehensiveness

CIHI's full-time equivalence methodology is designed to provide a weighted count of all physicians providing fee-for-service care paid for by medicare. Physicians with payments less than the lower benchmark are counted as fractions of an FTE, physicians within or equal to the benchmarks are counted as one and physicians above the benchmark are counted as more than one FTE. The decision to count physicians above the benchmark as more than one FTE was based on a recognition that many physicians have large workloads, which should be reflected.

At the same time, an algorithm incorporating logarithms was used to prevent high-income physicians from having a very large FTE (for example, a physician whose income is three times the upper benchmark will have an FTE of 2.1, while a physician whose income is four times the upper benchmark will have an FTE of 2.4). The relationship between income and FTE count is illustrated in Figure C.2.

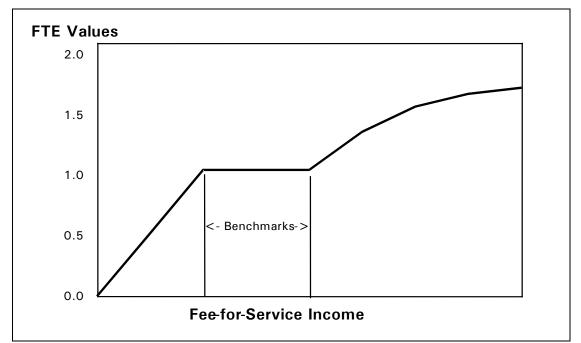


Figure C.2 Relationship Between Income and FTE Values

Consistency

For consistency across provinces and through time, the methodology removed the effects of different fee levels on physician income. It allows payments to each physician to be standardized for interprovincial fee differences in order to compute national benchmarks for a base year. The national benchmarks are then converted to provincial values. Each year, the provincial benchmarks are indexed by specialty-specific fee increases or decreases.

Benchmark values and FTE physician counts vary depending on the base year used for analysis. Physician reports for data years 1989–1990 to 1995–1996 were based on FTE benchmarks that were set using a 1985–1986 base year. Physician reports for 1996–1997 to 2001–2002 were updated and based on benchmarks using 1995–1996 NPDB data. In 2004, CIHI re-engineered the NPDB system, focusing on the application of payment source selection criteria at various stages of FTE data processing. Starting with the 2002–2003 data year, FTE physician reports were produced using a 2000–2001 base year. For a detailed discussion of base year changes and the potential impact on FTE results, please see *Full-Time Equivalent Physicians Report, Canada, 2002–2003*, Appendix A.

Step-by-Step Calculation

FTE values are calculated as follows:

 $\label{eq:fitting_fitting} \begin{cases} \text{total payments}_i/\text{lower benchmark}_j & \text{If physician i earns less than} \\ 1 & \text{If physician i earns an amount} \\ \text{equal to or within the} \\ \text{benchmark values} \\ 1 + \text{log (total payments}_i/\text{upper benchmark}_j)} & \text{If physician i earns more than} \\ \text{the upper benchmark value j} \end{cases}$

Where:

- FTE: is the FTE value assigned to the ith physician;
- Total payments_i is the sum of all payments made to the ith physician;
- Lower benchmark_i is the lower benchmark value set for the physician specialty group within the province or territory of practice of the ith physician; and
- Upper benchmark_i is the upper benchmark value set for the physician specialty group within the jurisdiction of practice of the ith physician.
- 1. Select a base year for estimation.
- Starting with the 2002–2003 data year, physician reports are produced using a 2000–2001 base year.
- 2. Create a national base year FTE database.
- Select from the NPDB all the records for physicians who received at least one fee-forservice payment during each quarter of the base year, in one or more jurisdictions.
- To eliminate the interprovincial differences in payments, adjust the gross income of each physician by the relevant physician services benefit rates index.
- Create 17 national-level medical specialty files corresponding to the medical specialty
 groups regularly reported in CIHI physician reports. Physicians are assigned to the
 single national medical specialty file that accounts for the majority of their payments.
 The national medical specialty data files contain each physician's total payments in the
 base year.

Note: FTE statistics are not calculated for specialties in radiology or laboratory medicine.

- 3. Calculate base-year lower and upper benchmarks.
- Within each specialty, rank payments and establish the distribution of physicians by payment levels.
- Label the payment value corresponding to the 40th percentile rank as the national lower benchmark and the 60th percentile as the national upper benchmark.
- To calculate the provincial lower and upper benchmarks, adjust the national benchmarks by the physician services benefit rates (PSBR) index.
- 4. Calculate the benchmarks for years other than the base year.
- Inflate or deflate provincial benchmarks for each specialty using specialty-specific annual fee increase/decrease percentages.
- 5. Create an FTE database for estimation.
- From the NPDB, select all the records for physicians who received at least one fee payment during a fiscal year for services provided within the physician's province of practice to in-province patients.
- For each province and each specialty, create a data set that includes each physician's total billing in the fiscal year.
- 6. Calculate the FTE statistics.
- Count physicians with payments within or equal to the benchmarks as one FTE.
- Count physicians with payments below the lower benchmark as a fraction of an FTE equal to the ratio of their payments to the lower benchmark.
- Count physicians with payments above the upper benchmark using a log-linear relationship—that is, as one FTE plus the logarithm of the ratio of their payments to the upper benchmark.

Appendix D—Alternative Payment Programs in Each Jurisdiction

The provinces and territories have unique approaches to alternative payment programs; the following section gives details. This information was provided by each jurisdiction and reviewed by it in the preparation of this report. It was current as of October 2007.

Newfoundland and Labrador

Salary: Approximately 40% of physicians on salary are general practitioners (GPs); the rest are specialists. GPs in rural community hospitals are commonly paid salaries. They are employed by regional health boards funded by medicare. Movement between fee-forservice and alternative payment modes is unrestricted, and the most recent agreement between the province and the Newfoundland and Labrador Medical Association says physicians can convert to salaried status with regional boards if they wish to. A number of academic physicians have taken advantage of this option.

Salary is the predominant model for rural physicians because relatively small practice populations make alternative payment modes more desirable, particularly for specialists, and because many physicians in rural areas are international medical graduates who are not fully licensed in Canada and not allowed to practise on a fee-for-service basis. They can switch to fee-for-service once they have fully established their medical credentials in Canada.

Sessional: These payments are an option for fee-for-service physicians who staff hospital emergency departments, where they are favoured for night shifts. They are also used to pay for specialized care such as diabetes clinics, cystic fibrosis clinics and genetic counselling.

Block funding: Block funding arrangements exist for cardiac surgery, some anesthesia services and pediatric surgery. These arrangements define set dollar amounts for prescribed services by specialists.

Population-based funding: Capitation is not used as a form of remuneration at present.

Prince Edward Island

Salary: P.E.I. has hospital-based salaried physicians in internal medicine, pediatrics, physical medicine, oncology, radiation oncology, laboratory and anesthesia. P.E.I. also has salaried family doctors working primarily in collaborative family health centres.

Sessional ER: Sessional reimbursement is used in emergency medicine in urban (on site) and rural facilities (on call).

Blended funding: Blended funding pays an all-inclusive hourly rate rather than a salary with other entitlements such as pension, long-term disability coverage, paid vacations, continuing medical education, sick days and so on. Blended funding includes on-call stipends for specialists at P.E.I.'s two largest facilities and per-bed stipends paid to in-house physicians serving long-term-care facilities.

Population-based funding and primary care: Capitation is not used to fund primary care.

Information collection: Shadow billing is used with most salaried and sessional physicians.

Nova Scotia

Alternative funding contracts: The number of physicians paid by alternatives to fee-for-service is increasing. There are several contract options and the Department of Health is receptive to other proposals. There are regional specialist contracts for anesthesiology, geriatrics, neonatology, pediatrics, obstetrics/gynecology and palliative care. There are also contract arrangements for GPs in certain rural areas and general practitioner/nurse practitioner contracts that support collaborative practice teams in designated areas. All physicians on contract are considered independent contractors and not employees. Few physicians are remunerated through salary.

Rural emergency and on-call payments: During the late 1990s, the province agreed to provide lump-sum payments to physicians who staff emergency departments in rural areas or provide on-call services where emergency departments do not exist. The emergency funding is based on the Murray Formula (for levels 1 and 2) and data are submitted annually. Money is also available for specialty on-call services and family physician on-call services.

Sessional: Sessional reimbursement is available for pre-approved services based on time. Most physicians who provide services in provincial mental health centres are on contract for hourly payments. Many also have fee-for-service practices in their communities. There are sessional arrangements for care in jails, detoxification centres, well-women's clinics and teen health centres and for the provision of care to hospital inpatients without a family physician.

Block funding: Typically associated with academic centres, block funding is used by the Capital District Health Authority and the IWK Health Sciences Centre for surgery, family medicine, otolaryngology, radiation oncology, pathology, gynecology, critical care and psychiatry and diagnostic imaging. In 2006, blended funding was introduced and is being used by the departments of medicine, anesthesia, neurosurgery and emergency medicine. This new framework incorporates deliverables as well as billing targets.

Population-based funding and primary care: Capitation is not used.

Information collection: Shadow billing is used to collect information on services provided under block funding and other contract payment arrangements.

New Brunswick

Salary/contract: Some general physicians and specialists are paid by a salary based on the Medical Pay Plan, which has four levels: general physician, uncertified specialist, specialist and department head. Some physicians, such as community health centre physicians or those with restricted licenses, can only be paid by salary. In other areas, including anesthesia, geriatrics, infectious diseases, internal medicine, rheumatology, neonatology, pediatrics, physical medicine, psychiatry, radiation and medical oncology, general surgery and general practice, salary is an option.

Sessional: Emergency departments in the province's eight regional hospitals use sessional compensation on a 24/7 basis. Other hospital emergency departments pay by fee-for-service, availability stipends, sessional rates or a combination of the three.

Physicians in nursing homes, jails, detoxification centres, mental health centres, pediatric clinics and reproductive health clinics are also paid through sessional funding.

Population-based funding and primary care: Capitation is not used.

Contracts/alternative payments: Some physicians have an all-inclusive contract paid outside the scales of the Medical Pay Plan, which may include the option of billing fee-for-service.

Guaranteed income: A few physicians have a guaranteed yearly income arrangement, where they bill fee-for-service and the department pays the balance if they have not reached their guaranteed income.

Information collection: Some physicians paid through alternative plans submit shadow-billing data. The province is working with the region to start collecting patient data for all non-fee-for-service physicians.

Quebec

Salary: About 40% of earnings paid to GPs in local community service centres (CLSCs) and 30% of those paid to GPs working in psychiatric care are paid as salary. This is becoming less common as sessional payments for GPs and blended-mode payments for specialists become popular.

Sessional: Sessional reimbursement is used to reimburse physicians, mostly GPs, in community health programs and also for administrative work in family health clinics, long-term geriatric care, some psychiatric institutions and remote areas.

Blended: This was introduced in late 1999 as an alternative form of payment for specialists. Physicians are paid a flat daily rate plus a percentage of the fee-for-service rates for each service. Approximately 3,300 specialists were paid this way in 2003–2004. The flat rate portion of blended payments accounted for approximately 85% of alternative payments. About 30% of total payments paid to specialists that year were under a blended contract.

Block funding: This is not used.

Population-based funding and primary care: Capitation is not used.

Information collection: All programs are administered by the Régie de l'assurance maladie du Québec. Reporting systems incorporate encounter-level data for fee-for-service.

Ontario

Salary: Community health centres pay physicians' salaries.

Sessional: Sessional reimbursement is paid to fee-for-service physicians who provide psychiatry, anesthesia and non-billable geriatric physician services to under-serviced areas and high-risk populations. Compensation is an hourly or sessional (multi-hour) rate for treating patients, often outside physicians' normal office practice. A few small or rural emergency departments still pay physicians sessional rates instead of fee-for-service.

Block funding: The majority of alternative payment plan spending is on block funding for emergency departments, neonatal intensive care units and pediatric and gynecological oncology. The funding is paid to a group or association of physicians, which must create a formal structure guiding how the physicians are paid for the services covered in its contract with the province.

Population-based funding and primary care: There are two main models using population-based funding. The first model is the health service organization—multidisciplinary group practices—funded according to a population-based calculation. The second is the Ontario Family Health Network, which pays by capitation payment for a set number of services but allows fee-for-service billing for services outside that core.

Contractual: Alternative payment programs in Ontario are arranged through contracts. The Ministry of Health prefers to negotiate a template agreement with the Ontario Medical Association (OMA) and offer it to eligible physician groups, but sometimes contracts are negotiated with specific physician groups and the OMA. Physicians are paid a set amount to provide the negotiated services outlined in the contract. Ongoing monitoring and evaluation ensures service levels and expectations are met.

Information collection: Reporting expectations are clearly outlined in all payment-plan contracts. The most common form, shadow billing, counts services according to fee-for-service codes, but there are other reporting methods, such as reporting on deliverables—for example, emergency departments using alternative funding agreements submit reports that give Canadian triage acuity scale scores, volumes, shadow billing and hours of coverage.

Manitoba

Salary: Community hospitals in Winnipeg pay physicians' salaries. In Winnipeg's teaching hospitals they are paid through a blend of fee-for-service and alternative funding. Emergency services provided outside Winnipeg are compensated entirely through alternative funding. Physicians in mental health centres in Brandon and Selkirk are paid salaries, as are hospital-based pathologists in Winnipeg and Brandon. Some physicians (primarily family physicians) in remote areas receive salaries through medicare or the Northern Medical Unit.

Sessional: Sessional reimbursement is used in special circumstances, such as where itinerant physicians serve rural areas and personal care homes, or for some psychiatric and specialist diagnostic services in hospital.

Blended funding: The oncologists at Cancer Care Manitoba are paid with a combination of fee-for-service and alternative funding. The oncologists must bill a minimum amount of fee-for-service care to qualify for the alternative funding top-up.

Population-based funding and primary care: Capitation is not used.

Information collection: Encounter-level data are collected from salaried GPs in rural and northern areas.

Saskatchewan

Salary: Although offered as an option by regional health authorities, a relatively small percentage of physicians are on salary. Most, but not all, physicians working in Saskatchewan's four community clinics are paid salaries, and family physicians working in remote northern communities are also paid that way. The student health centre at the University of Saskatchewan employs family physicians, and the Saskatchewan Cancer Agency uses block funding to pay salaries to physicians in cancer clinics.

Sessional: The regions contract a number of physicians to provide services on a sessional basis, including psychiatrists, some emergency physicians and geriatricians at the provincial geriatric assessment unit.

Service contracts: The large majority of alternative payment plan physicians have service agreements. These include most physicians on contract to regional health authorities, including emergency physicians, pathologists and primary care physicians. Some physicians who work at the College of Medicine are on service contracts or clinical stipends.

Regional health authority fee-for-service: Some regions have physicians on contract but pay them fees for services, using the same fee schedule as the medical services branch. This is how most hospital-based radiologists are paid.

Blended: Most anesthetists in Regina and Saskatoon are paid fee-for-service, but obstetrical anesthesia is funded through an alternative payment contract. Transplant nephrologists are paid fee-for-service with an additional stipend for administration, donor searches and family consultations. Most alternative contracts allow fee-for-service billing for services to out-of-province patients.

Rural emergency and on-call payments: Since 1997, the weekend on-call relief and the emergency room coverage programs have paid physicians using a system that sets a time value for each service provided.

Specialist emergency coverage program: Since July 2001, specialists on call rotation receive a daily stipend for being available for new emergency patients.

Information collection: All alternative payment contracts require submission of encounter-level data, but compliance varies. Community clinics use provincial fee-schedule codes to do their shadow billing. Encounter data are not available for most hospital-based physicians, contract psychiatrists, salaried cancer physicians or pathologists. Physicians paid by the Northern Medical Services or Clinical Services Fund are also excluded.

Alberta

Salary/contract: There were 13 contractual funding projects in Alberta in 2006–2007, which paid a set amount for a predetermined volume of services.

Academic funding plans: These integrate all the different sources of funding used to compensate physicians in academic centres for the variety of services they provide, including teaching, research, clinical services and administration. There were seven academic funding plans in Alberta in 2006–2007.

Sessional: The physician is paid a predetermined rate (usually an hourly amount) for providing negotiated services during a set time. There were 16 sessional projects in Alberta in 2006–2007.

Block funding: In block funding, all physicians in a discipline in a given geographic area agree to provide all their medical services for an agreed period at one or more specified sites in exchange for a negotiated amount. There were no block funding projects in Alberta in 2006–2007.

Population-based funding and primary care: A medical practice is paid a predetermined annual amount to provide a basket of insured medical services for each of its patients. There were two capitation projects in Alberta in 2006–2007.

Information collection: Alternative payment service information is collected using the fee-for-service codes (but without service counts or dollar amounts).

British Columbia

B.C.'s alternative payments program provides funds to the five regional health authorities and the provincial health authority, which in turn contract with physicians to deliver health care services.

Service contracts: The health authority contracts with or employs physicians to deliver services within an envelope of program-specific funding. Services and payments are specified in the contracts.

Sessions: In these arrangements, a session equals 3.5 hours of physician time and may be broken into quarter-hour increments. The number of sessions required to deliver a particular health program is negotiated, and as they are provided the health authority submits claims, with supporting records of physician services, for release of funding equal to the number of sessions used.

Information provision: Reporting is a condition of the alternative payments program. As well as information from the alternative payment system, health authorities submit patient-encounter information to support contract monitoring, evaluation and health-service planning.

Blended funding program—Population-Based Primary Health Care: This is a population-based, blended funding model for primary health care where the Ministry of Health pays the health authorities to deliver core services to a defined population. The regions can provide the service directly or contract with private practices for delivery of the care. How individual physicians are paid is determined by the health authority, but they receive a blend of population-based funding for core services and fee-for-service for the rest. Funding and payment are directly linked to timely and accurate submission of encounter and claims data so compliance with reporting requirements is high.

Yukon

The majority of Yukon physicians bill fee-for-service. Because the small population does not warrant many resident specialists, many services are provided by visiting specialists and locum physicians. They usually bill the Yukon Health Care Insurance Plan fees for their services. Fewer than five visiting physicians are paid a sessional rate.

Alternative payment plans: A small number of resident physicians are on contract with the Health Services Branch. The contracts are negotiated by individual physicians, subject to the provisions outlined in the memorandum of understanding between the Yukon Medical Association and the Health Services Branch.

Information collection: Shadow billing is done to collect information on the number and dollar amount of services provided by contract physicians.

Northwest Territories

Salary: Hospital-based physicians in the specialties of anesthesiology, general surgery, internal medicine, obstetrics/gynecology, orthopedics, otolaryngology, psychiatry and pediatrics are paid salaries. There are also salaried family doctors working in clinics and emergency rooms and as hospitalists.

Sessional: Used to fill vacancies in specialties and general practice, sessional physicians are employed as independent contractors and paid a daily rate for services. In addition, travel costs are reimbursed and accommodations are provided.

Information collection: Shadow billing is used for salaried and sessional physicians.

Appendix E—NPDB National Grouping System

Categories and Strata

1. Consultations

Major, initial, ordinary, minor, repeat, regional and operative consultations performed in offices, hospitals, chronic care and convalescent hospitals and nursing homes, as well as psychiatric and obstetrical consultations where no *Special Call* is involved.

- Major Consultations
- Other Consultations

2. Major Assessments

General and specific assessments, reassessments, initial visits with a complete exam, new condition seen for first time and including complete history and exam, complete specific exam depending upon the physician specialty, annual exams, newborn/premature care and special eye exams performed in any location where no *Special Call* is involved.

- Office
- Hospital Inpatient: Newborn
- Hospital Inpatient: Other
- Hospital Outpatient
- Hospital Unspecified
- Unspecified
- Special Eye

3. Other Assessments

Partial or minor assessments, regional exams, first or subsequent or repeat exams, ordinary, pre- and post-natal care, well-baby care in any location, chronic and convalescent care, outpatient visits and other visits when physician is in the hospital, intermediate and minor assessments, partial assessments, follow-up exams and regional exams, additional patients seen during a special call and detention.

- Office
- Hospital Inpatient
- Hospital Outpatient
- Hospital Unspecified
- Unspecified—Location
- Special Calls—Add
- Detention

4. Hospital Care Days

Regular visits up to 28/30/31 or 35/42 days, over 28/30/31 or 35/42 days, inpatient supportive care, continuing care, concurrent care, directive care, convalescent care, palliative care and daily management.

- Up to 28/30/31 or 35/42 Days
- Over 28/30/31 or 35/42 Days
- Other

5. Special Calls

Visits at night, on Saturdays, Sundays and holidays, requiring travel to offices, homes, nursing homes, outpatient and emergency departments; also includes special visits, consultations, specific assessments and reassessments, general reassessments, ordinary home visits, home summary and specific exams.

- Out-of-Hours/Emergency
- Other Regular Hours

6. Psychotherapy/Counselling

Individual psychotherapy, hypnotherapy, narco-analysis, diagnostic/therapeutic interviews, group and family psychotherapy and interviews, interviews for physical medicine and counselling for drugs, family, genetic, marriage and contraception, and case conferences on behalf of patients with allied workers, teachers, clergy, etc.

- Individual Psychotherapy
- Group/Family Psychotherapy
- Counselling

7. Major Surgery

Based on the 1988 Ontario Schedule of Benefits, these procedures have a fee of more than \$75.

Mastectomy

Simple, radical or modified radical; unilateral or bilateral; female or male.

Breast Tumour Excision/Biopsy

Tumour or tissue for biopsy and/or treatment; partial mastectomy or wedge resection.

Other Integumentary System

All other major surgery procedures performed on the integumentary system not listed above; for example, excisions, lesions, tumours, cysts, burn and skin grafts, pedicle and free island flaps, plastic planing, plastic surgery procedures, breast reconstruction, mammoplasties, surgical debridement.

Fractures

Bone and joint fractures.

Disc Surgery

Procedures for disc removal and fusion.

Arthroplasty—Hip

Total hip replacement, unipolar and bipolar arthroplasty and revisions.

Arthroplasty - Knee

Knee arthroplasty and revisions.

Other Musculoskeletal System

All other major surgery performed on the musculoskeletal system not listed above, including bone grafts, arthrodesis, amputation, arthrotomy, bone, joint, muscle and tendon excision, reconstruction, orbito-cranial surgery, instrumentation and dislocations.

Sub-Mucous Resection

Septoplasty and resection.

Rhinoplasty

Correction of nasal deformity.

Other Respiratory System

All other major surgery performed on the respiratory system not listed above, including excisions and repairs.

Coronary Artery Bypass

Coronary artery repair single, double, triple or more.

Coronary Angioplasty

Percutaneous transluminal coronary angioplasty.

Insertion of Pacemaker

Insertion of permanent endocardial electrode and implantation of pack, replacement and repair.

Other Heart/Pericardium

All other major surgery procedures performed on the heart and pericardium system not listed above.

Varicose Veins

Ligation and stripping of varicose veins but excluding injection of varicose veins.

Carotid Endarterectomy

Endarterectomy, body tumour and bypass graft of the carotid artery.

Other Cardiovascular

All other major surgery performed on the cardiovascular system not listed above.

Appendectomy

Excision of the appendix.

Laparotomy

Any laparotomy performed as a surgical procedure.

Cholecystectomy

All cholecystectomies and any additional payments made for other procedures performed at the same time, such as choledochotomy, sphincterotomy, vagotomy.

Tonsillectomy

Both adult and child tonsillectomies and payments for adenoidectomies performed at the same time.

Inguinal/Femoral Hernia

Inguinal and/or femoral hernias performed on infants, children, adolescents and adults.

Colectomy

Total and hemi-colectomies and payments for other procedures performed at the same time.

Hemorrhoidectomy

The surgical procedure only; hemorrhoidectomies by cryotherapy or banding are excluded.

Other Digestive

All other major surgery performed on the digestive system not listed above.

Prostatectomy

All forms of prostate surgery, such as perineal, suprapubic, retropubic, transpubic and transurethral resection.

Vasectomy

Unilateral or bilateral ligation.

Other Urinary/Male

All other major surgery performed on the male genital and urinary systems.

Prolapse

All forms of prolapse repair surgery.

Hysterectomy

Total, subtotal, abdominal or vaginal or radical hysterectomies.

Sterilization

Tubal occlusion/interruption/removal by any method or approach.

Other Female

All other major surgery performed on the female genital system not listed above.

Cataract Surgery

All forms of cataract surgery, dislocated lens extraction and insertion of intra-ocular lens when paid in addition to the above.

Light Coagulation

Photocoagulation and cryopexy.

Tympanoplasty

Tympanoplasty, myringoplasty, tympanomastoidectomy and payments for other procedures performed at the same time.

Other Eye/Ear

All other major surgery performed on the organs of special senses not listed above.

Other Major Surgery

All other major surgery not listed above, such as operations on the nervous system, on the hemic and lymphatic systems and on the endocrine system.

8. Minor Surgery

Incision, Abscess, etc.

Incision of abscesses or hematomas under local or general anesthesia.

Removal of Foreign Body

Foreign body removal under local or general anesthesia.

Excision, Tumour, etc.

Excision of verruca, papilloma, keratosis, pyogenic granuloma, moles, etc.

Suture Wound

Repair, debridement and dressing.

Excision of Nail

Excision and/or destruction of fingernail or toenail.

Chalazion

Single or multiple under local or general anesthesia.

Myringotomy

Unilateral myringotomy with insertion of ventilation tubes.

Minor Fractures

Fractures with a fee less than \$75.

Other Minor Surgery

All other minor surgery not listed above.

9. Surgical Assistance

All services and payments for surgical assistance.

10. Anesthesia

Nerve Blocks

All forms of nerve blocks.

Other Anesthesia

All services and payments for anesthesia, excluding nerve blocks.

11. Obstetrical Services

Services at Time of Delivery

Attendance at delivery or Caesarean section, repair of third-degree/vaginal/cervical laceration, removal of retained placenta, scalp sampling, fetal monitoring and induction of labour.

Delivery (Excluding Caesarean Sections)

Delivery and multiple births, excluding Caesarean sections.

Caesarean Section

The procedure only.

Therapeutic Abortions

Therapeutic abortions only.

Other Obstetrical Services

Fetoscopy, stress test, hypertension, fetal transfusion, toxemia of pregnancy, oxytocin challenge test, abortions (missed, threatened, without dilatation and curettage, incomplete, menstrual extraction and spontaneous), amniocentesis, ectopic pregnancy, suture for incomplete cervix during pregnancy, uterine inversion and emergency removal of sutures.

12. Other Diagnostic/Therapeutic Services

IC/Resuscitation

Intensive care and resuscitation services.

Allergy/Hyposensitization

Tests for allergies and hyposensitization.

Injection/Aspiration of Joint

Injection and/or aspiration of joints.

Electrocardiogram

Services and payments for the professional component of electrocardiograms and the payments for the technical component.

Esophagoscopy/Gastroscopy

Services and payments for both these endoscopies as well as payments for procedures performed at the same time as the endoscopy.

Laryngoscopy/Bronchoscopy

Services and payments for both these endoscopies as well as payments for procedures performed at the same time as the endoscopy.

Colonoscopy

Services and payments for this endoscopy as well as payments for procedures performed at the same time as the colonoscopy.

Cystoscopy

Services and payments for this endoscopy as well as payments for procedures performed at the same time as the cystoscopy.

Sigmoidoscopy

Services and payments for this endoscopy as well as payments for procedures performed at the same time as the sigmoidoscopy.

Other Endoscopy

All other endoscopies not listed above.

Coronary Angiography

Coronary angiography only.

Procedures Associated With Radiology

Therapeutic radiology and radioisotopes.

Dilatation and Curettage

Dilatation and curettage and payments for procedures performed at the same time.

Electroencephalography

Services and payments for the professional component of electrocardiograms and payments for the technical component.

Cryotherapy

Any cryotherapy identified in the payment schedules.

Cardiac Catheterization

Left heart, right heart and selective coronary catheterization.

Biopsy

All non-surgical biopsies.

Other Diagnostic/Therapeutic Services

All other diagnostic/therapeutic services not listed above.

13. Special Services

Injections and Immunizations

Injections (subcutaneous, intramuscular and for varicose veins) and immunizations regularly performed by nursing personnel. In some jurisdictions these are treated as separate services, while in others they are included in visit fees. Not included are intra-vascular injections performed by physicians and lumbar myelograms, which are included in diagnostic/therapeutic services.

Papanicolaou Smear

As with injections, this procedure is not always considered to be a separate service and is sometimes included in a visit fee.

Insertion of Intrauterine Device

As with injections, this procedure is not always considered to be a separate service and is sometimes included in a visit fee.

14. Miscellaneous Services

Other Identified

These are services that are not listed as fee items by a majority of the provinces and territories. Examples include sessional and standby fees (where identified by a fee code), mileage, telephone consultations, sexual assault exam for investigation and/or confirmation of alleged sexual assault and other services.

Unidentified

Most provinces and territories have coding errors or list codes that are unidentifiable. These include all services that are unidentified or are identified but paid for by social services, the attorney general, workers' compensation, etc. Examples include services related to impaired driving, to rape victims and as a result of injuries sustained at work.

Appendix F—Fee Code Adjustments for Services

Not only are provincial and territorial fee schedules different, but periodic changes to definitions, fees or assessment rules make it difficult to compare jurisdictions. In general, visit services and minor procedures have more differences and are less comparable than well-established and distinct major surgical procedures. As a result CIHI adjusts service counts for certain types of services, visit services and diagnostic/therapeutic procedures to improve the comparability of the data. A description of each adjustment follows.

Adjustment A

Sometimes what would be considered one service is billed with more than one fee code—for example, when two or more surgical procedures are performed at the same time. To minimize the double counting of services, an Adjustment A is attached to the fee service code (FSC); this excludes the service count for the additional part of the procedure but keeps the payments.

Example

FSC 1—pyloroplasty (surgery to widen the lower portion of the stomach, so that stomach contents can empty into the small intestine)

FSC 2—with suture of bleeding peptic ulcer, additional amount

The service count is retained only for FSC 1 while the payments for FSC 1 and FSC 2 are retained.

Adjustment B

While some types of care, such as setting a broken bone, are clearly comparable, others can be defined very differently in each jurisdiction. Adjustment B is designed to make these variable services more comparable. They include services such as psychotherapy, hospital visits, resuscitation, intensive care, pre- and post-natal care, stand-by fees and diagnostic or therapeutic tests. CIHI adjusts the service count by dividing the total payment for the FSC by the calculated fee for the standardized service. In other words, CIHI looks at how much was paid for the service and sees how many standard services could be had for that much money. Then it assigns this calculated number of standard services instead of the original count.

These are the Adjustment B criteria:

- Psychotherapy—the average duration for all psychotherapy services is assumed to be 30 minutes, and group therapy sessions comprise four persons.
- Allergy tests—CIHI looks at the cost of a standard office visit for the jurisdiction
 and assumes that however many allergy tests could be billed for that amount of
 money is the number of tests performed. This is most often used for patch and
 hypersensitivity tests.

- Detention—detention is payable when a physician spends considerable extra time in the treatment of a patient to the exclusion of other work. CIHI assumes the duration of a detention service is a quarter-hour. Service counts are adjusted for jurisdictions that pay for either half an hour or one hour.
- Intensive Care—the duration of one intensive-care service or one intensive-care per diem is assumed to be one hour.
- CIHI converts monthly rates to daily rates assuming 20 working days per month.

Adjustment C

This adjustment is used when a fee code is redefined during the year and the definitions apply to different categories—for instance, when laboratory surcharges apply to different procedures. This adjustment allows the services and payments for a specific FSC to be divided between two categories.

Adjustment D

This is the same as Adjustment B, except the service counts are revised on the basis of whether they were performed by a GP or other specialist, with a different fee for each.

Example

Fee Schedule		Calculated	Calculated Fees		
General Practitioner	\$14 per ¼ hour	General Practitioner	\$56 per hour		
Other Specialist	\$18 per 1/4 hour	Other Specialist	\$72 per hour		

Adjustment E

In many jurisdictions, physicians are entitled to premiums or additional fees for visits or procedures provided during off-hours such as evenings, nights, Saturdays, Sundays and statutory holidays, or if the visit or procedure is provided in an emergency. To eliminate double counting, these premium codes are dropped and the payment for them is added to the primary code for the visit or service.

Example

FSC 1 Surcharge for a consultation.

The special charge for out-of-hours care is subtracted from the primary count, which is under Category 1, Consultations. The subtracted payments are calculated by multiplying the service count of FSC 1 by the fee for a consultation. In CIHI reports, Category 20, Out-of-Hours/Emergency, contains the services and payments for FSC 1, plus the payments removed from Category 1.

Adjustment F

Payment for obstetrical care may be all-inclusive fees (payment for delivery or Caesarean section and for all pre- and post-natal care) or by separate fees for delivery or Caesarean section and fees for associated pre- and post-natal services. To minimize the effect of these changes on comparisons among jurisdictions and over time, all-inclusive fees are separated into pre- and post-natal visits and deliveries or Caesarean sections.

Jurisdiction-Specific Adjustments

For various reasons, several adjustments to the data are also made that do not apply consistently to each province or territory. For example, premium fees for off-hour visits and procedures are claimed in several jurisdictions. To maintain consistency, the dollar amounts for such premiums are included, but the service counts are dropped to eliminate double-counting the services.

Special Calls Adjustment

A special call is an assessment rendered following travel to attend to a patient. This will normally be initiated by someone other than the physician outside a hospital, including visits to a first patient at home, in a nursing home, rest home or other setting. A home visit will usually occur in an emergency or because of the patient's condition.

In Quebec, Atlantic Canada, Alberta and the Yukon, a consultation or assessment done normally has a different fee code from one that is a special call. In the other jurisdictions—Ontario, Manitoba, Saskatchewan and B.C.—the same fee code is used in both circumstances, but an extra surcharge with its own fee code is added in the case of a special call. So, for example, in Nova Scotia all the payments and services would fall into the special call strata, but in Ontario the payments and services would be split between consultations or assessments and special calls. This adjustment moves payments from consultations and assessments to special calls. It also deletes services in consultations and assessments there as a result of special calls.

As of 2004, only FSCs 01200, 01201 and 01202 are used in the special calls adjustment for B.C.

The special calls adjustment is done at the National Grouping System strata level and not at the detailed fee-code level.

Appendix G—Fee-for-Service Radiology and Laboratory Coverage

Radiology and laboratory services supplied to CIHI for use in the NPDB are not uniform or complete. For this reason the data are not routinely used in the NPDB publications. The following notes were provided by the provincial medical insurance plans regarding the radiology and laboratory services included in the NPDB file submissions.

Newfoundland and Labrador

- No laboratory services data are supplied to the NPDB as these services are paid for through hospital funding.
- Physicians can be paid on a fee-for-service basis for interpretation services on certain diagnostic services, such as EEGs and ECGs. These services would be included in the NPDB file submissions.

Prince Edward Island

- No laboratory services data are supplied to the NPDB as these services are paid for through hospital funding.
- Radiologists' interpretation fees are included in the NPDB file submissions.

Nova Scotia

- No laboratory services data are supplied to the NPDB as these services are paid for through hospital funding.
- The majority of radiology billings are not included in NPDB file submissions or in fee-for-service earnings.

New Brunswick

- No laboratory services data are supplied to the NPDB as these services are paid for through hospital funding.
- All radiology services are excluded from the NPDB file submissions.

Quebec

- No laboratory services are included.
- Radiology services provided by physicians in private practice are included in the NPDB file submissions.

Ontario

- Approximately 50% of all laboratory services are funded through the Ontario Health Insurance Plan (OHIP) and therefore are included in the NPDB file submissions. The remaining 50% are funded via public health (1%) and hospital global budgets (49%).
- Information on radiology services was not available.

Manitoba

- Laboratory services provided in the NPDB file submissions are those provided by privately owned fee-for-service laboratories. Laboratory services provided in urban/rural facilities are not included in the NPDB file submissions.
- Radiology services submitted include all private radiology services and all urban facility radiology services. Rural facility radiology services—approximately 11% of the total dollar value for radiology services—are not included in the NPDB file submissions.

Saskatchewan

- Since 1993–1994, the only laboratory services included in the NPDB file submissions
 are common in-office laboratory services provided by physicians other than
 pathologists. Responsibility for private laboratory services provided by specialists in
 pathology was transferred to the health regions in October 1993 and is no longer
 funded on a fee-for-service basis.
- Facility-based radiology services that are funded through the health regions are excluded from the NPDB file submissions, as are radiology services provided through the screening program for breast cancer.

Alberta

- Up to July 1, 1995, only non-hospital-based laboratory services were included.
- Only non-facility-based radiology services are included in NPDB file submissions.

British Columbia

• Laboratory and radiology services when performed on a fee-for-service outpatient basis are included in NPDB file submissions, but inpatient services are not included.

Yukon

- Only non-hospital-based laboratory services were included in the NPDB file submissions.
- Only non-hospital-based X-ray services were included in the NPDB file submission.