

# Addiction Treatment Indicators in Canada: An Environmental Scan

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## Abstract

This paper presents a scan of the addiction treatment sector in Canada. It presents a descriptive analysis of health service delivery systems and of the addiction treatment data collected by major providers of these services. The goal is to develop recommendations for the creation of a national addiction treatment data collection and analysis system in Canada. The first part of this paper (Background) describes current efforts to reform the health care sector in Canada, and discusses the role of information technology in those reforms. The second part surveys the current organization of health service delivery systems across Canada, presents information on the data elements collected by the major addiction treatment providers, and describes the data systems used for these purposes. The third part presents recommendations for the creation of a national-level addiction treatment data collection system for Canada.

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## Introduction

This paper presents a scan of the addiction treatment sector in Canada. It presents a descriptive analysis of health service delivery systems and of the addiction treatment data collected by major providers of these services. The goal is to develop recommendations for the creation of a national addiction treatment data collection and analysis system in Canada.

The first part of this paper (Background) describes current efforts to reform the health care sector in Canada, and discusses the role of information technology in those reforms. The second part surveys the current organization of health service delivery systems across Canada, presents information on the data elements collected by the major addiction treatment providers, and describes the data systems used for these purposes. The third part presents recommendations for the creation of a national-level addiction treatment data collection system for Canada.

## Background: Health Care Reform and the Role of Health Info-structure

The Canadian health care system is undergoing significant restructuring and reform. The need for change is driven largely by sharply escalating health care costs that threaten to endanger the fiscal solvency of some provincial and territorial governments. Health care reform in Canada involves the following themes:

- decentralization of authority and the regionalization of service delivery through the creation of Regional Health Authorities (RHAs);
- increased emphasis on evidence-based decision making and the development of a more cost-effective and accountable health system;
- a shift from institutional care and a focus on illness, to community-based services and a focus on wellness;
- integration of agencies, programs and services to create a seamless continuum of health services and to reduce duplication and overlap;
- a move toward client-centred services;
- an emphasis on health promotion/disease prevention, and on promoting individual responsibility for health (CIHI, 2000b:1).

One element common to all of these themes is information. Implementation of these reforms will be greatly facilitated by the effective collection, management, analysis and sharing of health information at all levels of organization (local, regional, provincial/territorial and national).

As early as 1995, it was recognized that the health care sector in Canada was lagging in its use of information and communication technology, and that large investments would be required to ensure the sustainability of the Canadian medicare system (Information Highway Advisory Council & Industry Canada, 1995). More recent assessments of health care in Canada have concluded that the ability to collect, manage, analyze and share health-related information will be a necessary part of any attempt to improve the effectiveness and efficiency of this sector (Romanow Commission, 2002; Senate Standing Committee on Social Affairs, Science and Technology, 2002, 2001). Lewis and Kouri (2004) state the problem this way:

Among the unfinished business [related to health care reform] is the transition to a more evidence-based system based on comprehensive, accurate and timely information. Regional Health Authorities need a licence, better, a mandate to devote major resources to these foundations of quality improvement. Some, such as Calgary, spend close to 5% on [data collection and analysis], but the national norm is closer to 2-3%. The best American non-profit Health Maintenance Organizations (HMOs)...spend up to 10% on information technology alone and additional amounts on research and analysis. Canadians tend to think that money spent on anything but direct patient care is unproductive overhead; this mentality must change if regionalization, or any other approach, is to improve quality and efficiency (p. 29).

Calls for investments in “health info-structure,” as these activities have come to be known, have not gone unheeded. In 1997, the federal government allocated \$50 million over three years to promote the development of a pan-Canadian Health Information System. It created the Office of Health and the Information Highway (now the Health and Information Highway Division) within Health Canada to coordinate Federal efforts. In 1999, the federal government allocated an additional \$95 million to fund the Health Information Roadmap Initiative, a collaborative venture between Health Canada, Statistics Canada, and the Canadian Institute for Health Information (CIHI) to provide ongoing assessments of the health of Canadians and of the health of Canada’s health care system.

That same year, the government funded the Canadian Health Network, a telehealth initiative to increase health awareness among the general public. In 2000, Canada Health Infoway, a major non-profit corporation, was created to accelerate the implementation of electronic health records and promote the modernization and expansion of health info-structure. As of 2004–05, Canada Health Infoway has received a total of \$1.11 billion in federal funding. Its mandate has expanded to include promotion of telehealth initiatives and the development of a national health surveillance system. Since 1997, the federal government has allocated over \$1.5 billion to the development of health info-structure in Canada.<sup>1</sup>

The need for major investments in health info-structure is now widely recognized. But the addictions field, the “stepchild” of the Canadian health care system, has largely been excluded from these initiatives. Indeed, several recent assessments of the addictions domain have commented on the lack of standardized, comparable data on which to base effective treatment, policy or planning decisions, especially at the national level (Senate Standing Committee on Social Affairs, Science and Technology, 2004; Senate Special Committee on Illicit Drugs, 2001; Auditor General of Canada, 2001; CIHI, 2000a, 2000b).<sup>2</sup> While some national-level data related to addiction treatment are available through hospitals and other institutional sources (CIHI, 2001), these data are incomplete—they do not capture information on treatment provided in community-based programs, the most common delivery mode for addiction treatment services (inpatient as well as outpatient) in Canada.

### **Addiction Treatment Organization and Data Collection in Canada**

As it is for most health issues, Canada’s response to addictions is organized mainly at the provincial/territorial level. (Certain populations—federal prisoners, First Nations and Inuit peoples, and members of the Canadian Forces—are served through federal programs.) Every province and territory provides addiction services, but since each system was developed independently, policies, funding and service delivery models vary significantly. Addiction treatment encompasses a range of services: inpatient and ambulatory services in psychiatric or general hospitals; services delivered through community-based treatment programs; crisis response and emergency services; and services provided by general practitioners, psychiatrists, psychologists and social workers. The mix of treatment delivered by hospitals, general practitioners (GPs) and community treatment programs varies by jurisdiction. Some systems emphasize hospital/GP/health professional delivery; others emphasize community-based treatment programs.

<sup>1</sup> The provinces and territories are also investing significantly in the development of health info-structure within their jurisdictions. Summaries of provincial and territorial health info-structure initiatives are available at [http://www.hc-sc.gc.ca/ohih-bsj/chics/pt/index\\_e.html](http://www.hc-sc.gc.ca/ohih-bsj/chics/pt/index_e.html)

<sup>2</sup> In the mid-1990s, a Federal, Provincial and Territorial (FTP) Committee within Health Canada discussed the topic of creating a standardized national system for addiction-specific treatment information collection and analysis, but dropped the issue once the scale of the work involved became apparent. More recently, researchers at the Canadian Institute of Health Information (CIHI) revisited this issue in several research reports (CIHI, 2000a, 2000b), but no direct action to create national standards has occurred as a result of these efforts.

All provinces and territories collect, manage and analyze data related to addictions, although the sophistication of their efforts varies. In Canada, three provinces have dedicated addiction organizations: Alberta, Manitoba, and Ontario. The health services delivery models and addiction data collection and management systems for each of the major service providers in Canada are described below:

**ALBERTA (AB) (2003 population estimate: 3,158,600)**

In Alberta, the Alberta Alcohol and Drug Abuse Commission is mandated by the *Alcohol and Drug Abuse Act* to operate and fund services addressing alcohol, other drug and gambling problems, and to conduct related research. A Board of up to 12 Commissioners governs the Commission and the Chair is a Member of the Legislative Assembly reporting to the Minister of Health and Wellness. The Commission Board provides policy direction for AADAC’s programs and services.

AADAC offers information, prevention and treatment services in 49 Alberta communities through a network of urban clinics, residential treatment facilities and rural area offices. The agency also funds treatment through approximately 30 independent community-based partners. In 2003–04, AADAC admitted 29,847 clients for treatment related to alcohol, other drugs or problem gambling. In 2003-04, AADAC’s budget was approximately \$59.96 million.<sup>3</sup>

AADAC uses two systems to collect and manage data related to addiction treatment:

- The AADAC System for Information and Service Tracking (ASIST) collects data from AADAC’s dedicated addiction treatment facilities.
- The Interim Corporate Reporting (ICR) system collects and manages information from the community-based treatment programs funded wholly or partially through AADAC.

The ASIST system, an electronic Internet-based data collection system based on Microsoft SQL database software, became operational in 2002-03. ASIST collects the following data elements for treatment services:

Data Type	Elements Collected
service data	type of service received, whether for own use or others, referral source, hours of treatment service received (by client type and service type), show rate at outpatient treatment, reason for service end, feedback on access to service
client data	name, address, gender, date of birth, marital status, cultural identity, education level, student status, employment status, usual occupation
substance use/ gambling data	area for treatment (alcohol, tobacco, other drugs, problem gambling), substances used in the last 12 months, substances of concern in the last 12 months, gambling participation in the last 12 months, gambling concerns in the last 12 months, lifetime injection drug use, injection drug use in the last 12 months
assessment instruments employed	Alcohol Dependence Scale (ADS), Alcohol Addiction Severity (AAS), Drug Abuse Screening Test (DAST), Drug Addiction Severity (DAS), Gambling Addiction Severity (GAS), South Oaks Gambling Screen (SOGS), Social Stability Index (SSI)

The ICR system collects more limited service, client and substance use/problem gambling data from AADAC’s community partners. ICR is currently a paper-based collection system. AADAC research staff collate and enter data into SPSS for analysis.

AADAC’s plans for addiction treatment data collection and analysis are to continue to improve the efficiency of data entry and data integrity of the ASIST system. In addition, on April 1, 2005 the Service Tracking and Outcomes Reporting (STOR) system replaced the ICR system for collecting treatment data from AADAC’s community partners. STOR includes more demographic variables (i.e., marital status, education, employment status, cultural identity and occupation) as well as information on alcohol and other drug use and problem gambling. Like the ICR, the STOR system is paper-based, but allows for data to be scanned rather than entered by hand.

<sup>3</sup> AADAC’s community-based treatment partners admitted an additional 7,595 clients to treatment in 2003–04. There is no way to identify new clients from those returning to treatment in the Interim Corporate Reporting system, so this number represents total admissions for AADAC’s partners. It may double-count clients who entered treatment in one of AADAC’s facilities.

**BRITISH COLUMBIA (BC) (population: 4,152,300)**

The health service system in British Columbia is managed by the Ministry of Health Services. This is the only province with a Minister of State for Mental Health and Addictions. In 2002, BC reorganized its health service delivery system by replacing the previous system of 52 local health authorities with five Regional Health Authorities (RHAs) and one Provincial Health Authority (PHA). The five RHAs are further divided into 15 health service delivery areas that reflect the province’s geography, as well as patient and physician referral patterns. In 2003, the province combined mental health and addictions into a single portfolio within this new service delivery structure. The five geographic RHAs deliver addiction treatment in their service areas.<sup>4</sup> In 2003–04, BC allocated approximately \$64 million to addictions (excluding problem gambling).

BC currently uses the Addictions Information Management System (AIMS) to collect and manage data related to addiction treatment in the province. This electronic system was developed by the Ministry of Children and Families (now the Ministry of Children and Family Development), which was responsible for the addictions portfolio in BC from 1995 to 2002. In 2002, administrative responsibility for mental health and addictions was transferred to the Ministry of Health Services. Responsibility for AIMS was moved to the newly created Mental Health and Addictions Division. Responsibility for data collection and reporting on addiction treatment was devolved to the RHAs when the health services system was regionalized in 2003.<sup>5</sup> The AIMS system collects the following data elements:

Data Type	Elements Collected
service data	date of intake, date of assessment service, program/service type, regional office/district, agency, intake completed by (name), date of transfer, transferred to program, referral source
client data	name, postal code, date of birth, gender, health number, primary language, band member (yes or no), band name, live on reserve (yes or no), education level, current employment status, charged under the <i>Young Offenders Act</i> , alcohol- or drug-related charges, marital status, number of children, number of dependent children, date of last visit to doctor, hospitalization due to alcohol/drugs, currently pregnant (yes or no), practise safe sex, thoughts of suicide, suicide attempts
substance use/gambling data	client’s presenting problem, current/previous family problems with alcohol, drugs or problem gambling, use of alcohol, frequency of alcohol use at intake, medication(s) taken (yes or no), name(s) of medication taken
assessment instruments employed	Medical Triggers Screening Tool, Michigan Alcohol Screening Test (MAST)-10, Drug Abuse Screening Test (DAST), Initial Gambling Screen

In 2002 and 2003, BC expended considerable effort to identify Minimum Reporting Requirements (MRRs) in the area of mental health based on well-articulated health service management information needs. The province then used these to develop the Mental Health Ambulatory Minimum Reporting Requirements (MH-MRR) (BC Ministry of Health Services, 2003). The MH-MRRs identify specific data elements that the Regional Health Authorities (RHAs) in BC are required to collect and share with the Ministry of Health Services as part of their regular reporting processes. The Mental Health and Addictions Division within the Ministry of Health is now working on setting out additional data elements related to addictions. This will serve as the basis for standardized reporting requirements between the RHAs and the Ministry of Health Services in the domain of addiction services. The data elements in BC’s addiction MRRs are listed in footnote 24.

4 Although mental health and addictions have been integrated administratively in BC, integration of clinical programs has not progressed as far. Of the five RHAs in BC, the Vancouver Coastal Health Authority (VCHA) is the most advanced in the clinical integration of mental health and addiction services. Since the integration of these two service domains appears to be a growing trend in Canada, it will be important to monitor developments and outcomes in the VCHA to provide much-needed empirical validation of the utility of the integrated approach to mental health and addiction service delivery.

5 The five Regional Health authorities in BC are responsible for collecting data related to addictions, based on Minimum Reporting Requirements (MRRs) that are currently being finalized by the Ministry of Health Services. The province has taken the position that as long as the RHAs deliver the required data to the Ministry in an electronic format that is compatible with the province’s data management system, it does not care what data collection system the RHAs use to collect it. Thus, the Addictions Information Management System (AIMS) system is likely to be replaced with IT systems developed by the individual RHAs in the near future. Indeed, reporting based on the AIMS system has become sporadic in recent years as the RHAs prepare to deploy their own data collection systems and move to the Minimum Reporting Requirements (MRRs). The Vancouver Coastal Health Authority, for example, began roll out of the Primary Access Regional Information System (PARIS) client data management system in 2002. This system collects data from virtually all publicly funded social and health service providers operating in the Health Authority, including addiction treatment providers. A second phase of PARIS currently being implemented will automate processes such as client assessments, care planning, service scheduling, chart tracking and immunization management across all social and health service domains in the Health Authority.

**MANITOBA (MB) (population: 1,161,600)**

The Ministry of Health manages most health services in Manitoba, and it administers them through 11 Regional Health Authorities. Like Alberta, Manitoba has a dedicated substance abuse organization at the provincial level: the Addictions Foundation of Manitoba (AFM). AFM is a Crown agency that reports to the Minister for Healthy Living, who is responsible for the delivery of addictions treatment in the province and for conducting research related to addictions. AFM is organized into three regions (Winnipeg, Northern and Western), and provides treatment services from 23 facilities throughout the province. AFM’s annual budget is approximately \$17 million per year. In 2003–04, 9,788 new clients were admitted for treatment for alcohol, drugs or problem gambling.

Addiction treatment data is collected by AFM through a paper-based system and entered into an SPSS database through optical scanning of specially prepared “Teleforms.” The most common data elements collected from this system are described below:<sup>6</sup>

<b>Data Type</b>	<b>Elements Collected</b>
service data	date of intake, date of assessment, file/case number, program/service type, office, region, intake completed by, referral source, date of transfer, transferred to (program), date of discharge, reason for discharge, ongoing rehabilitation plan (yes or no), referral to external source (code), number of community-based sessions attended, number of residential sessions attended
client data	name, address, home and work telephone numbers, date of birth, age, gender, health number, highest education level, current employment status, client rating of employment status, occupation, household income, client rating of financial status, primary/preferred language, Aboriginal ancestry (yes or no), live on reserve (yes or no), Band name, present charges/court appearances, probation/parole status, client rating of criminal justice involvement, previous physical or sexual abuse, alcohol-/drug-related charges, client state of change on transfer, record of stage of change, current living arrangements, client rating of housing conditions, thoughts of suicide, client rating of emotional/mental health, previous/current health problems, client rating of physical health, history of depression or anxiety, previously seen for mental/health emotional issues (yes or no), prescribed medication (yes or no), hospitalization for mental health problems (yes or no), thoughts or attempts at self-harm, suicide attempts, number of suicide attempts, using alcohol/drugs at the time of last suicide attempt, client rating of social conditions

substance use/ gambling data	client’s presenting problem, current/previous family problems with alcohol, drugs or gambling, current use of tobacco, use of alcohol (in last 45 days), frequency of alcohol use (intake), physical effects due to alcohol, negative consequences due to alcohol, drug use (yes or no), types of drug use, frequency of drug use, client rating of alcohol/drug use, negative consequences due to gambling, previous attempts to quit/cut down on alcohol/drug use or gambling, previous addiction rehabilitation program, previous/current self-help groups (yes or no)
assessment instruments employed	Substance Abuse Subtle Screening Inventory (SASSI), CAGE Questionnaire, Initial Gambling Screen

The Addictions Foundation of Manitoba also collects data on treatment outcomes on an ad hoc basis for program evaluation studies. AFM hopes to eventually make outcome data collection and analysis part of regular operations.

**NEW BRUNSWICK (NB) (population: 750,900)**

The New Brunswick health services delivery system, managed by the Department of Health and Wellness, is organized into eight Regional Health Authorities in seven regions, operating approximately 50 health care facilities across the province.<sup>7</sup> Within this management structure, addiction services and mental health services have been combined into one administrative unit. Detoxification, outpatient counselling and community treatment services are available in all health regions. Short- and long-term residential services are available provincially. New Brunswick also has a long-term residential treatment program for youth that is based on the Portage model. In 2003–04, the province allocated \$13.4 million to addictions services, and admitted 2,517 new clients to treatment.

Addiction treatment data are collected in New Brunswick by the Regional Addiction Services System (RASS), which has been in use since 1992–93. This non-Web-based electronic data collection system based on the HP Image database engine collects the following elements:

<b>Data Type</b>	<b>Elements Collected</b>
service data	date of intake, file/case number, program/service type, regional office/district, residential/non-residential, intake completed by (employee code), date entered waiting list, program waiting for, priority rating, date of discharge, types of program attended, duration of program type, types of assessments completed

<sup>6</sup> AFM collects a large number of data elements that are specific to certain programs (problem gambling, impaired driving, youth treatment, etc.) The data elements listed here are those that are most commonly collected for most adult clients.

<sup>7</sup> One region in New Brunswick has two health authorities: one English and one French.

client data	name, address, home and work phone numbers, date of birth, gender, health number, primary/preferred language, racial origin	substance use/ gambling data	problem substance(s)/behaviours (alcohol, hallucinogens, dice games, etc.), including age of first use, age of first problems, and type of use for each substance/behaviour
substance use/ gambling data	client's presenting problem, client concerned about tobacco use, drugs by injection (yes or no)	assessment instruments employed	Alcohol Dependence Scale (ADS), CAGE Questionnaire, Drug Abuse Screening Test (DAST), Driver Risk Inventory (DRI), Drug Taking Confidence Questionnaire (DTCQ), Inventory of Depressive Situations (IDS), Inventory of Drug Taking Situations (IDTS), Michigan Alcohol Screening Test (MAST), Substance Abuse/Live Circumstances Evaluation (SALCE), Substance Abuse Subtle Screening Inventory (SASSI), South Oaks Gambling Scale (SOGS), YOUTH
assessment instruments employed	Medical Triggers Screening Tool, Michigan Alcohol Screening Test (MAST)-10, Drug Abuse Screening Test (DAST), Initial Gambling Screen  Substance Abuse Subtle Screening Inventory (SASSI), CAGE Questionnaire, South Oaks Gambling Screen (SOGS) <sup>8</sup>		

New Brunswick Health and Wellness is beginning the process of identifying a new data management system for its addiction service division.

**NEWFOUNDLAND AND LABRADOR (NL) (population: 518,400)**

The health service delivery system in Newfoundland and Labrador is managed by the Ministry of Health and Community Services. The NL health care system was reorganized in 2004, with 14 institutional, community and integrated health boards collapsed into four Regional Integrated Health Authorities (RIHAs) (Eastern, Central, Western and Labrador-Grenfell). Treatment for addictions is administered by the RIHAs. The Recovery Centre in St. John's provides detoxification services, and the Humberwood Centre in Corner Brook provides inpatient treatment services for the province. In 2003–04, Newfoundland and Labrador allocated \$4.5 million for addictions.

Newfoundland and Labrador have begun deployment of the Client Referral Management System (CRMS), an electronic data management system for health services. CRSM is an Oracle-based data system (not Web-based) that will collect core demographic and specific health information, including data related to addiction treatment, from health service providers across the province. The data elements the CRMS system collects are listed below:

Data Type	Elements Collected
service data	date of assessment, region, service provider (contact name, region, role of contact person), service details (area, program, name, date provided, service provided, district, delivery site), workload details (duration of treatment, delivery method)
client data	name, address, phone, health number, date of birth, marital status, education level, gender, religion, immigration status, citizenship, transportation, previous treatment (type, description, start date and end date), employment status

Discussions are currently being held in Newfoundland and Labrador regarding privacy and security issues related to the collection and use of health information. Once these discussions are completed, the CRSM system will complete its rollout across the province, likely by the end of 2005–06.

**NORTHWEST TERRITORIES (NWT) (population: 42,200)**

The Department of Health and Social Services manages the delivery of health services in the Northwest Territories. Within the territorial government, the Department leads system-wide planning and policy development, sets and maintains standards in management and service delivery practices, and funds the public health and social services system. There are eight Health and Social Service Authorities throughout the NWT. Their mandate is to deliver all health and social services to residents in their respective regions. In 2003, the Integrated Service Delivery Model was developed to ensure that residents of the NWT receive a full range of services that are coordinated, integrated, flexible, sustainable, competent and accountable. In step with an integrated approach, Mental Health and Addiction Services was created as one of six core services. That is, addiction and mental health services are integrated and coordinated throughout the continuum of health service delivery. Health and social service authorities have since been funded to provide integrated counselling services in mental health and addictions, as well as a prevention and public education component in mental health and addictions and family violence issues. All eight regions provide counselling services to all their communities. For the very small communities, some of these services are fly-in services; counselling services are available locally in most communities.

The NWT has one 30-bed residential addiction treatment program for adults, located on the Hay River Reserve. Adult men can also access the gender-specific Life Recovery Substance Abuse Program operated by the Salvation Army. Currently, children and

<sup>8</sup> Scores from these assessment instruments are not stored in the RASS data management system.



youth requiring residential addiction treatment must access these services outside the NWT, mainly in Alberta. Adults requiring more specialized residential addiction/mental health treatment also access these services outside the NWT. NWT residents can access medical detoxification services through hospitals across the territory, and can also access a social detoxification program through the Salvation Army in Yellowknife. In 2003–04, NWT allocated \$2.41 million to its residential addiction treatment programs (including detoxification), and served 262 clients. The territory referred 101 of these residential clients to treatment in southern provinces, mainly Alberta.

NWT does not have a dedicated addiction treatment data collection system. Client-specific data related to assessment and treatment are collected at the community level, but this is not standardized or collated at the territorial level. As part of its administrative processes, the Department of Health and Social Services collects basic data on numbers of clients, where they go for treatment, and the costs of treatment.

NWT is in year two of a 10-year plan to redesign its mental health and addictions services. Upgrading of information management is included in this process. The development of a system of electronic health records, for example, is one option that the territory is considering.

**NOVA SCOTIA (NS) (population: 936,200)**

Addiction Services is a core service of the Department of Health and Office of Health Promotion. Addiction Services is responsible for establishing policy, program standards, performance indicators, and outcome monitoring procedures, auditing programs and services, supporting district/regional development and delivery of services. The management and operational delivery of Addiction Services are the responsibility of each of the nine District Health Authorities, as delivered through four shared service areas. In 2003-04, Nova Scotia admitted 4,044 new clients to treatment and allocated a total of \$22.3 million province-wide for all prevention and treatment services and research related to addictions.

Nova Scotia currently uses the StatIS system for collecting and managing addiction treatment data and has been collecting this data since 1992. This electronic data management system, which is based on FoxPro software, collects the following elements:

Data Type	Elements Collected
service data	date of intake, case number, facility/department, referral status (voluntary/mandatory), referral agent (self, family, medical, parole, corrections, community agency, etc.)
client data	name, address, phone, next of kin, date of birth, health card number, gender, employment status, current/most recent occupation, highest level of education, primary source of income, marital status, current living arrangements, number of

children, number of dependent children, number of dependent adults	
substance use/gambling data	on methadone program (yes or no), client's presenting problem (substance use, substance use and gambling, gambling, other dependencies, substances used)
assessment instruments employed	Substance Abuse Subtle Screening Inventory 3 (SASSI), Commitment to Change Questions, South Oaks Gambling Screen (SOGS), Fagerstrom Test for Nicotine Dependence (FTND)
	For methadone clients in the Cape Breton area: Addiction Severity Index (ASI)
	For Driving While Intoxicated (DWI) clients: Research Institute on Addictions Self Inventory (RIASI)

Nova Scotia is currently in negotiations with the province of Ontario to use a modified version of Ontario's Catalyst system (see below) to collect addiction treatment data in the province. The change-over to Catalyst is expected in mid-2005.

**NUNAVUT (NU) (population: 29,100)**

Nunavut is one of two provincial/territorial jurisdictions in Canada that have not regionalized the delivery of health services (the Yukon Territory is the other). Health services are managed mainly through the Department of Health and Social Services. In 2003–04, approximately \$949,000 was spent for addiction-related activities. Additional resources were allocated from the National Native Alcohol and Drug Abuse Program for training and other purposes. In 2002–03, 46 people from the Kitikmeot and Kivalliq regions were referred out of the territory for treatment.

Though Nunavut does not have a dedicated data collection/management system for addictions, it is in the process of developing one more generally for all health services across the territory. Currently, staff delivering community-level addiction treatment in the Kitikmeot and Kivalliq regions fax their treatment-related data to a mental health worker who collates it into Microsoft Excel spreadsheets for administrative purposes.

No systematic data collection occurs in the Baffin region. Financial data relating to the costs of addiction treatment in that region are available based on invoices for services provided there. This information is collected once a year by the Department of Health and Social Services and forwarded to the National Native Alcohol and Drug Abuse Program and Health Canada as part of the territory's normal reporting procedures. Data on addiction treatment in Nunavut have been collected episodically since 1999. Data elements currently collected include patient name, health card number, place of treatment, length of treatment, and cost of treatment.

**ONTARIO (ON) (population: 12,392,700)**

The Ministry of Health and Long-Term Care manages the delivery of health and social services in Ontario. The province has recently moved to regionalize the delivery of health services through the creation of 14 Local Health Integration Networks (LHINs). The LHINs will be responsible for planning, integrating, managing and funding (with support from the province) the delivery of health services in their regions, including treatment for addictions. Ontario relies heavily on community-based organizations to deliver substance abuse treatment. Approximately 175 such providers exist in the province. The Centre for Addiction and Mental Health (CAMH) is a major provider of substance abuse treatment in the province and conducts a significant amount of research in the area of addictions based on both external funding and funding from the provincial government. In 2003–04, Ontario allocated approximately \$130 million to addictions (alcohol, drugs and problem gambling), and admitted approximately 57,000 new clients to treatment.<sup>9</sup>

Ontario collects and manages data related to addictions treatment using a dedicated system called Catalyst. This state-of-the-art “thin client” Internet-based information system runs on an Oracle database engine that functions as a client/case management information system, appointment scheduling and activity log (including wait-list tracking, group management and referral tracking), and administrative support tool. The Catalyst system completed its rollout in the province in 2002. Data elements captured by the Catalyst system are listed below:

**Data Type**  
service data

**Elements Collected**

wait-list status, referral date, incoming referral source (type of program), incoming referral agency, pre-admission services (date and duration in minutes), admission date, time admitted, number of admission (if admitted previously for service), type of program admitted to, conditions around contact (such as “choice between treatment or jail”), program name, provincial service category (detoxification centre, out-patient treatment, etc.), program start date, primary worker for program, program end date and time, reason for discharge, need for follow-up (yes or no), program service summary (total sessions, total hours), outgoing referral program, outgoing referral provincial service category, outgoing referral date, outgoing referral contact, reason for outgoing referral, status of outgoing referral, program discharge date and time, reason for termination

client data

case number, DATIS key (unique client identifier), name, date of birth, gender, last name at birth, client type, health card number, preferred language, ethnicity, probation start/stop dates, young offender (yes or no), marital status, income source, employment status, provider of primary health care, number of overnight hospitalizations in last 12 months for physical problems, reason for most recent hospitalization, diagnosed with mental health problem in last 12 months and lifetime, most recent mental health diagnosis (severity), hospitalized for mental health issue in last 12 months and lifetime, received counselling/support/treatment for mental health (yes or no), emotional, behavioural or psychological problem currently, within last 12 months and lifetime, name of mental health service provider, prescribed medication for mental health problem within last 12 months and lifetime, visual impairment (yes or no), mobility/physical impairment (yes or no), hearing impaired (yes or no), pregnant (yes or no), current health conditions (blood pressure problems, cancer, etc.), drugs currently prescribed (separate field for methadone)

substance use/  
gambling data

presenting issues at contact, presenting problem substances and frequency of use in last 30 days, non-medical injection drug use (yes or no, and frequency), gambling identified as a problem (yes or no)

assessment  
instruments  
employed

Drug Taking Confidence Questionnaire (DTCQ), Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES), Perceived Social Supports (PSS), Drug History Questionnaire (DHQ), Adverse Consequences of Substance Use (ADV CONSEQ), Behaviour and Symptom Identification Scale (BASIS-32), Treatment Entry Questionnaire (TEQ), South Oaks Gambling Screen (SOGS)

In addition to the Catalyst system, which focuses on issues related to case/client and program management, Ontario also operates the Drug Abuse Registry of Treatment (DART), which collects data on program content, availability and wait times for publicly funded addiction treatment services throughout the province.<sup>10</sup>

Ontario is currently investigating methods for incorporating treatment outcome data into its addiction information management

<sup>9</sup> As of March 13, 2005, Ontario reported having admitted 47,212 new clients to addictions treatment in 2003–04. This number under-represents actual new clients by approximately 10,000 because it does not include data from eight agencies in the province, six of which are significant providers of treatment. Final numbers on new admissions will be available in late spring 2005.

<sup>10</sup> The Canadian Centre on Substance Abuse is also looking at the standardization and integration of addiction treatment program and availability data in Canada. Information is available from the addiction treatment database manager at (613) 235-4048, ext. 242.

system so that assessments of program effectiveness can be made within the provincial addiction treatment sector.

**PRINCE EDWARD ISLAND (PEI) (population: 137,300)**

Prince Edward Island manages its health services through the Ministry of Health and Social Services. Delivery is administered through four Regional Health Authorities (RHAs). Like BC, PEI has a Provincial Health Authority that provides leadership in the delivery of provincial secondary acute and specialized services, focusing on issues related to access and improved planning and utilization of these services. In 2003–04, PEI allocated approximately \$6.1 million to addictions, and admitted 5,050 clients to treatment.<sup>11</sup>

PEI currently uses manual forms to collect data related to addictions. The data elements collected are listed below:

Data Type	Elements Collected
service data	file/case number, date of intake, date of assessment, program/service type, admission type (voluntary, non-voluntary, parole, court, etc.), intake completed by (name), referral source, date of transfer, transferred to (program), date of discharge, reason for discharge
client data	name, address, home and work phone, date of birth, gender, health card number, social insurance number, primary/preferred language, ethnicity, religion, emergency contact, Aboriginal ancestry (yes or no), current living arrangements, education level, current employment status, occupation, length of time employed, length of time unemployed, primary source of income, financial problems due to problems with alcohol, drugs or gambling (yes or no), client description of childhood, physician's name, previous/current health problems, allergies, past serious injuries, illness or hospitalization, pregnant (yes or no), medication taken (yes or no), names of medications, over-the-counter medications taken, previously seen for mental health/emotional issues (yes or no), prescribed medication (yes or no), suicide attempts, using alcohol/drugs during last suicide attempt, current relationship with family members, previous physical or sexual abuse, previous emotional or verbal abuse, client history of violent behaviour, client history of depression or anxiety, social assistance (yes or no), charged/convicted of criminal offence, alcohol/drug-related charges, marital status, number of dependent children, child care arrangements in place, client provides care for adults (yes or no)

substance use/  
gambling data

client's presenting problem, current/previous family problems with alcohol, drugs or gambling problems, use of alcohol (yes or no), frequency of alcohol use at intake, last time alcohol consumed, drug use (yes or no), type of drug use at intake, drug(s) used most often, injection drug use (yes or no), frequency of drug use at intake, previous attempt to quit/cut down on alcohol/drug use or gambling, previous addiction rehabilitation program, type and number of times accessing addiction rehabilitation services, most recent alcohol/drug rehabilitation program (location, year), previous/current self-help groups (yes or no), attended Alcoholics Anonymous (yes or no)

assessment  
instruments  
employed

Substance Abuse Subtle Screening Inventory (SASSI), Michigan Alcohol Screening Test (MAST)-10, Drug Abuse Screening Test (DAST), South Oaks Gambling Screen (SOGS), Compulsive Gambler 20 Questions

PEI is moving toward an Integrated Systems Management (ISM) based on electronic health records (EHRs) and minimum data reporting requirements between the RHAs and the Ministry of Health and Social Services. Addiction services will be included in this new, integrated data management system. Minimum reporting requirements (MRRs) have been identified across all addiction service categories and programs. Working groups have been set up to organize the creation/implementation of the ISM/EHR/MRR system in the province. Deployment is planned for 2006–07.

**QUEBEC (QC) (population: 7,492,300)**

Health services in Quebec are managed by the Ministry of Health and Social Services. Quebec was one of the first jurisdictions in Canada to regionalize the delivery of health and social services (in 1989). The current structure consists of 18 Regional Health and Social Services Boards (Régies régionales de la santé et des services sociaux – RRSSSs) that plan, implement and evaluate health services in their geographic regions. In 2004, Quebec set out a process to re-structure its health and social service delivery system by creating 95 Local Service Networks (LSNs). It is not yet clear whether the LSNs will replace the RRSSSs or will be managed underneath them. At the core of the LSNs is an integrated health and social services management system created by the merger of existing local community health centres (CLSCs), residential and long-term care centres (CHSLDs), general and specialized hospital centres (CHSGSs), and community-based service providers. In 2003–04, Quebec allocated approximately \$60 million to addictions prevention, treatment and research on alcohol and other drugs, and an additional \$20 million on problem gambling.

11 The number of clients listed for PEI is not limited to new clients, so those who entered the system on multiple occasions are counted more than once in this total.

The Ministry of Health and Social Services currently collects minimal data related to addiction treatment from the large network of publicly funded treatment providers in the province, based on reporting requirements established for hospital-based care in the 1970s. The data elements collected are listed below:

Data Type	Elements Collected
service data	program type (outpatient or inpatient)
client data	basic demographics (name, address, phone, gender, age, etc.)
substance use/ gambling data	problem substance(s) (alcohol, alcohol and other drugs, prescription drugs, illicit drugs, problem gambling)
assessment instruments employed	Addiction Severity Index (ASI)

While current addiction treatment data collection and analysis in Quebec is rudimentary, the province has used dedicated funding from earmarked gambling proceeds to fund state-of-the-art evaluations of its problem gambling treatment programs. In addition, the province is currently in the process of identifying minimum reporting requirements for addictions. It is also creating a real-time data collection system for addiction treatment by modifying the health services information management system developed for the province's system of 140 local community health centres (CLSCs). Information CLSC (ICLSC) is an Oracle-based data management system that collects a wide range of service, client and substance abuse data.

**SASKATCHEWAN (SK) (population: 994,400)**

The Ministry of Health manages the health services sector in Saskatchewan. Service delivery is administered through 12 Regional Health Authorities. These RHAs provide treatment directly, and they also fund community-based organizations to deliver addiction treatment services in their regions. In 2002-03 Saskatchewan allocated approximately \$16 million for addictions.

Data from addictions treatment in Saskatchewan is forwarded to the Corporate Information Technology Branch (CITB) in the Ministry of Health for analysis. No information on specific data elements collected is available.

**YUKON (YT) (population: 30,600)**

In Yukon, health services are managed by the Department of Health and Social Services. The territory is one of two jurisdictions in Canada that has not moved to regionalize the administration and delivery of health services. In 2002-03, Yukon allocated \$2.4 million to deal with problems related to addictions. No information on specific data elements collected in the Yukon is available.

**NATIONAL NATIVE ALCOHOL AND DRUG ABUSE PROGRAM (NNADAP) (2001 Aboriginal population estimate: 1,319,890)**

Health Canada, through the First Nations and Inuit Health Branch, provides support to the National Native Alcohol and Drug Abuse Program (NNADAP), the major provider of addiction treatment services for Inuit and First Nations people in Canada. The NNADAP system provides treatment (excluding medical detoxification services) directly through 50 centres across Canada, and includes approximately 700 inpatient treatment beds and a limited number of outpatient treatment programs. NNADAP also includes approximately 550 community-based prevention and education programs employing over 700 workers throughout Canada. An evaluation of NNADAP will begin in 2005. This evaluation will help to provide information that will guide and contribute to the improvement of NNADAP program delivery. In 2003-04, the NNADAP program spent approximately \$28 million on addictions treatment and \$30 million on community-based prevention and education programs. In that same year, the program admitted a total of 5,079 First Nations and Inuit persons to in-patient treatment. An additional 4,422 clients received outpatient or day-patient care for problems related to alcohol, drugs or problem gambling.<sup>12</sup>

Data from the NNADAP and YSAC treatment centres are collected in hard copy format through the Substance Abuse Information System (SAIS). The information is entered into data management software manually and presented in graph format. Data elements collected in the SAIS are listed below:

Data Type	Elements Collected
service data	type of treatment (inpatient or outpatient), cost per client per day, bed occupancy rates, re-entry into treatment, treatment completion rates, reasons for completion/non-completion of treatment
client data	name, address, gender, age
substance use/ gambling data	primary substances abused, cross-addictions
assessment instruments employed	SASSI is used by some programs for assessment, although scores are not rolled up in the SAIS data system.

<sup>12</sup> NNADAP also includes the Youth Solvent Abuse (YSAC) treatment system, which consists of seven inpatient treatment centres. Information is available at <http://www.members.shaw.ca/ysac/>

Since 2000, Health Canada has been developing the National Native Addiction Information Management System (NNAIMS). This state-of-the-art Web-based information management system based on the Oracle database engine is expected to complete its rollout in 2007. The NNAIMS will serve as an integrated client, program and administrative management tool for both NNADAP and the seven residential Youth Solvent Abuse Treatment Centres (YSAC) in Canada.

**CORRECTIONAL SERVICE CANADA (CSC) (2003-04 population under supervision: 21,388)**

Correctional Service Canada is responsible for all offenders serving sentences for more than two years in Canada. Seventy to eighty percent of federal prisoners in Canada are assessed as having problems with alcohol and/or other drugs. Approximately 40% of male prisoners are considered to be dependent on one or more psychoactive substances (Pernanen et al., 2002). In 2003–04 there were 12,888 offenders incarcerated in federal institutions, and another 8,500 under supervision in the community, for a total population of 21,388. During that time, CSC provided addiction treatment to approximately 5,100 federal prisoners and spent approximately \$20 million on implementing its drug strategy (drug-specific enforcement measures, methadone maintenance, addiction treatment and research).

CSC is preparing to deploy the 285-item Computerized Assessment of Substance Abuse (CASA) system to collect addiction-related data from inmates in federal custody as part of the larger Offender Intake Assessment process. Results from the CASA are integrated into the Offender Management System, a comprehensive data collection and management system that provides a host of inmate and case-management support functions. The CASA, which has been under development since March 2000, employs computer-controlled question flow and automated data checking to increase data integrity and quality of self-reported data. The system also includes an option for the questions to be “read” to inmates with visual impairment or literacy problems. The data elements collected by the CASA are listed below:

Data Type	Elements Collected
service data	not available
client data	demographic data as captured by the Offender Management System (OMS), treatment readiness and client motivation for change
substance use/ gambling data	topography and density of alcohol/drug use, severity and consequences of alcohol and drug use, indicators of poly substance use, substance abuse history as it relates to biological parents, prior substance abuse treatment experience, including enrolment in methadone maintenance treatment
assessment instruments employed	Michigan Alcohol Screening Test (MAST), Alcohol Dependence Scale (ADS), Problems Related to Drinking (PRD), Severity of Dependence Scale (SDS), Drug Abuse Screening Test (DAST), Paulhus Deception Scale (PDS)

The CASA has been piloted in English in the Atlantic and Ontario regions, where its validity and reliability were both assessed favourably. The CASA is expected to be deployed in federal correctional facilities throughout Canada in 2005.

The sketches of the health service delivery models and addiction treatment data collection systems presented above are summarized in Table 1: Summary of Health System Organization and Addiction Data Collection in Canada, c. 2004.

**Table 1:** Summary of Health System Organization and Addiction Data Collection in Canada, c. 2004

	Responsible Ministry	Health Service Delivery Structure	Mental Health & Addictions Integrated Administratively	2003-04 Addiction Budget	2003-04 Number of New Clients in Treatment	Computerized Data Collection	Data Management System(s)	Web-Based	Database Engine	Standardized Assessment Instruments Used	Plans to Upgrade Data Collection Standards or Systems
<b>AB</b>	Ministry of Health and Wellness	9 Regional Health Authorities (RHAs) <sup>13</sup>	No	\$59.96 million	29,847 in AADAC programs; 7,595 in community partner programs <sup>14</sup>	Yes	ASIST & ICR	ASIST, Yes; ICR, No	ASIST, Microsoft SQL Server	ADS, AAS, DAST, DAS, GAS, SOGS, SSI	ICR may be upgraded to computerized system
<b>BC</b>	Ministry of Health Services	5 RHAs & 1 Provincial Health Authority (PHA)	Yes	\$64 million	Not Available	Yes	AIMS & CPIM	No	AIMS, MS Access; CPIM, Oracle	MTST, MAST-10, DAST, IGS	Yes, based on provincially determined MRRs
<b>MB</b>	Ministry of Health	11 RHAs <sup>15</sup>	No	\$17 million	9,788	Partial	Not Applicable	Not Applicable	Entered by scanner or by hand into SPSS	SASSI, CAGE Questionnaire, IGS	No
<b>NB</b>	Department of Health & Wellness	8 RHAs	Yes	\$13.2 million	2,517	Yes	RASS	No	HP Image	SASSI, CAGE Questionnaire, SOGS	Yes
<b>NL</b>	Ministry of Health & Community Services	4 RHAs	Not Available	\$4.5 million	Not Available	Partial	Client Referral Management System (CRMS)	No	Oracle	DEPENDENCY, DRI, DTCC, DAST, CAGE Questionnaire, IDTS, MAST, SALCE, SCQ39, SOGS	Yes, a portion of service providers use the CRMS to report minimum data. Full roll out is expected by the end of 05/06
<b>NWT</b>	Department of Health & Social Services	8 Health & Social Services Regions (HSSs)	Yes	\$2.41 million <sup>16</sup>	262 <sup>17</sup>	No	Not Applicable	Not Applicable	Not Applicable	Not Available	Yes
<b>NS</b>	Department of Health	9 District Health Authorities (DHAs)	No	\$22.3 million	4,044	Yes	StatIS	No	FoxPro	SASSI-3, Commitment to Change Questions, SOGS, FTND	Yes, may convert to version of Ontario's Catalyst system
<b>NU</b>	Department of Health & Social Services	Not Regionalized	No <sup>18</sup>	\$0.949 million	Not Available	No	Not Applicable	Not Applicable	Entered by hand into Microsoft Excel	Not Available	Yes, data collection system for entire health services system being developed
<b>ON</b>	Ministry of Health & Long Term Care	Currently re-organizing around 14 Local Health Integration Networks (LHINs)	Yes	Approx. \$130 million	Approx. 57,000	Yes	Catalyst	Yes	Oracle	DTCA, SOCRATES, PSS, DHQ, Adverse Consequences of Substance Use, BASIS-32, TEQ, SOGS	No



## Discussion

Regarding the organization of health systems and the management of addiction treatment data in Canada, several discussions can be developed from the information presented above.

First, the health services delivery system in Canada is in a state of flux, with many jurisdictions implementing significant structural and administrative changes in the last few years. Between 2000 and 2005, for example, AB, BC, ON, NL, PEI and QC all implemented large-scale changes to the structure of their health care systems. Several others (MB, NWT and SK) implemented minor changes. Trends evident in these changes include further movement toward the regional health authority model of organization (only the jurisdictions of NU and YK have not regionalized health service delivery), as well as movement to integrate health service delivery (including combining mental health and addiction services administratively) to enable better coordination among the various types of health and social services.

The organization of health delivery systems has important ramifications for the collection and management of addiction treatment data in Canada due to several factors. For example, as efforts to modernize health info-structure move forward across Canada, the degree to which addiction treatment is integrated and/or coordinated with the greater health service delivery system in a given jurisdiction has a direct bearing on whether the addictions sector will be included in the larger health info-structure modernization process.<sup>22</sup> Of course, trends toward regionalization and integration of health service delivery are helping bring addictions closer to the larger health care systems in some jurisdictions. This may alleviate some of these issues in particular cases. However, those addiction treatment systems that are not well integrated/coordinated with the larger health care delivery system should look for ways to be explicitly included in the larger health info-structure modernization processes underway.<sup>23</sup>

Second, one of the most important technical aspects related to both regionalization and health service integration is creation of the ability to uniquely identify and track the movement of clients as they engage the various health services available in any given region. The creation of electronic health records (EHRs) is the first step toward the development of this capability. Many of the major stakeholders involved in health info-structure development in Canada (such as Canada Health Infoway) are investing heavily to develop and implement technologies related to EHRs.

Unfortunately, the addiction treatment sector is somewhat overlooked in this process. While some jurisdictions are incorporating addictions into their health info-structure modernization efforts (BC, NL, PEI, etc.), for the most part, addiction treatment appears to be only loosely integrated/coordinated with efforts to modernize health info-structure in Canada. More importantly, there have been no discussions about the standardization of reporting requirements or of issues related to the inter-operability of addiction data systems at the national level. The health info-structure development train is leaving the proverbial station in Canada, and addictions seems to have been left abandoned on the tracks. If efforts are not made now to hitch addiction treatment to the health info-structure engine, there may be limited opportunities in the future to bring this sector up to speed with other areas of the health care system. An excellent opportunity to develop an integrated national data collection and analysis system may be lost.

Third, at least three jurisdictions in Canada have recently conducted exercises to identify addictions-specific minimum data reporting requirements based on well-defined information needs at the provincial/territorial level (ON in 1999, PEI in 2003, and BC in 2004). Several others have invested resources to modernize their addiction data collection and management systems (AB and NNADAP in 2002, ON in 2003, and CSC in 2005). Most significantly, a majority of jurisdictions (NB, NL, NWT, NS, NU, PEI, QC, NNADAP and CSC) are in the process of upgrading, or plan to upgrade, their addiction data collection and management systems. While the information needs of these jurisdictions are likely to vary, the sketch of current data collection efforts provided above reveals that there is also significant commonality in the data elements collected by the various addiction treatment service providers in Canada. From an efficiency perspective, it is reasonable to suggest that the efforts expended by those jurisdictions that have already identified data requirements and upgraded data management systems could inform and significantly reduce the developmental costs for jurisdictions that are planning to modernize their systems. There is no need to reinvent the wheel every time reporting requirements are discussed or data systems are developed. In particular, the lessons learned in the identification of

22 In at least one jurisdiction, Manitoba, the fact that addictions are managed by an independent agency (the Addictions Foundation of Manitoba, AFM) is likely to be a liability when it comes to including addictions in larger health info-structure modernization efforts in the province. This is not a good situation, since AFM has one of the most outdated addiction treatment data collection and management systems in the country, and can therefore ill afford to be left out of the modernization process.

23 Another issue related to this point is the degree to which addictions and mental health are integrated administratively. If they are managed together, and if the mental health treatment system is benefiting from investments in health info-structure, then this may bode well for the addiction treatment sector. This is the case, for example, in BC.



addiction-specific minimum regional reporting requirements in BC,<sup>24</sup> and the development and rollout of the state-of-the-art Catalyst data collection and management system in Ontario, could give those jurisdictions planning to modernize their data collection and management systems a significant head start in their own efforts.<sup>25</sup> In addition to potentially providing large cost savings, this approach would facilitate the standardization of treatment data elements across the jurisdictions. This would permit meaningful comparative analysis.

Fourth, a few jurisdictions in Canada are currently collecting very good and highly detailed data about addictions treatment (AB, MB, ON, CSC and QC for gambling-treatment outcomes). While these data are not standardized, and, therefore, cannot yet be used to develop meaningful comparisons without significant reworking, it would be very useful to researchers to have access to these data since very little addictions treatment information is available in Canada. Although complex issues related to privacy and confidentiality will need to be addressed in any process used to grant access to these data, the potential utility of this information is ample justification for setting up secure protocols to give interested parties access. For example, the Canadian Centre on Substance Abuse's Canadian Community Epidemiology Network on Drug Use (CCENDU) produces reports on matters related to addictions in Canada. It would benefit greatly from access to existing addiction treatment data sets.

Finally, it is important to note that the collection of addiction treatment data should be driven by well-articulated information needs. The process should always begin with this question: "What do we need to know to make the treatment system more effective and efficient to assist people having problems with alcohol, drugs or problem gambling?"

The answers to this question will vary depending on the level of analysis being considered. For example, the information required for good management decisions at the program level are different from the information required at the facility level (where several programs may be offered), the regional level (where numerous treatment facilities may be located), the provincial/territorial level (where several RHAs may exist), and at the national level as well.

In 2000, the Canadian Institute for Health Information (CIHI) surveyed 101 experts and practitioners in the fields of mental health and addictions across Canada to determine their information needs and identify information gaps for managing treatment services at the regional level. The results from this survey indicated the following:

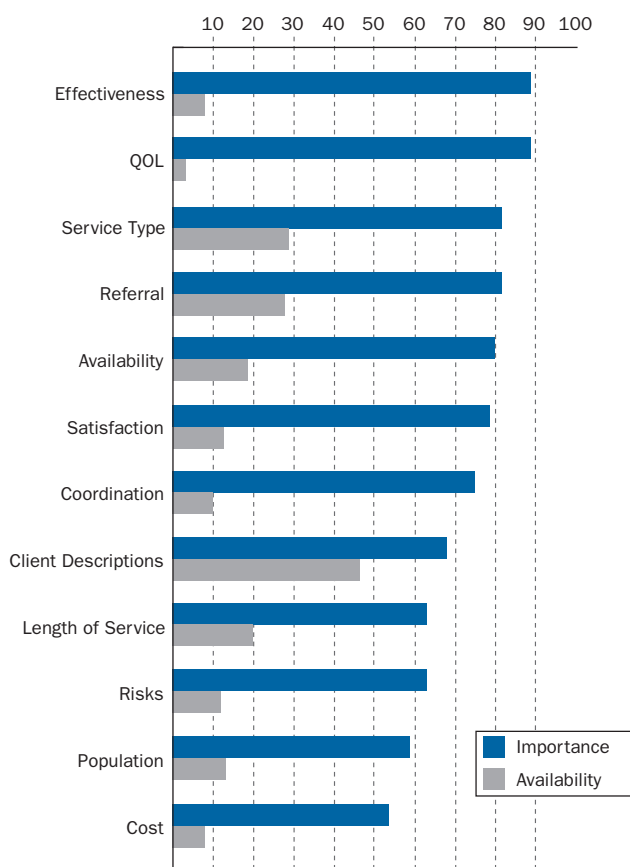
- There is a low level of satisfaction with the type of information available about mental health and addiction services, and with the timeliness of the information.
- There is a need for *meaningful, standardized, comparable data* that can be widely and easily accessed by a range of users.
- There is a need for information that demonstrates the *outcomes, degree of utilization* and *level of coordination* of mental health and addiction services. This information is not currently available.
- There is a need for information about the *catchments population* of health regions to assist in the planning, management and evaluation of mental health and addiction services. This information is not currently available (CIHI, 2000a: i).

24 As of December 2004, BC's minimum reporting requirements for addiction treatment include the following data elements: client type (substance misuser or affected by another's substance misuse), provincial health number, birth date, gender, tobacco smoker (yes or no), community of residence, marital status, legal status (convicted, on parole, etc.), employment status, household composition (lives alone, etc.), education level, Aboriginal/First Nations origin, poly drug user (yes or no), residential arrangement at admission (private house or apartment, rented room, etc.), date referred, referral source (parent, guardian, educational institution, etc.), referral target (referred to), agency location, type of program, substance use at admission (alcohol, marijuana, stimulants, caffeine, etc.), frequency of use during last 30 days for each substance at admission, DSM IV Axis 1 diagnosis (principle, secondary, psychosocial and environmental problems), method of drug intake, DAST score, MAST score, Global Assessment of Functioning (GAF) score (at admission), service event focus (mental health, addictions, both mental health and addictions), date of first contact/assessment, date of admission to program, date of service event (date on which service provided), service event type (intake and screening, referral, short-term assessment, info/advice, formal case review, individual therapy, group therapy, crisis intervention, etc.), date of discontinuation of service, reason for discontinuation of service (transferred to another service, administratively discontinued, terminated against advice, discharged treatment service complete, etc.), discharge referral target (parent, guardian, physician, general hospital, Aboriginal health services, etc.), GAF score at discharge, substance use at discharge (type), frequency of substance use in last 30 days at discharge, amount/quantity of substance use in last 30 days at discharge, residential arrangement at discharge.

25 Nova Scotia, which is currently in negotiation with Ontario regarding the licensing of the Catalyst software, provides a good example of this potentially significant cost-reducing approach to addiction info-structure development.

In particular, the CIHI survey revealed 10 separate information needs and the extent to which they were being met by current data collection systems in Canada. This information is depicted in Figure 1: Perceived Importance and Current Availability of Mental Health and Addiction-Related Information in Canada.

**Figure 1:** Perceived Importance and Current Availability of Mental Health and Addiction-Related Information in Canada<sup>26,27</sup>



Source: CIHI, 2000a: 9

The specific information needs identified above could serve as a good starting point for discussions about national minimum reporting requirements in Canada.<sup>28</sup>

It is important to note that data on effectiveness tops this list of information needs in the addiction/mental health domains. This backs up against the need for good treatment outcome data, which is generally difficult to collect for a number of methodological and administrative reasons. As mentioned previously, two jurisdictions (ON and MB) are looking for ways to incorporate meaningful treatment outcome data into their addiction data collection systems. On this point, it is important to comment that CSC is the most advanced at tracking treatment outcomes in Canada. This relates to some degree to the service's clientele and the need to track clients after they leave treatment—something most other systems are not able to do. Given CSC's capabilities in this regard, it may be very useful to use CSC as a testing ground for treatment innovation so that effectiveness comparisons based on outcome data can be developed. The fact that CSC's clientele are also some of the most difficult-to-treat clients is further justification for testing new approaches to treatment, since effectiveness with this population would likely mean even greater effectiveness in the general population.

26 Effectiveness = effectiveness of services; QOL = quality of life of client; Service Type = types of services provided; Referral = reason for referral to treatment; Availability = availability of services; Satisfaction = client satisfaction with services; Coordination = coordination of services with other health and social services; Client Descriptions = descriptions of client characteristics; Length of Service = length of time service provided; Risks = population risk factors; Population = characteristics of population including epidemiological information; Cost = cost of services.

27 The information collected for this research paper largely verifies the results presented in Figure 1. Specifically, the most common data elements currently being collected in Canada relate to client descriptions, service types and referral sources, while data on program effectiveness (outcomes) are not generally available. Two jurisdictions in Canada (MB and ON) indicated that they are working on developing indicators for assessing program effectiveness, but both efforts are in their beginning stages. Since program outcome data were identified as the top priority information need in CIHI's survey of mental health and addiction professionals, efforts to develop reliable indicators for program outcomes should be given a high priority.

28 This is not to suggest that programs developed for prisoners who misuse substances should be transferred wholesale for use with non-criminal justice clients. It is likely, however, that certain principles of effective substance abuse treatment can be identified and, especially, evaluated within this population. For example, researchers at CSC have already derived the "what works" principles for correctional programming and it is possible that these principles, if appropriately applied in community settings, would also improve treatment outcomes within non-correctional populations. See: Thomas, 2003 for a detailed description of the "what works" principles and a discussion of CSC's efforts to implement them in its substance abuse treatment programs.

## Recommendations

**Recommendation 1:** Knowledgeable stakeholders from the addiction treatment sector should come together as soon as possible to (1) identify specific information requirements necessary for the effective management of addiction treatment at the national level, and (2) generate a list of national minimum reporting requirements based on these requirements directed at the major treatment service providers in Canada. This list should draw upon the efforts of CIHI (2000a, 2000b) and the BC Ministry of Health Services (2003), as well as from national minimum reporting requirements developed in comparable national settings (the US, the UK, Australia, etc.). In addition, this process should be mindful of needs to integrate with International Classification of Disease (ICD-10) and Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) addiction-related data already being collected through hospitals and other institutional sources in Canada.

**Recommendation 2:** Organizations involved in the development of health info-structure at the national level in Canada (Canada Health Infoway, Canadian Institute for Health Information, Health Canada, Canadian Public Health Agency, Canadian Centre on Substance Abuse, etc.) should meet to discuss strategies for facilitating the inclusion of addiction treatment in current efforts to modernize health info-structure in Canada. These organizations should also identify opportunities to transfer proven data collection and management systems, such as Catalyst in Ontario and the ASIST system in Alberta, to jurisdictions planning to upgrade their data collection and analysis systems. The data elements included in this transferable addiction treatment data collection system should be based on the outputs from Recommendation 1.

**Recommendation 3:** The jurisdictions in Canada that currently collect reliable data on addictions treatment (AB, MB, ON, CSC and QC for gambling) should create secure protocols to allow access to these data sets for research purposes. These protocols should protect data integrity and client confidentiality/privacy.

**Recommendation 4:** Correctional Service Canada's unique ability to generate treatment outcome data should be capitalized on to identify best practices for treatment for both correctional populations and the general public. CSC should seek to generate reliable treatment outcome data, and disseminate these findings as widely as possible, both to provincial correctional systems and to general addiction treatment systems throughout Canada.

## Conclusion

The Chinese word for "crisis" translates as "a dangerous opportunity to improve matters." This phrase captures the current status of addiction treatment in Canada because, though health care reform is causing some problems for this sector, if addiction is included in these larger changes in a meaningful way at the outset, the outcome could be positive over the long term. If, on the other hand, addiction treatment is not hitched to the larger health care reform/infrastructure development train, it will sink even farther into benign neglect, and remain the under-funded stepchild of the Canadian health care system.

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## **Appendix: Major Stakeholders in Canadian Health Infrastructure Development and Addiction Treatment Data Management**

### **National**

- Canada Health Infoway  
<http://www.infoway-inforoute.ca/home.php?lang=en>
- Health and Information Highway Division, Health Canada  
[http://www.hc-sc.gc.ca/ohih-bis/about\\_apropos/index\\_e.html](http://www.hc-sc.gc.ca/ohih-bis/about_apropos/index_e.html)
- Canadian Institute for Health Information (CIHI)  
<http://secure.cihi.ca/cihiweb/>
- Centre for Surveillance Coordination, Canadian Public Health Agency (CPHA)  
<http://www.phac-aspc.gc.ca/csc-ccs/>
- Canadian Centre on Substance Abuse (CCSA)  
<http://www.ccsa.ca>

### **Regional**

- Health Infostructure Atlantic  
<http://www.gov.ns.ca/health/hia/default.htm>
- Western Health Information Collaborative (WHIC)  
<http://www.whic.org/public/links/>
- Western Electronic Health Record Regional Collaborative (WERC) <http://www.werc-canada.org/>

### **Provincial and Territorial**

#### **Alberta**

- Ministry of Health and Wellness  
<http://www.health.gov.ab.ca/>
- Alberta Wellnet  
<http://www.albertawellnet.org/>
- Alberta Alcohol and Drug Abuse Commission  
[http://www.aadac.com/index\\_flash.htm](http://www.aadac.com/index_flash.htm)

#### **British Columbia**

- Mental Health and Addictions Division, MOHS  
<http://www.healthservices.gov.bc.ca/mhd/>
- Healthnet/BC  
<http://healthnet.hnet.bc.ca/index.html>
- Vancouver Coastal Health Authority  
[http://www.vch.ca/home\\_page/index.htm](http://www.vch.ca/home_page/index.htm)

#### **Manitoba**

- Ministry of Health  
<http://www.gov.mb.ca/health/>
- Addictions Foundation of Manitoba  
<http://www.afm.mb.ca/>

#### **New Brunswick**

- Department of Health and Wellness  
<http://www.gnb.ca/0051/index-e.asp>
- Addiction Treatment Services, Department of Health and Wellness  
<http://www.gnb.ca/0051/0378/index-e.asp>

**Newfoundland and Labrador**

- Ministry of Health and Community Services  
<http://www.health.gov.nl.ca/health/>
- Centre for Health Information  
<http://www.nlchi.nf.ca/>

**Northwest Territories**

- Department of Health and Social Services  
<http://www.hlthss.gov.nt.ca/>

**Nova Scotia**

- Department of Health  
<http://www.gov.ns.ca/health/>
- Office of Health Promotion  
<http://www.gov.ns.ca/ohp/index.html>

**Nunavut**

- Department of Health and Social Services  
<http://www.gov.nu.ca/hsssite/hssmain.shtml>
- Addiction and Mental Health Strategy  
<http://www.gov.nu.ca/hsssite/promo.shtml#addictionsmentalhealth>

**Ontario**

- Ministry of Health and Long-Term Care  
<http://www.health.gov.on.ca/>
- Drug and Alcohol Treatment Information System (DATIS)  
<http://www.datis.ca/>
- Drug and Alcohol Registry of Treatment (DART)  
<http://www.dart.on.ca>
- Smart Systems for Health Agency (SSHA)  
<http://www.ssha.on.ca/main.html>
- Local Health Integration Networks  
[http://www.health.gov.on.ca/transformation/lhin/lhin\\_mn.html](http://www.health.gov.on.ca/transformation/lhin/lhin_mn.html)

**Prince Edward Island**

- Department of Health and Social Services  
<http://www.gov.pe.ca/hss/index.php3>
- Office of Health Informatics  
<http://www.gov.pe.ca/hss/hi-info/index.php3?PHPSESSID=3785bb08263da7093410e47c562f43b8>

**Quebec**

- Ministry of Health and Social Services  
<http://www.msss.gouv.qc.ca/en/>
- Information Resources, Ministry of Health and Social Services  
<http://www.msss.gouv.qc.ca/sujets/organisation/ressourcesinfo.html>

**Saskatchewan**

- Department of Health  
<http://www.health.gov.sk.ca/index.html>
- Health Information Solutions Centre  
<http://www.health.gov.sk.ca/hisc.html>

**Yukon**

- Department of Health and Social Services  
<http://www.hss.gov.yk.ca/index.html>
- Alcohol and Drug Services  
<http://www.hss.gov.yk.ca/prog/ads/index.html>

**Other**

- National Native Alcohol and Drug Abuse Program (NNADAP)  
<http://www.hc-sc.gc.ca/fnihb-dgspni/fnihb/cp/nnadap/>
- National Native Addiction Information Management System (NNAIMS)  
[http://www.nnapf.org/english/pdf/nnaims/Update\\_on\\_NNAIMS.pdf](http://www.nnapf.org/english/pdf/nnaims/Update_on_NNAIMS.pdf)
- National Native Addiction Partnership Foundation (NNAPF)  
<http://www.nnapf.org/>
- Addictions Research Centre, Correctional Service Canada  
[http://www.csc-scc.gc.ca/text/rsrch/addictions/index\\_e.shtml](http://www.csc-scc.gc.ca/text/rsrch/addictions/index_e.shtml)
- Federal/Provincial/Territorial Advisory Committee on Health Infrastructure  
[http://www.hc-sc.gc.ca/ohih-bis/chics/achi\\_fpt\\_ccis\\_e.html](http://www.hc-sc.gc.ca/ohih-bis/chics/achi_fpt_ccis_e.html)
- Canada's Health Informatics Association  
<http://www.coachorg.com/>