Ontario's Use of Funding Provided by the Federal Hepatitis C Undertaking Agreement

January 2007

Ontario

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Executive Summary

In November 2004, the Ministry of Health and Long-Term Care released the *Interim Report: Ontario's Use of Funding Provided by the Federal Hepatitis C Undertaking Agreement.* The Hepatitis C Undertaking Agreement requires Ontario to report to the public every five years over a maximum 20-year period.

This is Ontario's first report. It builds on the methodology and findings of the November 2004 interim report. The Institute for Clinical Evaluative Sciences (ICES) used anonymized Ministry of Heath and Long-Term Care databases to develop the analysis: *Population-Based Estimates Of Health Care Costs In Persons With Hepatitis C: Update To The Ministry Of Health And Long-Term Care's 2004 Interim Report* in identifying the Hepatitis C-related health care costs in this report.

Ontario signed the Federal Hepatitis C Undertaking Agreement in January 2002. The agreement seeks to:

- Address the "unique circumstances surrounding the infections of persons with Hepatitis C through the blood system before January 1, 1986 and after July 1, 1990."
- Increase "the capacity of publicly financed health care programs to ensure that all Canadians infected with Hepatitis C through the blood system have reasonable access to health care services used for the treatment of Hepatitis C."

Ontario will receive $132.6 million during the 20-year agreement – an average of $6.63 million per year. To date, Ontario has received $88.4 million and is scheduled to receive an additional $22.1 million in both 2009/10 and 2014/15. The final report on the funding will be publicly available in 2017.

While this report highlights the care Ontario provides to people infected with Hepatitis C, it is important to note that the province has provided more than $92 million in direct financial assistance to more than 3,700 people infected with Hepatitis C through the blood system in Ontario prior to 1986 and after 1990 through the Ontario Hepatitis C Assistance Plan (OHCAP).

The ICES analysis for the ministry looked at a study group of 37,920 people with Hepatitis C.
They were identified using:

- The Ontario Drug Benefit Plan database
- The Canadian Institute for Health Information Hospital Discharge Abstract Database and National Ambulatory Care Reporting System
- The Ontario Health Insurance Plan Claim database
- The Ontario Hepatitis C Assistance Plan database
- The Ontario Public Health Laboratory database

While the Ontario Hepatitis C Assistance Plan database contains members who were infected through the blood system, these databases do not identify how or when the people in the study group were infected. Thus, we cannot determine how many were infected specifically through the blood system.

The study group represents approximately 51 per cent of Ontario's 75,000 reported cases of Hepatitis C. Of this total, an estimated 14,683 – approximately 13 per cent of an estimated 110,000 people infected with Hepatitis C virus (HCV) in Ontario – were infected through transfusions or the use of hemophilia treatment products.[1]

A small number of the 14,683 with HCV were exposed through blood systems outside Ontario and Canada.

Ontario has identified more than 3,700 people infected in the pre-1986/post-1990 window through the Ontario Hepatitis C Assistance Plan and also compensated more than 1,300 people infected in the 1986-1990 window under the 1986-1990 Hepatitis C Class Action Settlement.

The ministry responded to a recommendation from the Ontario Hepatitis C Task Force appointed by the minister in 2005 with a communications campaign encouraging the estimated 35,000 people in Ontario who have not yet been diagnosed with Hepatitis C to be tested. One of the key components of the campaign was a banner advertisement that ran in 300 Ontario weekly newspapers encouraging people who may have been infected with Hepatitis C through the blood system to get tested. The Ontario Hepatitis C Task Force will continue to advise the ministry on future campaign strategies.

[1] The Epidemiology of Hepatitis C Infection in Ontario, 2004; Robert Remis MD, MPH, FRCPC.

ICES expanded the size of the group studied in the November 2004 Interim Report by adding another year of data and using probabilistic methods to add database records previously excluded because of missing health card numbers. The chart below identifies the health care services received by the study group – and total costs of these services – from April 1, 2002 to March 31, 2005:

Service Category	Low and "Definite" Expenditures (% column total)	Low/"Definite" Plus High/"Probable" Expenditures
Laboratory Tests	$22,113,666 (21.5%)	$32,347,458
Prescription Medication	$22,041,551 (21.5%)	$22,041,551
Hospital Services	$40,823,493 (39.8%)	$55,225,429
Physician Services	$17,082,833 (16.6%)	$35,976,580
Home Care Services	$285,756 (0.3%)	$430,874
Public Health Services	$281,174 (0.3%)	$281,174
Total	**$102,628,473 (100%)**	**$146,303,066**

There are two categories of expenditures:

1. Those an expert panel deemed definitely associated with Hepatitis C.
2. Those related to medical conditions, such as chronic kidney failure, which are probably – but not necessarily – associated with HCV.

"Definite" HCV-related health care expenditures totaled $102.6 million during the 36-month study period. Adding costs "probably related to HCV" brought the total to $146.3M.

The costs of Public Health Laboratory testing and antiviral drug therapy are relatively complete. However, we do not know how complete the cost estimates are for tests performed elsewhere and for hospital, physician, and home care services. For example, it is not possible to determine the numbers of screening tests performed for Hepatitis A, Hepatitis B, and Hepatitis C outside Public Health Laboratories, since these tests currently are billed under the same OHIP fee code. As a result, we estimated the frequency of Hepatitis C testing outside Public Health Laboratories using data from a Quality Management Program – Laboratory Services, Ontario Medical Association survey of private and hospital-based laboratories.

Similarly, the extent to which medical services received by persons with HCV are attributable specifically to HCV is unclear, since HCV infection is frequently associated with psychiatric disorders, substance abuse, and co-infection with HIV. Those co-infected with HIV are unlikely to receive antiviral therapy for HCV, and co-infection may accelerate the progression of HCV-related liver disease, resulting in increased costs. Thus, accurately estimating specific HCV costs requires a more sophisticated study design.

Our overall expenditures are underestimated because ICES analyses do not include costs for:

- Services for undiagnosed HCV-infected individuals
- Hospital-based chronic or long-term care services
- Treatment of liver cancer provided through Cancer Care Ontario
- Physician services for which service records are not captured

To address some of these limitations, ICES is now estimating HCV health care expenditures by comparing health care costs for HCV-infected individuals with those of a carefully-matched control group drawn from the general population. This analysis will be available in Spring 2007. Its methodology could be used in the 2012 Undertaking Report.

Background

Hepatitis C in Ontario

More than 75,000 cases of Hepatitis C in Ontario have been reported through the Ministry of Health and Long-Term Care's Integrated Public Health Information System. Additionally, there are an estimated 35,000 undiagnosed cases of Hepatitis C.[2]

For most people, Hepatitis C is a chronic disease that remains present indefinitely unless successfully treated. The current cure rate is 55 to 60 per cent. Untreated or unsuccessfully treated Hepatitis C can lead to cirrhosis, liver failure and liver cancer.

Hepatitis C primarily is transmitted through blood-to-blood contact. In Ontario, an estimated 3,400 people contract HCV each year,[3] most by sharing needles when injecting drugs. To combat this, the ministry:

- Implemented a shared provincial/municipal initiative that funds 33 needle exchange programs and their satellites.
- Introduced the Ontario Harm Reduction Distribution Program which supports the service provision of the needle exchange programs.
- Regulates and inspects tattoo parlours.
- Developed legislation to restrict acupuncture services to members of regulated health professions and those who perform acupuncture as part of an addiction treatment program within a health facility.

The existence of a non-A, non-B Hepatitis virus was postulated in 1974. The Hepatitis C virus was isolated and named in 1988 and HCV antibody screening (first generation ELISA test) of the blood supply was introduced in 1990 as soon as a licensed test became available. Second generation HCV antibody testing was introduced in 1992 and the residual risk of HCV transmission declined to 1 in 103,000 units. With the introduction of nucleic acid testing in 1999, the residual risk of HCV transmission is calculated to be 1 in 3.1 million units. There have been no reported cases of HCV being transmitted through the blood system in Canada since 1999, when the Canadian Blood Services introduced nucleic acid testing in 1999.

For more information on Hepatitis C risks go to: www.health.gov.on.ca/hepc.

Compensation and Financial Assistance

In 1998, the federal, provincial and territorial governments agreed to settle the 1986-1990 Hepatitis C Class Action Settlement. In 2000, the courts ordered these governments to contribute a maximum of $1.18 billion to settle the class action lawsuit by people infected through the Canadian blood system between 1986 and 1990.

In 1998, Ontario introduced the Ontario Hepatitis C Assistance Plan for people infected in the pre-86/post-90 window. Originally, each person received $10,000 in financial assistance, a figure that was increased to $25,000 per person in May 2000.

Federal Hepatitis C Undertaking Agreement

The Federal Hepatitis C Undertaking Agreement (see Appendix G) was signed in January 2002 by the Minister of Health and Long-Term Care. Under the agreement, the federal funds are to be used for:

> "Health care services indicated for the treatment of Hepatitis C infection, and medial conditions directly related to it, such as current and emerging antiviral drug therapies, immunization and nursing care."

[2] The Epidemiology of Hepatitis C Infection in Ontario, 2004; Robert Remis MD, MPH, FRCPC.
[3] The Epidemiology of Hepatitis C Infection in Ontario, 2004; Robert Remis MD, MPH, FRCPC.

Commenting on Ontario's November 2004 interim report, the Public Health Agency of Canada said:

> "The Interim Report is a well-designed and comprehensive study of the estimated expenditures related to HCV in Ontario. The Interim Report provides a baseline and a preliminary methodology that the Ministry of Health and Long-Term Care could use for the first five-year report to the public in 2007 on the Federal Undertaking Agreement."

Using health care costs identified in the agreement, the ministry funded the Institute for Clinical Evaluative Sciences (ICES) to analyze total expenditures. ICES is a non-profit research corporation sponsored by the ministry. It is a Prescribed Entity under Section 45 of Ontario's Personal Health Information Protection Act, allowing ICES to receive and carry out research using linked administrative health data.

Following is the ICES report:
Population-Based Estimates Of Health Care Costs In Persons With Hepatitis C: Update To The Ministry Of Health And Long-Term Care's 2004 Interim Report

Data Sources and Subjects

To estimate Hepatitis C-related health care expenditures, ICES first identified Ontario residents presumed to be infected with HCV. Provincial health administrative databases were used to identify the health insurance numbers of people who received HCV-related drugs or health services between December 1998 and March 2005.

The Databases

NOTE: The time frames varied by data source to maximize completeness and reliability.

Ontario Drug Benefits (ODB) Plan: Identified the health numbers of 2,939 people who took ODB-funded HCV-related medications (Rebetron, Pegetron, or Pegasys RBV) between April 1, 1999 – the first month such drugs were reimbursed by the ODB – and March 31, 2005.

Hospital Discharge Abstract Database (DAD) for Inpatient and Day Procedures: Identified the health numbers of 6,572 patients whose hospital admissions between April 1, 2002 and March 31, 2005 were associated with an International Classification of Diseases, 10th Revision (ICD-10) diagnosis code of Acute Hepatitis C (B17.1), Chronic Hepatitis C (B18.2), or Carrier of Hepatitis C (Z22.51). These codes were implemented April 1, 2002. Previously, hospital diagnosis codes did not uniquely identify people with HCV.

National Ambulatory Care Reporting System (NACRS): This database records information on each visit to an Ontario hospital emergency department. The NACRS database identified the unique health numbers of 4,334 people who visited an Ontario hospital emergency department from April 1, 2002 through March 31, 2005 and were given an ICD-10 diagnosis code used in our search of hospital admissions.

Ontario Health Insurance Plan (OHIP): This database records information on each physician service paid for by OHIP on a fee-for-service basis. Using this database, ICES identified the unique health numbers of 2,438 people from OHIP claims from December 1, 1998 through March 31, 2005 associated with fee codes K026 and K027. These codes identify those who are medically eligible for the Ontario Hepatitis C Assistance Plan.

Ontario Hepatitis C Assistance Plan (OHCAP): This database records information on those who applied for Ontario Hepatitis C Assistance Plan (OHCAP) funding from December 1, 1998 through March 31, 2005. It was used to identify the unique health numbers of 5,230 people, including those deemed eligible for OHCAP and those who were ineligible for funding but who could demonstrate a positive HCV test.

Public Health Laboratories (PHL) – Labyrinth: This database records information on those who have a confirmed positive HCV test. PHL-Labyrinth became operational in March 1999. A search of its records from April 1, 1999 through March 31, 2005 identified the unique health numbers of 28,450 patients.

Reportable Disease Information System (RDIS): This database does not contain identifying information at the provincial level and could not be used to identify persons with HCV. However, it was used to estimate Public Health Unit expenditures associated with HCV case management (see page 5).

The resulting list of health insurance numbers was subsequently reviewed to remove duplicates and linked to the Ontario Ministry of Health and Long-term Care (MOHLTC) Registered Persons Database (RPDB) to obtain information on the subjects' age, sex, and vital status.

Those who died prior to the beginning of the study period, April 1, 2002 (n = 1,038), were excluded; leaving a final sample of 37,920 unique health numbers for which we could assess HCV-related health service use.

All analyses were carried out by a single analyst at the Institute for Clinical Evaluative Sciences (ICES) using encrypted health numbers to protect patient confidentiality.

Of the 37,920 people studied, 28,475 (75.1 per cent) were found in just one of the 6 data sources; the most important being the Public Health Laboratory Database, which contributed more than half of the sample (see Table 1).

Table 1. Number of study subjects identified by a single data source

Data Source	Number of Subjects (%)
Hospital Discharge Abstract Database (DAD)	2,214 (5.8%)
National Ambulatory Care Reporting System (NACRS)	932 (2.5%)
Ontario Hepatitis C Assistance Plan (OHCAP) Database	2,096 (5.5%)
Ontario Hospital Insurance Plan (OHIP) Database	1,143 (3.0%)
Ontario Drug Benefits Plan (ODB) Database	924 (2.4%)
Public Health Laboratories (PHL) Database	21,166 (55.8%)
Multiple sources	9,445 (24.9%)
Total	**37,920 (100%)**

Approximately 75,000 cases of HCV have been reported to the Reportable Disease Information System (RDIS) in Ontario. We estimate there are an additional 35,000 to 60,000 undiagnosed cases in Ontario.

Using the 75,000 reported cases as a conservative estimate, our study cohort represents approximately 51 per cent of Ontarians known to have Hepatitis C. While this is a large percentage, it is unlikely our study group is representative of the entire HCV-infected population, since we identified subjects through their use of health services during a defined time period.

Table 2 shows:
- 63.1 per cent of cohort members were male – the significantly greater percentage of males in the 20 to 64 age group probably is due to the greater number of males who injected drugs in the 1960s and 1970s.
- 88.3 per cent of cohort members were between age 20 and 64.

This profile is similar to that of the entire HCV-infected population in Ontario, and comparable to those in Europe and the United States.
- 7.0 per cent (2,643) of study subjects died by March 31, 2005.

Table 2. Age and sex distribution of cohort members

Characteristic			
Age (as of April 1, 2002)		Sex	
Category (years)	n (%)	Female n (% row, % column total)	Male n (% row, % column total)
0-19	758 (2.0)	380 (50.1, 2.7)	378 (49.9, 1.6)
20-44	18,630 (49.1)	6,636 (35.6, 47.5)	11,994 (64.4, 50.1)
45-64	14,878 (39.2)	4,955 (33.3, 35.5)	9,923 (66.7, 41.5)
65-74	2,106 (5.6)	1,122 (53.3, 8.0)	984 (46.7, 4.1)
75 and older	1,537 (4.1)	885 (57.6, 6.3)	652 (42.4, 2.7)
Total	**37,909* (100%)**	**13,978 (36.9)**	**23,931 (63.1)**

* Complete demographic data were unavailable for 11 individuals.

Health Services Utilization and Expenditures

Health insurance numbers were used to identify the publicly-funded health services that subjects received during the three years (April 1, 2002 through March 31, 2005) following the Federal Hepatitis C Undertaking Agreement. Here is a summary of the types of health services studied, how they were identified and how costs were determined.

Laboratory Tests

HCV screening test expenditures for 2002/03 through 2004/05 were based on the estimated monthly number of HCV antibody tests performed in Public Health Laboratories, Private Laboratories, and Hospital Laboratories and the estimated cost per test (see Appendix A). These tests are used to determine whether a person has antibodies to HCV. Not everyone who receives these tests is found to be HCV positive. Table 3 gives expenditure estimates by year.

Table 3. Estimated HCV antibody screening test expenditures, 2002/03-2004/05

Laboratory Type	Expenditure Range	
	Low Estimate	High Estimate
Private	$8,653,248	$17,202,240
Hospital	$1,641,600	$3,326,400
Public Health	$2,764,368	$2,764,368
Total	**$13,059,216**	**$23,293,008**

Individuals found to be HCV antibody positive then receive additional confirmatory testing from Public Health Laboratories using supplemental HCV antibody tests such as Anti-HCV (Bayer) or Line Immunoassay tests (Innogenetics), Hepatitis C genotyping (Innogenetics), and HCV qualitative or quantitative RNA tests (Roche). Expenditures associated with these tests for 2002/03 through 2004/05 are based on the number of tests performed by Public Health Laboratories each year and the cost per test (see Appendix B) – Table 4.

Table 4. Additional HCV laboratory test expenditures by year

Fiscal Year	Expenditures
2002/03	$2,916,629
2003/04	$3,109,658
2004/05	$3,028,163
Total	**$9,054,450**

HCV-related Medications Paid by the Ontario Drug Benefit Program (ODB)

ODB expenditures reflect the total cost of prescriptions for Rebetron, Pegetron, and Pegasys RBV filled from 2002/03 through 2004/05. The ministry placed these medications on the ODB formulary in May 1999, March 2003, and December 2004, respectively. Table 5 reports these expenditures by year.

Table 5. HCV-related ODB expenditures by year

Fiscal Year	Expenditures
2002/03	$4,807,029
2003/04	$7,718,458
2004/05	$9,771,730
Total	**$22,041,551**

Hospital (Inpatient, Day Surgery, and Emergency Department) Services

Initially, subjects' inpatient, day surgery, and emergency department visits between April 1, 2002 and March 31, 2005 were selected from the Hospital Discharge Abstract Database (DAD) and National Ambulatory Care Reporting System (NACRS).

Records with "definite" diagnoses and/or procedures were then used to estimate the "definite" expenditures using case weights (an assigned value based on the historic amount of resources required for individuals associated with a particular diagnosis or procedure) and case costs.

- Inpatient case costs were based on the case weights and a unit cost of $3,600 (derived from 2002/03 hospital inpatient acute care expenses)
- Day procedure costs were estimated using a cost per case of $543 (Finance and Information Management Branch, 2002/03)
- Emergency department costs were estimated using a cost per visit of $139 (Finance and Information Management Branch, 2003/04)

"Probable" expenditures (based on procedures and diagnoses that are probably, but not necessarily, associated with HCV) were calculated using the same case weights, but at half the cost of "definite" cases. This method provided a conservative estimate of costs of HCV care where HCV may not be the primary reason for the patient's visit. Where relevant procedures and diagnoses were both present for a visit but were classified differently (i.e., one definitely and one probably related to HCV care), the service was defined as definitely HCV related. Table 6 gives the resulting expenditure estimates by year.

Table 6. Estimated HCV-related hospital expenditures by year

Fiscal Year	Definitely HCV Related	Probably HCV Related	Total
2002/03	$13,686,349	$4,914,511	$18,600,860
2003/04	$13,922,975	$4,809,818	$18,732,793
2004/05	$13,214,169	$4,677,607	$17,891,776
Total	**$40,823,493**	**$14,401,936**	**$55,225,429**

Physician Services Paid by the Ontario Health Insurance Plan (OHIP)

We reviewed all OHIP claims for services delivered to subjects from April 2002 through March 2005. Clinical experts then identified the fee schedule and diagnosis codes that were definitely or probably associated with HCV care (see Appendix D).

Payments for claims with "definite" codes were then used to estimate "definite" expenditures. "Probable" expenditures were calculated using the same method, but applying half the payment recorded in the OHIP database. For physicians who use "shadow billings" to record services provided through alternate (non fee-for-service) payment plans, we used the average payment to fee-for-service physicians for the relevant fee code. Where an average could not be calculated, the fee recorded in the OHIP Schedule of Benefits was used. Table 7 gives the resulting expenditure estimates by year.

Table 7. Estimated HCV-related OHIP expenditures by year

Fiscal Year	Definitely HCV Related	Probably HCV Related	Total
2002/03	$5,227,599	$5,820,648	$11,048,247
2003/04	$5,868,421	$6,385,137	$12,253,558
2004/05	$5,986,813	$6,687,962	$12,674,775
Total	**$17,082,833**	**$18,893,747**	**$35,976,580**

Home Care Services

We reviewed all subjects' service records within the Ontario Home Care Administrative System (OHCAS) between April 1, 2002 and March 31, 2005. Clinical experts identified the diagnosis and procedure codes that were definitely or probably associated with HCV care (see Appendix E). Cases with "definite" codes were used to estimate "definite" expenditures. "Probable" expenditures were identified in the same way, but were assigned half the cost of "definite" services. Only nursing and homemaking services were considered: nursing visits at $54 per visit; homemaking services at $23 per hour. (Finance and Information Management Branch, 2002/03 Community Care Access Centre Summary Report) Table 8 gives the expenditure estimates by year.

Table 8. Estimated HCV-related home care expenditures by year

Fiscal Year	Definitely HCV Related	Probably HCV Related	Total
2002/03	$60,257	$46,294	$106,551
2003/04	$113,753	$49,097	$162,849
2004/05	$111,746	$49,728	$161,474
Total	**$285,756**	**$145,118**	**$430,874**

Public Health Unit Services

Although numerous Public Health Unit activities are associated with HCV (see Appendix F), case management activities – including the time required to enter data into the RDIS – represents an important percentage of these costs. We estimated that these activities required approximately one hour of nursing time per case. Annual expenditures were then computed using the total number of cases entered to RDIS each year and an average hourly rate of $37 (based on a public health nursing salary of $60,000 plus 20% benefits divided by 1,950 hours per year). Ontario funds approximately 50 per cent of Public Health Unit expenditures, so annual totals were then halved. The results are presented in Table 9.

Table 9. Estimated Public Health Unit expenditures for HCV case management

Fiscal Year	Number of HCV Cases Entered into the RDIS	Expenditures Funded Provincially (50% of total)
2002/03	5,591	$97,843
2003/04	5,255	$91,963
2004/05	5,221	$91,368
Total	**16,067**	**$281,174**

Total HCV-Related Health Care Expenditures

The expenditures for screening tests and subjects' HCV-related health services for the period 2002/03 through 2004/05 total between $102 million and $146 million (see Table 10).

Table 10. Summary of HCV-related health care expenditures, April 1, 2002 – March 31, 2005

Service Category	Low and "Definite" Expenditures (% column total)	Low/"Definite" Plus High/"Probable" Expenditures
Laboratory Tests	$22,113,666 (21.5%)	$32,347,458
Prescription Medication	$22,041,551 (21.5%)	$22,041,551
Hospital Services	$40,823,493 (39.8%)	$55,225,429
Physician Services	$17,082,833 (16.6%)	$35,976,580
Home Care Services	$285,756 (0.3%)	$430,874
Public Health Services	$281,174 (0.3%)	$281,174
Total	**$102,628,473 (100%)**	**$146,303,066**

Limitations

This study has several important limitations.

Although the identification of the expenditures for Public Health Laboratory testing and antiviral drug therapy is relatively complete, we don't know how complete are the cost estimates for hospital, physician, and home care services and for tests performed elsewhere. For example, outside of Public Health Laboratories, we cannot determine the number of screening tests performed for Hepatitis A, Hepatitis B, and Hepatitis C, since these are currently billed under the same OHIP fee code. Here we estimated the frequency of Hepatitis C testing outside of Public Health Laboratories by using data from the Quality Management Program – Laboratory Services, Ontario Medical Association survey of private and hospital-based laboratories.

Similarly, the extent to which medical services received by persons with HCV are attributable specifically to HCV is unclear, since HCV infection is frequently associated with psychiatric disorders, substance abuse, and co-infection with HIV. Those co-infected with HIV are unlikely to receive antiviral therapy for HCV, and co-infection may accelerate the progression of HCV-related liver disease, resulting in increased costs. Thus, accurately estimating which costs are attributable specifically to HCV requires a more sophisticated study design.

Our overall expenditures are underestimated because our analyses do not include costs for:

- Hospital-based chronic or long-term-care services
- Treatment of liver cancer provided through Cancer Care Ontario
- Physician services for which service records are not captured, and most importantly,
- Services for undiagnosed HCV-infected individuals

Finally, though our study sample was large – approximately 51 per cent of the total population of those diagnosed with HCV – it is unlikely to be representative of an average person with Hepatitis C, since subjects were identified based on their use of health services. Consequently, our subjects may be relatively less healthy and more likely to consume health care resources.

Appendices

Appendix A

Estimated Monthly Number and Cost of Hepatitis C Antibody Screening Tests (Anti-HCV mEIA) Performed in Ontario Private, Hospital, and Public Health Laboratories (excluding Canadian Blood Services), 2002-2004

Laboratory Type	Estimated Number of Tests (and Costs) per Month	
	Low Estimate	High Estimate
Private[1]	16,600 ($240,368)	33,000 ($477,840)
Hospital[1]	3,800 ($45,600)	7,700 ($92,400)
Public Health[2]	6,399 ($76,788)	6,399 ($76,788)
Total	**26,799 ($362,756)**	**47,099 ($647,028)**

Sources:
[1] Quality Management Program – Laboratory Services, Ontario Medical Association; Estimated cost per test: Private (OHIP-paid), $14.48; Hospital, $12.
[2] Public Health Laboratories Branch, Ontario Ministry of Health and Long-Term Care (see Appendix B).

Appendix B

Number and Cost of Hepatitis C-related Tests Performed in Ontario Public Health Laboratories by Fiscal Year

Test Type (and Unit Cost)	Number of Tests			Cost ($)		
	2003	2004	2005	2003	2004	2005
HCV genotyping ($150)	4,636	5,034	4,354	695,400	755,100	653,100
Anti-HCV mEIA ($12) *Note: Source of figures for Appendix A, above*	70,912	76,169	83,269	850,944	914,028	999,228
Supplemental HCV antibody ($60)	1,967	2,141	2,639	118,020	128,460	158,340
HCV qualitative RNA ($100)	5,587	5,316	5,034	558,700	531,600	503,400
Anti-HCV-UBI, Organon ($15)	10,040	0	0	150,600	0	0
Anti-HCV – Sanofi ($15)	2,891	10,338	9,753	43,365	155,070	146,295
HCV quantitative RNA ($100)	4,996	6,254	5,678	499,600	625,400	567,800
Total	**101,029**	**105,252**	**110,727**	**2,916,629**	**3,109,658**	**3,028,163**

Appendix C

Most Responsible diagnoses identified as definitely and possibly related to the treatment of HCV
Principal Procedure codes identified as definitely and possibly related to the treatment of HCV
(Codes available upon request)

Appendix D

OHIP diagnosis codes identified as definitely and possibly related to the treatment of HCV
OHIP fee codes identified as definitely and possibly related to the treatment of HCV
(Codes available upon request)

Appendix E

OHCAS diagnosis codes identified as definitely and possibly related to the treatment of HCV
OHCAS procedure codes identified as definitely and possibly related to the treatment of HCV
(Codes available upon request)

Appendix F

Examples of Public Health Unit Activities related to Hepatitis C
(Source: York Region Health Services)

Case Management

- Receive and process Hepatitis C positive laboratory reports for residents of Region
- Surveillance by letter to doctors
- Data entry of case information to the provincial Reportable Disease Information System
- Providing education packages to clients
- Forwarding information to Canadian Blood Services regarding past transfusions or blood donations in Canada
- Consultation with clients and doctors in relation to surveillance

Client Services

- Phone counseling/consultation with people affected by Hepatitis C (e.g., clients, doctors, employers, long-term care facilities, family/friends, etc.)
- Promotion and provision of Hepatitis A/B vaccine to people with Hepatitis C
- Counseling, assessment of risk factors and testing for Hepatitis C through Sexual Health and Sexually Transmitted Infection clinics

Disease Prevention/Health Promotion

- Education Forums for doctors in Region
- Provision of educational materials, workshops to community organizations and employers
- Needle exchange services through local outreach and a methadone clinic
- Promotion of local Hepatitis C chapter meetings through regional media outlets
- Education of emergency services workers about Hepatitis C
- Public education through a Sexual Health Information telephone line

Appendix G

Federal Hepatitis C Undertaking Agreement

Ministry of Health and Long-Term Care

Office of the Minister

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JAN 1 4 2002

To Whom It May Concern:

This letter must remain attached to the Hepatitis C Undertaking Agreement, which I have signed on behalf of the Province of Ontario.

The signing of this agreement is based on the understanding that the reference to 'the public' in Section 4.1 means 'residents of Ontario'.

Yours very truly,

Tony Clement
Minister

UNDERTAKING

WHEREAS the Federal, Provincial and Territorial Ministers of Health announced on March 27, 1998 an offer of financial assistance for persons infected with Hepatitis C through the blood system between January 1, 1986 and July 1, 1990, and

WHEREAS the Governments of Canada wish to address the unique circumstances surrounding the infections of persons with Hepatitis C through the blood supply system before January 1, 1986 and after July 1, 1990, and

WHEREAS there are health care services for Hepatitis C that are not fully insured by publicly financed health care systems in Canada; and

WHEREAS the Governments of Canada aim to increase the capacity of publicly financed health care programs to ensure that all Canadians infected with Hepatitis C through the blood system have reasonable access to health care services used for the treatment of Hepatitis C, and

WHEREAS the Government of Canada is prepared to transfer to Provinces and Territories up to $300 million over a maximum of 20 years for publicly-financed health care services for the treatment of Hepatitis C, and

WHEREAS the Government of Ontario has agreed to accept financial transfers from the Government of Canada to assist in funding health care services for the treatment of Hepatitis C,

THEREFORE the Government of Ontario undertakes to use financial transfers provided pursuant to the present Undertaking as follows:

1. SHARED OBJECTIVES

1.1 The parties agree that their shared policy objective is to ensure that persons infected with Hepatitis C through the blood system prior to January 1, 1986 and after July 1, 1990 have reasonable access to therapeutic health care services indicated for the treatment/cure of Hepatitis C.

2. FINANCIAL TRANSFERS

2.1 To achieve the objectives described in clause 1.1., the Government of Canada will transfer $X in 2000-01, payments of $Y in 2001-02 , 2002-03 and 2003-04, and payments of $Z in 2004-05, 2009-10 and 2014-15, subject to the provisions of the present Undertaking and upon necessary approvals of Parliament and the Treasury Board of Canada.

2.2 The federal contribution will be allocated to a participating jurisdiction on the basis of its percentage of national infection estimated by Health Canada as validated by independent experts and described in Annex A.

2.3 The levels and/or inter-jurisdictional allocation of Federal funding may be adjusted to reflect increases in knowledge about the numbers of individuals infected with Hepatitis C throughout Canada.

3. SERVICES

3.1 The parties agree that the federal transfers will be used for health care services indicated for the treatment of Hepatitis C infection, and medical conditions directly related to it, such as current and emerging antiviral drug therapies, other relevant drug therapies, immunization and nursing care.

3.2 The parties acknowledge that these services will be provided such that there will be reasonable access to them by persons infected with Hepatitis C through the blood supply system before January 1, 1986 and after July 1, 1990.

3.3 Provinces and territories may endeavour to meet the shared policy objectives described in Clause 1.1 using the administrative means considered by them to be most appropriate.

3.4 The Government of Ontario agrees that any new programs funded in part pursuant to the present Undertaking in pursuit of the shared policy objectives described in Clause 1.1, will not require or allow a period of residence in the province to be set as a condition of eligibility for the receipt of program benefits.

3.5 Nothing in this document shall alter or diminish current federal programs and/or funding for health services for First Nations and Inuit people.

4. ACCOUNTABILITY FRAMEWORK

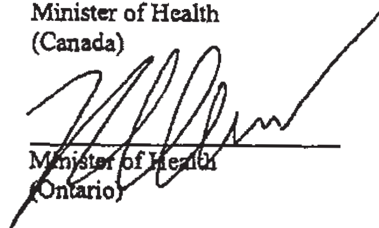
4.1 The Government of Ontario will prepare commencing 5 years from the date of execution of this agreement and every 5 years thereafter for as long as transfers continue, reports to the public on the nature of initiatives benefiting from federal funding pursuant to Clause 1.1.

4.2 The Government of Canada may reduce, adjust or terminate funding to the Government of Ontario if the Government of Ontario has not endeavoured to meet the objectives set out herein.

SIGNED on behalf of the Government of Canada at__________this ____ day of __________ 1999.

____
Minister of Health (Canada)

SIGNED on behalf of the Government of Ontario at__________this 14 day of January ~~1999~~. 2002



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Minister of Health (Ontario)

ANNEX A

HCV Services Undertaking
Possible Allocation of $300M by Province Under Federal Proposal
Payment Stream
(in $millions)

	BC	AB	SK	MN	ON	QC	NB	NS	PEI	NF	YK	NWT	Total
%	22	10.6	1.8	2.6	44.2	15.2	1.2	2.0	0.1	0.2	NA	NA	
Year													
99-03	33.00	15.9	2.7	3.9	66.30	22.80	1.80	3.00	0.30	0.30	0.10	0.183	150
99/00	11.00	5.30	0.90	1.30	22.10	7.60	0.60	1.00	0.30	0.30	0.10	0.183	50
00/01	5.50	2.70	0.45	0.65	11.05	3.80	0.30	0.50	--	--	--	--	25
01/02	5.50	2.70	0.45	0.65	11.05	3.80	0.30	0.50	--	--	--	--	25
02/03	5.50	2.70	0.45	0.65	11.05	3.80	0.30	0.50	--	--	--	--	25
03/04	5.50	2.70	0.45	0.65	11.05	3.80	0.30	0.50	--	--	--	--	25
04/05	11.00	5.30	0.90	1.30	22.10	7.60	0.60	1.00	--	0.30	--	--	50
09/10	11.00	5.30	0.90	1.30	22.10	7.60	0.60	1.00	--	--	--	--	50
14/15	11.00	5.30	0.90	1.30	22.10	7.60	0.60	1.00	--	--	--	--	50
Total	66.00	31.80	5.40	7.80	132.60	45.60	3.60	6.00	0.30	0.60	0.10	0.183	300

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