Canada's Drug Agency
L'Agence des médicaments du Canada

April 2025

Drugs Health Technologies **Health Systems**

# Federal, Provincial, and Territorial Coverage of Diagnostic Sleep Studies

# Key Messages

## What Is the Issue?

- Sleep disorders are a range of conditions that significantly impact overall health and quality of life. Sleep disorders are estimated to be highly prevalent in Canada and potentially underdiagnosed. There are 4 levels of studies to assess sleep behaviour and diagnose sleep conditions — 1 test is conducted in a lab, and 3 others at home.
- Little collective information is available on the landscape of public reimbursement of diagnostic sleep studies across Canada. We received a request from a public payer to gather such information to inform their funding deliberations.

## What Did We Do?

- A review of published and grey literature was conducted. A survey was developed, key societies were notified and engaged to support information collection. Responses were gathered from 46 individuals, 8 public payers and 38 service providers (sleep clinics), from across Canada. A draft of this report was posted for public comment throughout November 2024.
- We collated available information on public payer coverage across the 4 diagnostic sleep study levels (I to IV) for all patient populations. If available, this report includes details of public plan coverage, patient eligibility criteria, funding mechanisms and costs, out-of-pocket expenses, wait times, and patient prioritization criteria. Information on reimbursement models of sleep studies through out-of-pocket payment (or private insurance), cost related to treatment of sleep disorders, and assessment of the clinical or cost-effectiveness of the various levels of sleep studies are outside the scope of this report.

## What Did We Find?

- Information, albeit limited in most instances, is available for Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, the Non-Insured Health Benefits (NIHB) program, Nova Scotia, Ontario, Quebec, Saskatchewan, and Veterans Affairs Canada (VAC). No literature was identified and no survey responses were collected for the Northwest Territories, Nunavut, Prince Edward Island, or Yukon.
- Most public payers cover level I (n = 10) and level III (n = 8) sleep studies, yet coverage for level II and level IV studies is more limited and tied to specific conditions. Level I, III, and IV sleep studies are funded

# Key Messages

through hospital global budgets in Alberta, Quebec, Ontario (only level I and IV), and Saskatchewan, whereas British Columbia, Manitoba (only level I and III),  and Nova Scotia (only level I and III) rely on a fee-for-service mechanism. Quebec and Ontario use a combination of both reimbursement mechanisms.

- Costs of sleep studies vary by jurisdiction. For example, level I professional fees range from approximately $45 (in Quebec, fee-for-service mechanism) to $298 (in Saskatchewan). Similarly, level III professional fees range from approximately $30 (in Alberta) to $142 (in Manitoba). No copayments are required for any of the publicly funded diagnostic sleep tests. If they are not publicly funded, out-of-pocket costs for sleep studies are relatively expensive. For example, a level I sleep study can cost patients up to $2,000.
- Reported wait times varied between and within jurisdictions. Survey respondents often reported longer than recommended wait times for patients to meet with a sleep specialist and for the subsequent sleep test. In response to these access barriers, reliance on private clinics to provide testing services has been reported. Notably, there are no reported level I sleep clinics in the Northwest Territories, Nunavut, or Yukon.

## What Does It Mean?

- Publicly available information on the landscape of diagnostic sleep studies across Canada is sparse. Based on 46 responses to our survey, there are differences in public access and coverage for diagnostic tests for sleep conditions across Canada for all patients, including adults and children with potentially severe conditions.
- This report is limited by the number of respondents who reported information on public coverage of diagnostic sleep studies. The results presented in this report are not representative of all federal, provincial, and territorial providers.

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# Abbreviations

| | |
|---|---|
| **AHS** | Alberta Health Services |
| **CPAP** | continuous positive airway pressure |
| **CPSO** | College of Physicians and Surgeons of Ontario |
| **ES** | Environmental Scan |
| **ESS** | Epworth Sleepiness Scale |
| **HSAT** | home sleep apnea test |
| **MPC** | Medical Pension Code |
| **NIHB** | Non-Insured Health Benefits |
| **OSA** | obstructive sleep apnea |
| **POC** | Programs of Choice |
| **PSG** | polysomnography |
| **VAC** | Veterans Affairs Canada |

# Context

Sleep is an essential component of daily life. Sleep influences various physiological processes and impacts cognitive performance, mood regulation, and emotional stability.[1] Despite the importance of adequate sleep, research indicates that up to one-third of people living in Canada are not getting enough sleep, and many suffer from insomnia or other sleep-related disorders.[2] Sleep disorders are a group of conditions that disrupt normal sleep patterns, leading to poor sleep quality, timing, and quantity. These disturbances often result in daytime impairments such as fatigue, mood swings, and reduced cognitive functioning, making sleep disorders 1 of the most common clinical issues among adults.[3-5]

The International Classification of Sleep Disorders categorizes sleep disorders into 6 broad groups, each encompassing a range of specific conditions. These include sleep-disordered breathing, such as obstructive sleep apnea (OSA); central disorders of hypersomnolence, such as narcolepsy; sleep-related movement disorders, including restless legs syndrome; parasomnias; circadian rhythm sleep-wake disorders; and insomnia.[3,4] OSA is 1 of the most prevalent and underdiagnosed sleep disorders in Canada. From 2016 to 2017, 6.4% of people living in Canada reported receiving a diagnosis of sleep apnea from a health care professional.[6] However, a 2019 study estimates that 24.5% of people living in Canada have some form of OSA,[7] underscoring the widespread prevalence and estimated underdiagnosis across the country.[8]

Sleep studies, or polysomnography (PSG), are essential tools used to diagnose various sleep disorders, with tests categorized based on their technical complexity and resource requirements. Depending on the level of the sleep study, multiple physiological channels or biophysical signals are assessed. The most complex, a level I sleep study, involves in-laboratory, technologist-attended PSG and is considered the gold standard for diagnosing sleep-disordered breathing such as OSA, along with other sleep disorders like parasomnias and hypersomnolence. Level I sleep studies involve the collection of 7 or more data channels, including electroencephalogram and electrooculogram for sleep staging, electromyogram, electrocardiogram, and respiratory channels.[9] These tests are considered expensive and require significant resources, including specialized staff and equipment, and are often conducted in hospitals or dedicated sleep clinics.[8,10]

Less resource-intensive options include level II tests, which are full PSG that are unattended and conducted at home; and level III tests, referred to as home sleep apnea tests (HSATs), which involve portable monitoring with 3 or more channels, including pulse oximetry and heart rate. Level IV studies only use 1 or 2 channels that typically only measure oxygen levels or airflow.[8,11-13] Level I and III tests are the primary diagnostic tools in Canada. Coverage for level II and IV studies is not universally available under public health care plans.[13] In Ontario, a level I PSG is often required to access reimbursement for continuous positive airway pressure (CPAP) devices, a common treatment for OSA.[8] Table 1 details the features of the various levels of sleep studies.

It is recognized that access to registered sleep clinics varies depending on factors such as location, ability to travel and take time away from work, caregiving responsibilities, or other commitments. The limited availability and restricted capacity of PSG facilities, specialist training requirements, and uneven distribution of sleep specialists, along with a shortage of respiratory therapists, often result in long wait times and may contribute to the underdiagnosis of OSA in certain areas. Longer wait times for OSA diagnosis and treatment

have been linked to reduced treatment adherence and poorer patient outcomes.[14] The COVID-19 pandemic exacerbated these challenges because in-clinic PSG testing was paused in Canada, increasing wait times and decreasing access.

Rural patients often bear additional costs of travel and accommodation, and while home sleep testing can improve accessibility, cost remains a challenge for many.[15-19] A 2023 study comparing OSA care provided to adults living in rural communities to those living in urban centres found that people living in rural areas face longer wait times and higher costs. In rural communities, patients experience delays from initial assessment to diagnosis and from diagnosis to treatment, receive less government funding for diagnostic tests or CPAP, and incur additional appointment-related expenses, leading to higher overall care costs.[20]

There are indications that reimbursement models differ across the country, with some regions offering more public funding than others.[17] This Environmental Scan (ES) aims to collate the available information to provide a better understanding of the variability in public payer reimbursement models for diagnostic sleep studies across Canada.

## Levels of Diagnostic Sleep Studies

This ES gathers information on all 4 levels of diagnostic sleep studies. Table 1 provides details of the 4 diagnostic sleep study levels.

### Table 1: Features of Sleep Study Levels

| Features | Level I (PSG, attended) | Level II (PSG, unattended) | Level III (HSAT, unattended) | Level IV (oximetry, unattended) |
|---|---|---|---|---|
| **Location** | | | | |
| At home | — | Yes | Yes | Yes |
| In a lab or centre | Yes | — | — | — |
| Observed by technologist (RPSGT) | Yes | — | — | — |
| **Monitors** | | | | |
| Breathing activity | Yes | Yes | Yes | — |
| Snoring | Yes | Yes | Yes | — |
| Airflow | Yes | Yes | Yes | Yes |
| Oxygen levels | Yes | Yes | Yes | Yes |
| Heart rate (ECG) | Yes | Yes | Yes | — |
| Brain activity (EEG) | Yes | Yes | — | — |
| Muscle activity (EMG) | Yes | Yes | — | — |
| Sleep quality[a] | Yes | Yes | — | — |
| **Diagnosis** | | | | |
| Sleep apnea | Yes | Yes | Yes | Yes[b] |

| Features | Level I (PSG, attended) | Level II (PSG, unattended) | Level III (HSAT, unattended) | Level IV (oximetry, unattended) |
|---|---|---|---|---|
| Leg and body/PLMD | Yes | Yes | — | — |
| Narcolepsy[c] | Yes | Yes | — | — |
| REM sleep behaviour disorder | Yes | Yes[d] | — | — |

ECG = electrocardiogram; EEG = electroencephalogram; EMG = electromyography; HSAT = home sleep apnea test; PLMD = periodic limb movement disorder; PSG = polysomnography; REM = rapid eye movement; RPSGT = Registered Polysomnographic Technologist.

[a]Onset time, efficiency, REM and non-REM, and sources of disturbance.

[b]Sleep apnea screening with oximetry.

[c]A multiple sleep latency test is required to complete a diagnosis of narcolepsy.

[d]As per feedback received through consultation.

Source: Government of British Columbia;[8] Careica Health (2023);[11] CPAP Online.[12]

For brevity, hereafter, a level I, in-lab attended PSG is referred to as a “level I sleep study”; a level II at-home, unattended PSG will be referred as a “level II sleep study”; a level III HSAT will be referred to as a “level III sleep study”; and a level IV sleep apnea screening with oximetry will be referred to as a “level IV sleep study.”

## Objectives

The objectives of this ES are to gather information on:

1. the details of the coverage provided by public plans for diagnostic sleep studies, including:
    a) the name of the public plan covering the cost of the sleep studies
    b) the levels of sleep studies covered
    c) the criteria for patients and sleep clinics to be eligible for reimbursement
2. the funding mechanism and cost of diagnostic sleep studies in Canadian provinces and territories
3. other considerations, including out-of-pocket costs, wait times, and patient prioritization criteria.

While this ES explores out-of-pocket costs for diagnostic sleep studies, a detailed analysis of reimbursement models and costs at private clinics for these services falls outside the scope of this ES. This ES does not include an assessment of the clinical or cost-effectiveness of various levels of sleep study. Costs related to the treatment of sleep disorders, such as CPAP, are also outside the scope of ES.

**Public payer** refers to federal, provincial, or territorial government bodies that reimburse the full or partial cost of diagnostic sleep studies. Studies may be conducted at the clinic’s facility or they may be conducted at the patient’s home using a machine and devices provided by the sleep clinic. The sleep clinic may be a privately operated and independent health care facility or a publicly funded facility that operates within a hospital, health authority, or health region. **Provider** refers to sleep clinics or sleep labs that perform sleep studies.

# Research Questions

To address the objectives, we asked the following research questions. The questions relevant to payers or providers are indicated:

## Objective 1: Details of the Coverage Provided by Public Plans for Diagnostic Sleep Studies

1. Which public plans cover the cost of any of the 4 levels (level I to IV) of diagnostic sleep study?
2. What levels of diagnostic sleep study are provided by the facility? (For service providers only)
3. What is the type of sleep clinic (e.g., publicly funded sleep clinic at a hospital, publicly funded sleep clinic at an independent health facility, privately owned and publicly funded sleep clinic, privately owned and not publicly funded sleep clinic, and so on)? (For service providers only)
4. What are the patient eligibility criteria for coverage (e.g., test must be ordered by a specialist, patient must be in a low-income bracket, patient must be on social assistance, and so on) for each of the 4 levels of sleep studies that are funded by the public payer?
5. What (if any) are the specific requirements for a sleep clinic to receive reimbursement under the public plan? (For public payers only)
6. What is the name of the accrediting or licensing body that has certified the sleep clinic? (For service providers only)

## Objective 2: Funding Mechanism and Cost of Diagnostic Sleep Studies in Canadian Provinces and Territories

1. Under what funding mechanisms (e.g., global budget, fee-for-service, and so on) are the sleep studies funded by the public drug plans?
2. What are the billing codes and their dollar values — including professional fees, technical fees, or costs in other units, and their dollar values — for each of the 4 levels of sleep study that are funded by the public payer?
3. How many diagnostic tests are covered in given time period (e.g., once in a lifetime) for each of the 4 levels of sleep study that are funded by the public payer?
4. What (if any) are the copayment requirements for each of the 4 levels of sleep studies that are funded by the public payer?

## Objective 3: Other Considerations Such as Out-Of-Pocket Costs, Wait Times, and Patient Prioritization Criteria

1. What are the costs and relevant details of alternate funding mechanisms (e.g., out-of-pocket, private insurance, or a reduced fee or no fee [e.g., if the patient purchases the CPAP machine]) for each of the 4 levels of diagnostic sleep study if the provincial or territorial public plan does not cover the cost of the diagnostic sleep studies or if a patient is not eligible for coverage under provincial or territorial public plan?

2. How long do patients typically wait to meet with a sleep specialist or any health care professional who orders the sleep studies in the jurisdiction?
3. How long do patients typically wait for the different levels of diagnostic sleep studies covered by the public plan once they have been ordered by a sleep specialist or any health care professional who orders the sleep studies in the jurisdiction?
4. Are there any patient prioritization criteria based on the severity of symptoms for sleep studies?

## Study Design

We conducted an ES to gather information on public coverage of diagnostic sleep studies by provincial, territorial, and federal payers across Canada. Using a staged approach, we conducted a targeted search and review of grey and published literature. The literature informed the development of a survey distributed to 2 key groups: public payers and service providers. A draft report was posted for public feedback to validate the survey results and capture any additional insights. A detailed description of the methods is available in Appendix 1, and survey questions are provided in Appendix 2.

## Findings

The findings presented in this ES are based on a limited search and review of published and grey literature and a limited number of survey responses from payers and providers. Findings should be interpreted with caution.

A total of 527 citations were identified in the electronic literature searches. Following screening of titles and abstracts, no potentially relevant reports from the electronic search were retrieved for full-text review. Supplementary information was identified from grey literature such as clinical practice guidelines, websites including those of public payers and sleep clinics, 1 past report on a similar topic, news articles, and other sources that addressed our research questions; additionally, survey respondents provided relevant grey literature used to supplement the findings of the grey literature review.[8,13,17,21-24]

Forty-six individuals representing public payers or service providers responded to our survey, with responses from Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, NIHB, Nova Scotia, Ontario, Quebec, Saskatchewan, and VAC. In some instances, multiple individuals from the same organization responded to the survey. An additional 8 respondents opened the survey but did not complete any of the questions; these were removed from analysis.

Among the 46 respondents, 8 respondents represented 6 public payers, and 38 respondents represented providers: 6 public payers, 4 provincial (British Columbia, Nova Scotia, Ontario, and Saskatchewan) and 2 federal (NIHB and VAC). The 38 respondents representing providers were from 8 provinces: Alberta (10), British Columbia (4), Manitoba (1), New Brunswick (1), Newfoundland and Labrador (1), Ontario (13), Quebec (6), and Saskatchewan (2). No survey responses were collected for the Northwest Territories,

Nunavut, Prince Edward Island, or Yukon. A list of the survey respondents' organizations is provided in Appendix 3.

After a draft of this report was publicly posted for feedback, 6 responses were received. The feedback has been reviewed and integrated into our report findings. Feedback was received from individuals from the following organizations: the Canadian Sleep Society, the Canadian Society of Respiratory Therapists, Takeda Canada Inc., the University of Calgary (Alberta), and the University Health Network (Ontario), as well as from an independent caregiver (Nova Scotia).

Findings are summarized and reported by province for each of the 3 objectives. For transparency, all responses to survey questions are provided irrespective of small sample sizes.

## Objective 1: Public Plan Coverage

This section provides survey information collected on public plans that cover the cost of any of the 4 levels (level I to IV) of diagnostic sleep study, and any patient eligibility criteria. Payers were asked if there are specific requirements for a sleep clinic to receive reimbursement under their public plan. Service providers gave information on the type of sleep clinic (e.g., publicly funded sleep clinic at a hospital, sleep clinic at an independent health facility), whether their clinic was publicly funded or privately owned, and the name of the accrediting or licensing body that has certified their sleep clinic.

One survey respondent from NIHB stated that public coverage for diagnostic sleep studies is not provided. There are no sleep labs that conduct level I sleep studies in the Yukon[25] and no reported sleep labs in the Northwest Territories or Nunavut. VAC, a federal public plan, funds levels I and III sleep studies. VAC may also approve the full cost of a level I or III sleep study if it is not covered by the provincial health system.

Level I sleep studies are reimbursed by 9 provincial public payers (Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Nova Scotia, Ontario, Quebec, and Saskatchewan). Level II sleep studies are currently covered by 3 public payers (Manitoba, Nova Scotia, and Quebec). Level III sleep studies are reimbursed by 7 provincial public payers (Alberta, British Columbia, Manitoba, New Brunswick, Nova Scotia, Quebec, and Saskatchewan). Level IV sleep studies are reimbursed by 5 provincial public payers (Alberta, British Columbia, Ontario, Quebec, and Saskatchewan) (Table 2). No patient eligibility criteria (for example, income status, age, and so on) were specified by the respondents for public payer reimbursement, and 1 respondent from Quebec noted explicitly that there was no restriction on patient referral for a sleep test.

Among the 38 respondents that represented providers (sleep clinics), 34 offered level I, and 25 offered level III sleep studies at their facilities. Twenty-six sleep clinic respondents noted that they represented a sleep clinic at a hospital and were publicly funded, 4 were publicly funded independent health facilities and 4 were privately owned and not publicly funded.

Information on regulations for sleep clinic accreditation and physician qualifications was available for Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Nova Scotia, Ontario, Quebec, and Saskatchewan from the survey and supplemented by information available in literature.[22,26,27] Survey

respondents reported that health care providers authorized to order diagnostic sleep studies for public plan reimbursement of sleep tests vary by province and test level. For level I sleep tests, most provinces (Alberta, British Columbia, Manitoba, New Brunswick, Ontario, Quebec, and Saskatchewan) require referrals from "sleep specialists" (quotation marks indicate specific terms used by respondents), with some variations and additional restrictions. No definitions of service provider types were requested or provided and, as such, information on referring specialists for levels II to IV was unclear. A 2019 report highlighted that public facilities offering level I sleep testing in Alberta, British Columbia, Manitoba, New Brunswick, Ontario, Quebec, and Saskatchewan are subject to accreditation.[13] Five accrediting entities were identified, including Accreditation Canada, the College of Physicians and Surgeons of Alberta, the College of Physicians and Surgeons of British Columbia's Diagnostic Accreditation Program, the College of Physicians and Surgeons of Ontario (CPSO), and the Ontario Ministry of Health's Independent Health Facility (Appendix 4).

### Alberta

Ten providers from Alberta responded to our survey. Alberta Health Services (AHS) provides coverage for sleep study levels I and III. For level I sleep tests, Alberta requires referrals from "sleep specialists." For level III sleep tests, respondents noted that Alberta requires referrals from sleep specialists or "sleep lab–affiliated physicians." No definitions of service provider types were requested or provided. For level IV sleep tests, 1 respondent from Alberta noted that coverage is provided for sleep studies conducted in an AHS sleep lab and only as part of the pediatric labs.

It was reported that in Alberta, level I sleep studies must be conducted at AHS-specified hospitals (e.g., Foothills Medical Centre, Alberta Children's Hospital) for reimbursement eligibility. Sleep studies conducted in private labs are not reimbursed. One provider from Alberta commented that access to level IV testing outside of AHS laboratories has decreased since the implementation of College of Physicians and Surgeons of Alberta accreditation because some laboratories no longer accept testing requests for children, even if ordered by a pediatric specialist.

### British Columbia

One payer and 5 providers from British Columbia responded to our survey. British Columbia's Medical Services Plan provides coverage for sleep study levels I, III, and IV. For level I sleep tests, British Columbia requires referrals from a "sleep specialist." One respondent from British Columbia noted that the sleep specialists must be from the facility. For level III sleep tests, it was reported that British Columbia permits referrals from a "practitioner," "physician," "MD" or "nurse practitioner." No definitions of service provider types were requested or provided. For level IV sleep tests, respondents noted that British Columbia requires referrals from "practitioners." One respondent reported that "physicians" involved in a sleep study must hold the appropriate credentials relevant to the diagnostic services proposed to receive reimbursement under the public plan.

One respondent noted that before 2022, HSATs were unregulated and tests were performed by CPAP providers. Sleep clinics offering HSATs are now accredited by the Diagnostic Accreditation Program. For physicians exclusively working at, and affiliated with, private facilities, credentials from the College of Physicians and Surgeons of British Columbia are required. However, for physicians affiliated with public

diagnostic facilities, even if they work at private facilities, they must have credentials from a health authority. It was reported that The Medical Services Commission may approve facilities that have not yet met these requirements, provided that accreditation and credentialing are completed before the services are offered.

### Manitoba

Two providers from Manitoba responded to our survey. Manitoba Health reimburses sleep studies for levels I and III. Funding for level II sleep studies was instated in February 2023 on a short-term contract basis between Manitoba Health's Diagnostic and Surgical Recovery Task Force and Cerebra, a Winnipeg-based medical technology company. The purpose of this contract was to address the wait-list for sleep studies due to the COVID-19 pandemic. The initial contract was for 1,000 in-home PSG (level II sleep studies).[23,28,29] The Diagnostic and Surgical Recovery Task Force is no longer accepting patient or provider referrals.[30]

One respondent reported that for level II sleep tests, Manitoba requires referrals from "sleep specialists." No information on accreditation for sleep diagnostic studies in Manitoba has been identified through this ES.

### New Brunswick

One provider from New Brunswick responded to our survey. New Brunswick Medicare reimburses level I and III sleep studies. For level I sleep tests, it was reported that New Brunswick requires referrals from "sleep specialists affiliated with a sleep centre." For level III, it was reported that only sleep tests conducted through the Hospital Sleep Centre are eligible for reimbursement. Accreditation information was not explicit.

### Newfoundland and Labrador

One provider from Newfoundland and Labrador responded to our survey. They reported that the Newfoundland and Labrador Medical Care Plan reimburses level I sleep studies conducted at the 1 centre in Newfoundland and Labrador. It was noted that public funding only applies to "in-hospital" diagnostics, which excludes the sleep studies conducted by private clinics. There are also private home care companies that conduct level III sleep tests; however, these are not covered by provincial medicare.

### Nova Scotia

One payer from Nova Scotia responded to our survey. The recently published Nova Scotia Physician's Manual 2024 states that level I, II, and III have health service codes under the Nova Scotia health insurance programs.[26] Based on the 2024 physician's manual, the Nova Scotia Health Authority requires physicians to meet specific qualifications to claim health service codes for interpreting sleep studies. For level I sleep studies, physicians must have completed formal fellowship-level training and be credentialed by the Nova Scotia Health Authority to interpret such studies. Similarly, for level II and III sleep studies, physicians are required to have completed fellowship-level training, including the interpretation of sleep studies, to claim the corresponding health service codes.[26]

One caregiver from Nova Scotia who provided feedback on the draft report noted that her 2 children underwent home sleep tests. In both cases, the province covered the cost based on referral for a sleep study. One of the tests, which was described as "finger attachment without measuring oxygen levels," is likely a level IV sleep study, indicating that the costs of level IV tests are publicly covered for some pediatric

patients in Nova Scotia. The respondent did not provide further details of the patient's condition that qualified them (if any) for public coverage.

### Ontario

One payer and 14 providers from Ontario responded to our survey. The Ontario Health Insurance Plan reimburses levels I and IV sleep tests. For level I sleep tests, respondents from Ontario noted the requirement for referrals is from "physicians," while 1 respondent noted that referrals from "nurse practitioners," or "physician assistants" are permitted. For level IV sleep tests, 1 respondent noted that there were no specific referral requirements.

The Ontario Ministry of Health Schedule of Medical Benefits reports that the professional component of a sleep study is eligible for payment only if the following conditions are met:

> The physician interpreting the study must meet the qualifications outlined in the CPSO standards for sleep medicine, or if delegated, the physician must also meet these standards. Additionally, a qualified physician must be accessible throughout the sleep study to make decisions about the patient and ensure that all technical aspects, including setup and monitoring, are properly conducted.[22]

The technical component of a sleep study is eligible for payment if it meets the following requirements: "it adheres to conditions set out under 'Diagnostic Services Rendered at a Hospital,' is performed at a hospital or offsite location, a technician is present throughout the study, the technical staff meet CPSO standards, and all equipment and test components comply with CPSO standards."[22]

As of April 1, 2024, Accreditation Canada has taken on the role of inspecting all integrated community health services centres on behalf of the Ontario Ministry of Health. Nonhospital sleep labs, previously classified as independent health facilities, are now referred to as integrated community health services centres.[31,32]

### Quebec

Six providers from Quebec responded to our survey. Régie de l'assurance maladie du Quebec reimburses all 4 levels of sleep diagnostic studies. Information from respondents on the referring specialist was limited. For level I sleep tests, referrals from "sleep specialists" are required for reimbursement, and for level III sleep tests, Quebec permits referrals from "MDs."

### Saskatchewan

Two providers and 2 payers from Saskatchewan responded to our survey. Saskatchewan Health Authority reimburses levels I, III, and IV. One respondent reported that Saskatchewan only allows referrals from "sleep specialists" or "physicians" with Saskatchewan Health Authority sleep lab privileges, that only hospital-based sleep clinics are eligible for public funding, and that the billing code is limited to physicians with Saskatchewan Health Authority sleep lab privileges.

## Table 2: Levels of Sleep Studies Covered by Public Payers and Names of the Public Payers

| Jurisdiction | Level I | Level II | Level III | Level IV | Name of public payer |
|---|---|---|---|---|---|
| **Alberta** | Yes | Not funded | Yes | Yes[a] | Alberta Health Services |
| **British Columbia** | Yes | Not funded | Yes | Yes | Medical Services Plan |
| **Manitoba** | Yes | Yes[b] | Yes | Not funded | Manitoba Health |
| **New Brunswick** | Yes | Not funded | Yes | Not funded | New Brunswick Medicare |
| **Nova Scotia**[c] | Yes | Yes | Yes | Not funded | Medavie Blue Cross[d] |
| **Ontario** | Yes | Not funded | Not funded | Yes | Ontario Health Insurance Plan |
| **Quebec** | Yes | Yes | Yes | Yes | Régie de l'assurance maladie du Québec |
| **Saskatchewan** | Yes | Not funded | Yes | Yes | Saskatchewan Health Authority |
| **Veterans Affairs Canada** | Yes | Not funded | Yes | Not funded | Veterans Affairs Canada |
| **Non-Insured Health Benefits** | Not funded | | | | |
| **Prince Edward Island** | Information not available | | | | |
| **Northwest Territories** | Information not available | | | | |
| **Nunavut** | Information not available | | | | |
| **Yukon** | Information not available | | | | |

[a]Coverage restricted to pediatric labs within the Alberta Health Services sleep labs.

[b]Only funded on a short-term contract for the pandemic wait-list. No longer accepting patient or provider referrals.[23,28-30]

[c]Information is based on Nova Scotia's Physician's Manual 2024.[26]

[d]The Medical Services Insurance Programs are administered by Medavie Blue Cross on behalf of the Nova Scotia government.[33]

## Table 3: Details of the 38 Service Providers That Responded to the Survey — Levels of Sleep Studies Offered by the Sleep Clinic and Type of Sleep Clinic

| Jurisdiction | Number of responses to the question on levels of sleep studies offered by the sleep clinic and type of sleep clinic | Number of respondents providing levels of diagnostic sleep studies | | | | Type of sleep clinic | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Level I | Level II | Level III | Level IV | Sleep clinic at hospital, publicly funded | Sleep clinic (IHF), publicly funded | Privately owned, not publicly funded | Others |
| **Alberta** | 10 | 10 | 0 | 9 | 1 | 9 | — | — | 1[a] |
| **British Columbia** | 4 | 3 | 1 | 3 | 4 | 2 | — | — | 2[b] |
| **Manitoba** | 1 | 1 | — | 1 | — | 1 | — | — | — |
| **New Brunswick** | 1 | 1 | — | 1 | — | 1 | — | — | — |
| **Newfoundland and Labrador** | 1 | — | — | 1 | — | — | — | 1 | — |
| **Ontario** | 13 | 12 | — | 2 | 6 | 8 | 4 | — | 1[c] |
| **Quebec** | 6 | 6 | 3 | 6 | 4 | 4 | — | 2 | — |
| **Saskatchewan** | 2 | 1 | — | 2 | 1 | 1 | — | 1 | — |
| **Non-Insured Health Benefits** | Not applicable (federal plan) | | | | | | | | |
| **Veterans Affairs Canada** | Not applicable (federal plan) | | | | | | | | |
| **Nova Scotia** | No response from providers in the province | | | | | | | | |
| **Northwest Territories** | No response from providers in the territory | | | | | | | | |
| **Nunavut** | No response from providers in the territory | | | | | | | | |
| **Prince Edward Island** | No response from providers in the province | | | | | | | | |
| **Yukon** | No response from providers in the territory[d] | | | | | | | | |

IHF = independent health facility.

[a]Multiple facilities including hospital and private clinics.

[b]One respondent noted that they represent a regional hospital pulmonary function lab; 1 respondent noted that they are involved in the oversight and regulation of sleep clinics in British Columbia.

[c]One respondent noted that they work with surrounding sleep labs to obtain studies: Firestone Sleep Clinic, Hamilton Sleep Disorders Clinic, and Etobicoke Brampton Sleep Clinic.

[d]There are no sleep labs that conduct level I sleep studies in the Yukon.[25]

## Objective 2: Funding Mechanisms by Public Payers

This section reports survey information collected on what funding mechanisms are used by public drug plans for each of the 4 levels of sleep studies that are funded by the public payer. Information collected includes billing codes and dollar values for reimbursement, any stipulated time periods (e.g., once in a lifetime), and any copayment requirements. Information on public payer funding mechanisms for sleep studies was available for 1 federal and 7 provincial payers. Information for Alberta, British Columbia, Manitoba, New Brunswick, Ontario, Quebec, and Saskatchewan is based on responses from the survey and supplemented by information available in literature (e.g., statement of benefit, physician payment schedule). Information on the funding mechanism for sleep studies for Nova Scotia was gathered from grey literature (payment schedules).[13,26]

Two payers representing NIHB reported that they provide no reimbursement for sleep diagnostic studies. One respondent from VAC, a federal public plan that funds levels I and III sleep studies, follows the rate set by the province for provincially insured services. VAC may also approve the full cost of a level I or III sleep study if it is not covered by the provincial health system. More specifically, for level I studies, VAC specifies reimbursement for “A” and “B” clients. For A clients, if the sleep study pertains to the client’s Medical Pension Code (MPC), the request may be approved up to the rate set by the province for that provincially insured service. If the service is not covered by the provincial health system, then the full cost of the service may be approved. For VAC’s B clients, if a demonstrated health need exists and the service is not offered by the provincial health care system, the request may be approved accordingly. For level III studies, the VAC respondent stipulated that A clients are reimbursed if the sleep study is related to the client’s MPC, and the request may be approved up to the provincial rate established for provincially insured services. If the service is not covered by the province, it can be approved in full. For A and B clients, if the sleep study is related to the client’s MPC or, if not related to the MPC but there is a demonstrated health need and the service is not provided by the provincial health care system, the request may be approved up to the rate established for provincially insured services. If not covered, the service can be approved in full. For clients pensioned for post-traumatic stress disorder, requests can be approved by the analyst without a consultant’s recommendation. All other requests must be sent to a consultant for review. For B clients, if a demonstrated health need exists and the service is not offered by the provincial health care system, the request may be approved. Requests from a Programs of Choice (POC) 09 (Oxygen Therapy) provider for a sleep study, the request must be processed under POC 05 (Hospital Services) using a Miscellaneous Provider ID. Interpretation fees are reimbursed only if interpreted by a specialist (e.g., respirologist; ear, nose, and throat specialist; neurologist; psychiatrist; or general internist with specialized sleep medicine knowledge). WatchPAT (a level III at-home sleep study device interpreted by a specialist) can be processed under POC 05.

Two provincial payers (Alberta, Saskatchewan) are reported to use global budgets only, 3 provincial payers (British Columbia, Manitoba, Nova Scotia) are reported to use fee-for-service to reimburse diagnostic sleep studies, and 2 provincial payers operate with a mix of global budgets and fee-for-service (Ontario, Quebec). For level I sleep studies, costs range from approximately $45 (Quebec) up to $298 (Saskatchewan) for professional fees and are listed as $370.75 (Ontario) and $379 (British Columbia) for technical fees. The cost

of level III sleep studies varies between jurisdictions and ranges from approximately $30 (Alberta) up to $142 (Manitoba) for professional fees and is reported to be $82 (British Columbia) for technical fees. The cost of a level IV sleep study varies between jurisdictions and is reported to be up to $30 for professional fees (Saskatchewan) and $17 (Ontario) for technical fees. Respondents from Alberta, Manitoba, New Brunswick, and Quebec noted that there are no limits on the number of diagnostic sleep tests in any given period. All survey respondents noted that there were no copayments by patients required for publicly funded diagnostic sleep studies. Results are presented in Table 4.

## Table 4: Public Payer Funding Mechanisms, Costs, and Billing Codes

| Jurisdiction | Funding mechanism | Cost (public payer) professional fee | Cost (public payer) technical fee | Billing code |
|---|---|---|---|---|
| **Level I** | | | | |
| **Alberta** | GB[a] | $140 to $150 | None | None |
| **British Columbia**[b] | FFS | $164.17 | $379.57 | ST 11915 (professional fee); ST 11916 (technical fee) |
| **Manitoba** | FFS | $216.50 | Information not available | 8872 |
| **New Brunswick**[b] | Information not available | | | 167 (interpretation of hospital-performed sleep EEG),<br>851 level I — sleep study<br>2134 overnight sleep study — interrupted only<br>8211 pediatric hospital sleep EEG interpretation |
| **Nova Scotia**[c] | FFS | 60 MSU at $2.84 per MSU | | 03.19C |
| **Ontario**[b] | FFS (and GB[d]) | $97.50[e] | $370.75[e] | J896 (initial), J897 (repeat) |
| **Quebec** | GB and FFS | ~$45 or ~$150[f] | Information not available | 8475, 08475 |
| **Saskatchewan**[b] | GB | $298.30 (specialist)<br>$268.40 (GP) | Not applicable[g] | 281D diagnostic (includes visit) |
| **Non-Insured Health Benefits** | Not funded | | | |
| **Veterans Affairs Canada** | As per the rate set by the province for the provincially insured service | | | |
| **Newfoundland and Labrador** | Information not available | | | |
| **Northwest Territories** | Information not available | | | |
| **Nunavut** | Information not available | | | |
| **Prince Edward Island** | Information not available | | | |
| **Yukon** | Information not available | | | |
| **Level II** | | | | |
| **Manitoba** | Not applicable[h] | Fee: $600[i] | | Not applicable (on contract) |

| Jurisdiction | Funding mechanism | Cost (public payer) professional fee | Cost (public payer) technical fee | Billing code |
|---|---|---|---|---|
| **Nova Scotia**[c] | FFS | 35 MSU at $2.84 per MSU | | 03.19F |
| **Quebec** | FFS | ~$150 | Information not available | 8475 |
| **Alberta** | Not funded | | | |
| **British Columbia** | Not funded | | | |
| **New Brunswick** | Not funded | | | |
| **Newfoundland and Labrador** | Not funded | | | |
| **Non-Insured Health Benefits** | Not funded | | | |
| **Ontario** | Not funded | | | |
| **Saskatchewan** | Not funded | | | |
| **Veterans Affairs Canada** | Not funded | | | |
| **Northwest Territories** | Information not available | | | |
| **Nunavut** | Information not available | | | |
| **Prince Edward Island** | Information not available | | | |
| **Yukon** | Information not available | | | |
| **Level III** | | | | |
| **Alberta** | GB | ~$30 | None | None |
| **British Columbia**[b] | FFS | $82[j] | $82.25[j] | PS 11925 (professional fee), PS 11926 (technical fee) |
| **Manitoba** | FFS | $142.40 | Information not available | 8875 |
| **New Brunswick**[b] | Information not available | | | 852 |
| **Nova Scotia**[c] | FFS | 25 MSU at $2.84 per MSU | | 03.19G |
| **Quebec** | GB and FFS | $100; $25[f] | Information not available | 8472 |
| **Saskatchewan**[b] | GB | $55.70 (specialist); $50.20 (GP) | Not applicable | 284D portable sleep study |
| **Veterans Affairs Canada** | As per the rate set by the province for the provincially insured service | | | |
| **Newfoundland and Labrador** | Not funded | | | |
| **Non-Insured Health Benefits** | Not funded | | | |
| **Ontario** | Not funded | | | |
| **Northwest Territories** | Information not available | | | |
| **Nunavut** | Information not available | | | |
| **Prince Edward Island** | Information not available | | | |
| **Yukon** | Information not available | | | |

| Jurisdiction | Funding mechanism | Cost (public payer) professional fee | Cost (public payer) technical fee | Billing code |
|---|---|---|---|---|
| **Level IV** | | | | |
| **Alberta** | GB[k] | Information not available | None | Not specified |
| **British Columbia**[b] | FFS | $27.36[j] | $15.32[j] | S00910 (professional fee); S00911 (technical fee) |
| **Ontario**[b] | FFS | $11.35[l] | $17.60[l] | J332 |
| **Quebec** | GB and FFS | $25; $10[f] | Information not available | 8489 |
| **Saskatchewan**[b] | GB | $30 (specialist; GP) | Information not available | 280D |
| **Manitoba** | Not funded | | | |
| **New Brunswick** | Not funded | | | |
| **Newfoundland and Labrador** | Not funded | | | |
| **Non-Insured Health Benefits** | Not funded | | | |
| **Nova Scotia** | Not funded | | | |
| **Veterans Affairs Canada** | Not funded | | | |
| **Northwest Territories** | Information not available | | | |
| **Nunavut** | Information not available | | | |
| **Prince Edward Island** | Information not available | | | |
| **Yukon** | Information not available | | | |

EEG = electroencephalogram; FFS = fee-for-service; GB = global budget; GP = general practitioner; MSU = Medical Service Unit.

[a]Medical doctors are paid per polysomnography interpreted from the hospital global budget.

[b]Based on information from survey responses, feedback on the draft report, and grey literature — British Columbia,[21] New Brunswick,[34] Ontario,[22] and Saskatchewan.[27]

[c]Based on information from the grey literature.[13,26] The Health Service Codes for sleep testing are not divided into "professional" and "technical" fees. Instead, each service is assigned a certain number of MSUs, which represent the total fee-for-service.[13,26]

[d]Specialized inpatient sleep studies in hospitals are covered through the global budget. Professional and technical fees are covered through fee-for-service.

[e]The professional fee and technical fee apply to the initial diagnostic study, repeat diagnostic studies, and sleep studies conducted for therapeutic purposes. Of note, a technical fee is paid for a recording even if it does not contain information sufficient for diagnostic interpretation as determined in accordance with generally accepted standards as set out in the CPSO standards. The professional fee is not eligible for payment. The technical fee, which is determined by the time in bed (total study time), is $92.65 for a sleep study of less than 1 hour (billing code J898), $185.40 for a sleep study of between 1 and 4 hours (billing code J899), and $370.75 for a sleep study of more than 4 hours (billing code J990). Additionally, Ontario also covers the cost of the multiple sleep latency test (billing code J893) and maintenance of wakefulness test (billing code J894), which is $49.90 for the professional fee and $68.95 for the technical fee.

[f]For pediatrics in Quebec under mixed renumeration, there is no cost for the services.

[g]Services occurring within a provincially designated sleep laboratory are not eligible for technical fees.

[h]Service provided on a short-term contract to address the pandemic wait-list. No longer accepting patients of provider referrals.[23,28-30]

[i]The fee includes a combined professional and technical fee to the company providing the service on contract.

[j]Must be performed at sleep labs only.

[k]Coverage restricted to pediatric labs within the Alberta Health Services sleep labs.

[l]A respondent who provided feedback on the draft report emphasized that the funding is specifically allocated for home overnight oximetry testing rather than level IV studies. They noted that while certain level IV studies, such as WatchPAT, provide additional data and are technically covered under Ontario funding, these reimbursement rates are aligned with simpler tests involving automated data downloads.

Note: "Not specified" means that the respondent has not provided the information. It does not necessarily mean there is no cost or funding mechanism.

### Alberta

In Alberta, all costs, including the interpretation cost, are covered through the hospital global budget, and as such, there are no technical fees for any level of reimbursed sleep studies. There are no limits on the number of diagnostic sleep tests in any given period. For level IV studies, 1 respondent noted that these must be conducted in the pediatric sleep labs at an AHS hospital to be eligible for public funding.

### British Columbia

In British Columbia, all costs are reimbursed through fee-for-service. There are no formal restrictions on repeat testing for patients. For level I and level III — to align with clinical best practices — retesting and referral for retesting of previously diagnosed patients for the purpose of replacement device coverage is not funded by the Medical Services Plan.

### Manitoba

In Manitoba, all costs are reimbursed through fee-for-service. There are no limits on the number of diagnostic sleep tests in any given period. The funding mechanism for level II sleep studies is not applicable in Manitoba as it is only offered on a short-term contract basis to address the impact of the COVID-19 pandemic on wait-lists; these were paid at $600 (combined professional and technical fee).

### Nova Scotia

In Nova Scotia, all costs are reimbursed through fee-for-service, and services are assigned a certain number of medical service units, which represents a combination of the technical and professional fees as a total fee.[13,26]

### Ontario

In Ontario, a mix of fee-for-service and global budget is used to reimburse level I and IV sleep studies. One respondent from Ontario noted that specialized inpatient sleep studies are funded through global budgets, and professional and technical fees are paid as fee-for-service. Ontario allows initial level I diagnostic tests once per lifetime and repeat level I diagnostic studies are limited to 1 per patient, per facility, per 12-month period, except when prior approval has been given.[22] Level IV sleep tests can be conducted without any restrictions on the number of tests, require the facility to maintain permanent medical records, and must be done without a sleep study conducted simultaneously.

### Quebec

In Quebec, levels I, III, and IV sleep studies are reimbursed through combinations of fee-for-service and global budgets, with level II sleep studies reimbursed via fee-for-service. It was reported that there are no limits on the number of diagnostic sleep tests in any given period. While 3 respondents noted that a level IV study in Quebec is funded through the global hospital budget, 1 noted that it is funded through a fee-for-service mechanism. We have not been able to verify this information.

### Saskatchewan

In Saskatchewan, all costs are reimbursed through their global budget. As such, there are no technical fees reported. Repeat level I and level III sleep tests within 42 days require a physician’s explanation.[27]

## Objective 3: Out-of-Pocket Costs, Wait Times, and Patient Prioritization

This section reports collected information on the cost and relevant details on any out-of-pocket costs for patients when a patient is not eligible for coverage under a provincial or territorial public plan. We gathered information available on wait times and patient prioritization criteria.

For diagnostic sleep studies not covered through public plans, patients pay out-of-pocket to private clinics. Patients may or may not be supported financially via personal or employer-provided private insurance coverage. Survey responders reported direct expenses at their private sleep study clinics. Specifically, 3 providers reported private costs for level I sleep studies ranging from $1,000 to $2,000 (in Alberta, Ontario, Quebec). For level II studies, 2 providers in Quebec reported private costs that range from $1,000 to $1,500. Providers reported costs of approximately $200 (Alberta), $250 (Ontario), and $699 (Quebec) for level III studies. For level IV sleep studies, 1 provider in Alberta reported costs of up to $50, and 1 provider in Quebec reported out-of-pocket costs of up to $150. One respondent who provided feedback on our draft report noted that they have frequently heard from patients who, unable to afford treatment, might forgo testing altogether.

Information on wait times was surveyed at 2 diagnostic stages — the wait times for the necessary referral (in some cases) to a sleep specialist for assessment before sleep testing and the wait times for the sleep study — for each of the 4 levels of testing. Patient prioritization criteria vary provincially and were reported by survey respondents from Alberta, British Columbia, Manitoba, New Brunswick, Ontario, Quebec, and Saskatchewan.

Of the 28 respondents who answered the question on wait times to meet with a sleep specialist or a health care professional responsible for ordering the sleep studies, 18 respondents reported wait times between 6 months and 1 year or more than 1 year (in Alberta, British Columbia, Manitoba, New Brunswick, and Saskatchewan). Survey respondents reported experiencing wait times of more than 1 year for patients to meet with a sleep specialist or a health care professional in Alberta, Ontario, and Quebec.

Following the referral, 28 providers reported information on wait times for level I sleep studies. These were reported to vary considerably across the country, from no wait times (1 respondent in Alberta) to 2 years (1 respondent in Quebec). Three providers reported wait times for testing of less than 3 months (in Manitoba and Quebec) and 3 to 6 months (in Ontario). Twelve providers reported their experience with wait times for level III studies, ranging from no wait times (2 respondents from Alberta and British Columbia) through to 3 respondents reporting a 6-month to 1-year wait (in Quebec). Eleven providers reported a range of wait times for level IV sleep studies, from no wait time (6 respondents from Alberta, British Columbia, Ontario, and Quebec) to 1 respondent observing waiting times of 6 months to 1 year (in Quebec).

### Alberta

Nine providers reported average observed wait times for patients to be seen by a sleep specialist or health care professional eligible to order a sleep test. Five respondents reported a wait time of 3 to 6 months, 1 provider reported a wait of 6 to 12 months, and 3 providers reported a wait of more than 1 year.

For level I studies, 9 providers reported average observed wait times: no wait times (n = 1), less than 3 months (n = 5), 3 months to 6 months (n = 1), and 1 year to 2 years (n = 2). For level II studies, no information was reported. For level III studies, 8 providers reported no wait times (n = 1) and a wait of less than 3 months (n = 7). For level IV studies, 1 provider reported no wait time. One respondent indicated that there are significant wait times, particularly for pediatric patients.

Nine respondents reported patient prioritization criteria for addressing wait times for diagnostic sleep studies. These criteria vary:

- Specialist decision: The need for a level I sleep study is determined by the sleep specialist and is based on clinical factors such as likelihood of obesity hypoventilation syndrome, major medical comorbidities, and social factors.
- HSAT: An HSAT is usually done quickly for new referrals, with no specific prioritization criteria, and is used to aid triage. Triage at some centres is based on the severity of sleepiness, medical history, occupation, and HSAT results.
- Urgent versus nonurgent: At 1 of the publicly funded sleep centres, the wait time is 12 to 15 months for a normal referral, 3 to 4 months for a semiurgent referral, and 1 to 2 months for an urgent referral.[35] A survey respondent from the same clinic validated these wait time standards, stating that their clinic sees urgent cases within 2 months, which are then tested within weeks, while nonurgent cases can wait 12 to 18 months for a specialist consultation and weeks to months for testing. Children's hospital wait times for nonurgent cases can extend more than a year.
- Triage: Criteria for triage include questionnaire responses, referral questions, and HSAT findings. For severe cases, additional tests like level III or IV sleep tests may be used.
- Urgent prioritization: Patients with severe conditions such as hypoxia, high Epworth Sleepiness Scale (ESS) scores, or critical occupations are given priority for faster testing.

### British Columbia

Respondents from British Columbia noted that the province is not currently collecting wait times data for PSG services except for level I studies.

Four providers reported average observed wait times for patients to be seen by a sleep specialist or health care professional eligible to order a sleep test. Three respondents reported a wait time of less than 3 months, and 1 provider reported a wait time of 6 to 12 months.

For level I studies, 4 providers reported average observed wait times of less than 3 months (n = 2), 3 to 6 months (n = 1), and 1 year to 2 years (n = 1). For level II studies, no information was reported. For level III studies, 4 providers reported no wait times (n = 1) or a wait of less than 3 months (n = 3). For level IV studies, 3 providers reported no wait times (n = 2) or a wait time of less than 3 months (n = 1).

Five respondents reported that patient prioritization criteria for diagnostic sleep studies are handled as follows:

- Triage: Sleep clinic physicians or the medical director at the facilities triage all patients for sleep studies.
- Urgent cases: Patients with urgent needs may be prioritized more quickly for sleep studies.
- Provincial criteria: Triage decisions are guided by provincial criteria, which consider factors such as patient symptoms and occupation. The wait time benchmarks for a level I sleep study are set as follows:
  - Priority 1 (urgent) patients are expected to wait 2 weeks to 4 weeks and include those with suspected sleep disorders and significant daytime sleepiness (ESS greater than or equal to 10), along with additional risk factors such as comorbid diseases (ischemic heart disease, cerebrovascular disease, congestive heart failure, obstructive or restrictive lung disease, pulmonary hypertension, hypercapnic respiratory failure) or who are in high-risk occupations (truck, taxi, and bus drivers, and railway engineers, airline pilots, and car drivers who admit to have fallen asleep while driving within the last 2 years) or have or overnight home oximetry that reveals more than ten 4% desaturations per hour. All patients who are considered high-risk are advised to cease their occupation and personal driving until after their polysomnogram has been reviewed and/or appropriate treatment has commenced.
  - Priority 2 patients, who have suspected sleep disorders and major daytime sleepiness (ESS greater than or equal to 10) but no additional risk factors, have a benchmark wait time of 2 months.
  - Priority 3 patients, who may have suspected sleep disorders without major daytime sleepiness or comorbidities or who have a high-risk occupation, are benchmarked to wait up to 6 months.

### Manitoba

One provider reported average observed wait times of 6 to 12 months for patients to be seen by a sleep specialist or health care professional eligible to order a sleep test.

For level I studies, 1 provider reported average observed wait times of 3 to 6 months (n = 1); for level II studies, 1 provider reported a wait time of less than 3 months; for level IV studies, no information was reported. For level III studies, 1 provider reported a wait of 3 to 6 months; for level IV studies, no information was reported.

### New Brunswick

One provider reported average observed wait times of 6 to 12 months for patients to be seen by a sleep specialist or health care professional eligible to order a sleep test.

For level I studies, 1 provider reported average observed wait times of 3 to 6 months (n = 1). For level II studies, no information was reported. For level III studies, 1 provider reported a wait time of less than 3 months (n = 7). No information was reported for level IV studies.

It was reported that for level I sleep studies, priority is given to those with severe OSA diagnosed through a level III sleep study, cardiac history, comorbidity, and occupation (for example, drivers for a living, pilots, heavy equipment operators). For level III sleep studies, priority is given to those referred by a cardiologist.

### Ontario

Eight providers reported average observed wait times for patients to be seen by a sleep specialist or health care professional eligible to order a sleep test. Two respondents reported a wait time of 3 to 6 months, 3 providers reported a wait time of 6 to 12 months, and 3 providers reported a wait time of more than 1 year.

For level I studies, 7 providers reported average observed wait times: less than 3 months (n = 1), 3 to 6 months (n = 5), and 1 to 2 years (n = 1). For level II studies, 1 provider reported wait times of 3 to 6 months. For level III studies, 2 providers reported a wait of less than 3 months (n = 1) or 3 to 6 months (n = 1). For level IV studies, 2 providers reported no wait time (n = 1) or less than 3 months (n = 1).

One provider noted that timelines are particularly long for pediatric patients, reporting that inadequate funding for staffing has led to significant delays in care, with only 2 night staff available for 4 beds, resulting in long wait-lists: more than 2 years for pediatric patients who are younger than 4 years, have developmental delays, or are already on therapy with CPAP or a ventilator. One respondent from Ontario noted that the next availability for a level I sleep study in their facility for pediatric patients is April 2026 (more than 18 months).

Nine providers reported that patient prioritization criteria for diagnostic sleep studies are guided by both provincial guidelines and individual facility practices, such as:

- **Clinical factors:** Triage is based on clinical severity, medical history, morbid obesity, cardiovascular diseases, and the frequency and severity of night and day symptoms. Age, comorbidities, and whether the level I study will inform other medical care (e.g., surgery timing) are additional considerations.
- **Facility-specific systems:** Each facility manages its own triaging system, with hospitals prioritizing hypercapnic patients, those with multimorbidity, those with high STOP-BANG scores, or those needing urgent interventions (e.g., surgery, cancer care, transplant). External referrals are often triaged based on available information and wait times.
- One respondent noted that patients suspected of severe sleep apnea are triaged to be seen within 4 weeks or less. Otherwise, they are expected to be seen around or within 6 months. It was not noted whether these timelines apply to specific levels of sleep studies and if these timelines are set by the respondent’s sleep clinic or represent a province-wide standard for all publicly funded sleep studies.

### Quebec

Four providers reported average observed wait times of more than 1 year for patients to be seen by a sleep specialist or health care professional eligible to order a sleep test.

For level I studies, 4 providers reported average observed wait times: less than 3 months (n = 1), 6 to 12 months (n = 1), 1 to 2 years (n = 1), and more than 2 years (n = 1). For level II studies, 1 provider reported a wait time of less than 3 months. For level III studies, 4 providers reported a wait time of less than 3 months

(n = 1) or wait times of 6 to 12 months. For level IV studies, 4 providers reported no wait time (n = 2), a wait time of less than 3 months (n = 1), or a wait time of 6 to 12 months (n = 1).

Three providers reported that patient prioritization for diagnostic sleep studies is based on various clinical and occupational factors:

- ESS and driving risk: Patients with high ESS scores and those whose jobs require driving or who face safety risks while driving are prioritized.
- Clinical criteria: Symptoms, questionnaire responses, oximetry results, and clinic visits are used for triage, typically managed by a nurse. Patients with complex conditions and comorbidities (e.g., neuromuscular disorders, Down syndrome, infants) receive higher priority.
- Centre de répartition des demandes de services system: In some cases, prioritization is handled through the Centre de répartition des demandes de services system, which allocates priority based on the clinical information provided at referral.

### Saskatchewan

One provider reported average observed wait times of 6 to 12 months for patients to be seen by a sleep specialist or health care professional eligible to order a sleep test.

For level I studies, 1 provider reported average observed wait times of 3 to 6 months. For level II and III sleep studies, no information was reported. For level IV studies, 1 provider reported wait times of less than 3 months.

Four providers reported that patient prioritization for diagnostic sleep studies is based on a triage system that categorizes patients as urgent or nonurgent:

- Specialist decision: The urgency of level I testing is determined by the specialist based on the patient’s condition.
- Urgent cases: Patients classified as urgent are prioritized and receive their tests ahead of nonurgent cases.

## Limitations

Findings of this ES are based on very limited publicly available literature and survey responses from a small sample of payers and providers. This ES did not conduct a comprehensive systematic review and critical appraisal of all the available literature on diagnostic sleep studies. There is potential for inaccuracies or biases in the survey responses, particularly as respondents’ perceptions are localized, which may be reflected in our summary of the current landscape of sleep study coverage across Canada.

A significant limitation for this report is the lack of readily available information on public coverage for diagnostic sleep studies, necessitating reliance on a relatively small sample of survey respondents. The survey was conducted in August 2024, which may have influenced participation and response rates. To mitigate potential gaps, we invited feedback on our draft report in November 2024 to validate the content

of the report and gather additional insights. Ultimately, we were unable to gather information from any respondents working in the territories (the Northwest Territories, Nunavut, and Yukon) and Prince Edward Island, which limits the comprehensiveness of the findings.

The information presented cannot predict future trends in public coverage or wait times, especially as health care systems adapt to ongoing changes in demand and delivery methods. Lastly, the report is specific to the context of diagnostic sleep studies in Canada and may not be generalizable or compared to similar initiatives in other countries.

## Conclusions and Implications for Decision- or Policy-Making

This ES reveals a complex landscape for access to, and public coverage of, diagnostic sleep studies across Canada. Limited publicly available documentation and survey results from a small sample of public payers and providers suggest that public coverage across the 4 levels of diagnostic sleep studies varies. No information was identified for Prince Edward Island and the territories (the Northwest Territories, Nunavut, and Yukon).

While level I sleep studies, the most technically and financially intensive tests, are covered in most provinces, access to level II, III, and IV studies is less consistent, often limited to a few jurisdictions. Of the 2 federal plans (NIHB and VAC) that responded to the survey, the NIHB does not fund sleep studies, and VAC reimburses sleep studies if no provincial funding is available. No level I sleep clinic laboratories were identified in the territories (the Northwest Territories, Nunavut, and Yukon). Residents have limited local options for the diagnosis of sleep disorders and are required to travel to neighbouring provinces, thereby experiencing the additional burden of time and travel expenses to access testing.

When public coverage is available, funding mechanisms were reported to vary across payers. For 3 provinces (New Brunswick, Newfoundland and Labrador, Prince Edward Island) and territories (the Northwest Territories, Nunavut, and Yukon), no information on funding was available. In 3 provinces (British Columbia, Manitoba, Nova Scotia) a fee-for-service model is used, with Alberta and Saskatchewan utilizing global hospital budgets and Ontario and Quebec using a mix of both mechanisms. Costs of testing across provinces vary. Survey respondents reported that no patient eligibility criteria or copayments are required when sleep studies are publicly funded.

Information submitted by providers on out-of-pocket costs to patients was limited, with expenses reported to range from $1,000 to more than $2,000 for level I studies, depending on the province and provider. Costs associated with at-home testing are cheaper; however, there is potential for financial barriers to preclude some patients from undergoing necessary studies and diagnosis, potentially exacerbating existing health inequities across the country, particularly for equity-deserving populations.

The Canadian Thoracic Society guidelines recommend that patients with suspected severe OSA syndrome and those in safety-critical occupations be treated as urgent cases and investigated within 4 weeks. Similarly, patients with specific comorbidities (e.g., unstable ischemic heart disease, cerebrovascular disease,

congestive heart failure, pregnancy) should also be investigated within 4 weeks. All other patients should be assessed within 6 months.[9] Average observed wait times reported by a small sample of providers varied within and between provinces. Some respondents are observing waiting times beyond those recommended by national professional societies, particularly for patients with suspected severe conditions such as OSA syndrome. Long wait times were also reported to impact pediatric patients. Variability may be influenced by geographical factors, with individuals in rural areas often facing longer delays compared to their urban counterparts.

Some information was gathered on patient prioritization criteria; however, this is not, to our knowledge, standardized across providers within provinces or across the country, and there are likely inconsistencies in how patients are triaged based on clinical risks. While some provinces employ rigorous systems to prioritize urgent cases — such as those with severe OSA or safety-critical occupations — others rely on varying protocols that may not adequately address the complexities of individual patient needs.

Estimates suggest that the prevalence of sleep disorders in Canada is relatively high. While the importance of timely diagnosis of such disorders is well understood, information collated in this report provides an early indication that there are barriers to diagnosis. The findings of this ES, albeit based on limited available information and a relatively small sample of survey respondents, signal that the landscape across the country is highly varied. Both access and public coverage of sleep tests differ geographically across Canada and, as such, equitable access to these essential diagnostic tools is discordant.

Efforts to collect and publish information provincially and within the territories on diagnostic sleep study systems would support a more thorough understanding of the national landscape. With the aim of encouraging consistent access to sleep disorder diagnosis across Canada, reviewing regional public coverage, addressing the financial barriers posed by out-of-pocket costs, benchmarking wait times, and setting standardized patient prioritization criteria are potential steps to make system improvements for these patients.

## Data Extraction

One reviewer performed data extraction directly into tables created in Microsoft Word. The information extracted included the bibliographic details (e.g., authors, year of publication, and country or Canadian jurisdiction of origin) of included papers, websites, or other sources of information and a description of the information or findings that were relevant for addressing the research questions.

## Survey

Due to limited availability of recent information found in published literature, we conducted a survey to complement the findings of our literature review. Two surveys were developed, 1 each for payers (13-question) and providers (15-question). The surveys were revised following internal review and pilot testing by the representative from the jurisdiction that requested the ES. The survey included open-ended and close-ended questions designed to capture the information outlined in Table 5. Survey questions are presented in Appendix 2. The survey was only prepared in English.

The survey was distributed using Survey Monkey on July 25, 2024, to the 2 groups — payers and providers. Canada's Drug Agency (CDA-AMC) posted the surveys on its social media platforms (Facebook, LinkedIn, X). Meetings were held with representatives from the Canadian Sleep Society and the Canadian Thoracic Society to encourage uptake of the survey, particularly among sleep clinics (providers). The survey was sent to members of the Canadian Thoracic Society and the Canadian Sleep Society via email. Similarly, public drug plan members of the CDA-AMC Advisory Committees (Device Advisory Committee and Formulary Working Group) also supported the uptake of the survey by circulating it among the relevant individuals in their departments. Responses were collected until September 2, 2024. All respondents provided explicit permission to use the information that they provided in this report. While none of the respondents identified any specific conflict of interest, a conflict of interest is inherent and unavoidable in the context of this survey, which aims to gather information from experts who are directly involved as payer or providers for diagnostic sleep studies.

## Open Feedback Phase

A draft report was posted on CDA-AMC website from November 5, 2024, to November 29, 2024, to validate the information gathered through the survey and literature and capture any additional insights related to public coverage of diagnostic sleep studies. The Canadian Sleep Society and the Canadian Thoracic Society were contacted and notified that the report was available for review. Targeted advertising on LinkedIn was utilized to disseminate the report to those self-reporting as Sleep Specialists and Health Ministry Advisors in Prince Edward Island and the territories (the Northwest Territories, Nunavut, and Yukon), to promote the report in groups yet to respond to the survey.

## Synthesis Approach

One reviewer analyzed the data collected from each of the data sources (i.e., literature search, survey, open feedback). A descriptive analysis was conducted to address the research questions which in turn informed the 3 objectives of this report. This report incorporated findings from both the literature review and the survey to comprehensively summarize findings for all jurisdictions where possible. Any information coming solely from the literature review or survey responses was identified as such. When there is contradictory information between the literature and survey responses, both sources are presented. Both full and partial survey responses were considered in the analysis. In our synthesis approach, we present the information without specifying the frequency of each response from the survey, instead presenting the data as a range or summarizing the full scope of information provided. Of note, our survey was designed to categorize payers and providers. While 2 respondents categorized themselves as "providers," 1 is involved in the oversight and regulation of sleep clinics (British Columbia), and another works with surrounding sleep labs to obtain studies (Alberta). The report does not present their response separately and has been presented as 1 provider's response.

Based on the descriptive analysis, the reviewer produced a narrative summary that reflected the included data and was organized by objective. Objective 1 (i.e., details of public plans' coverage) was addressed by summarizing information answering research questions 1 to 6. Objective 2 (i.e., funding mechanism and cost) was addressed by summarizing information answering research question 7 to 10. Objective 3 (i.e.,

other considerations such as out-of-pocket costs, wait times, patient prioritization criteria) was addressed by answering research questions 11 to 14.

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# Appendix 1: Methods

Please note that this appendix has not been copy-edited.

## Literature Search

An information specialist conducted a literature search on key resources, including MEDLINE, the Cochrane Database of Systematic Reviews, the International HTA Database, the websites of Canadian and major international health technology agencies, as well as a focused internet search. The search approach was customized to retrieve a limited set of results, balancing comprehensiveness with relevancy. The search strategy comprised both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. Search concepts were developed based on the elements of the research questions and selection criteria. The main search concept was diagnostic sleep studies. The search was completed on July 3, 2024, and limited to English-language documents. Internet links were provided, where available. Additional targeted grey literature searching was conducted on October 2, 2024, and October 9, 2024, for information on diagnostic sleep studies in jurisdictions where no information was available from the survey.

## Screening and Study Selection

One reviewer screened and selected from all sources of information retrieved in the literature searches. Literature that provided information related to the research questions was screened for selection, and those that met the inclusion criteria (Table 5) were summarized within the report. All publication types were eligible if they were published in English.

### Table 5: Components for Literature Screening and Information Gathering Through a Survey on Federal, Provincial, and Territorial Coverage of Diagnostic Sleep Studies

| Component | Description |
|---|---|
| **Population** | Adults and children experiencing sleep disturbances or at risk for sleep apnea |
| **Intervention** | Various levels of diagnostic sleep studies:<br>• level I — polysomnography (PSG), in-lab attended<br>• level II — polysomnography (PSG), at-home unattended<br>• level III — home sleep apnea test (HSAT), at-home unattended<br>• level IV — sleep apnea screening with oximetry, at-home unattended |
| **Settings** | Federal, provincial, or territorial public plans across Canada<br>Sleep clinics across Canada |
| **Types of information** | **Objective 1: Details of public plans' coverage of diagnostic sleep studies**<br>1. Public plan that covers the cost of any of the 4 levels (level I to IV) of diagnostic sleep study<br>2. Levels of diagnostic sleep study provided by the facility (for service providers only)<br>3. Type of sleep clinic (e.g., sleep clinic at a hospital, publicly funded; sleep clinic (independent health facility) and publicly funded; privately owned and publicly funded; or privately owned and not publicly funded, and so forth) (for service providers only) |

| Component | Description |
| --- | --- |
| | 4. Patient eligibility criteria for coverage (e.g., test must be ordered by a specialist, low-income status, on social assistance, and so forth), for each of the 4 level of sleep studies that is funded by the public payer<br>5. Specific requirements for a sleep clinic to receive reimbursement under the public plan? (For public payers only)<br>6. Name of the accrediting/licensing body that has certified the sleep clinic. (For service providers only)<br>**Objective 2: Funding mechanism and cost of diagnostic sleep studies in Canadian provinces and territories**<br>7. Funding Mechanisms under which the sleep studies are funded by the public drug plan (e.g., global budget, fee-for-service, and so forth)<br>8. Billing codes and its dollar value for including details of professional fee, technical fee, or cost in other units and its dollar value, for each of the 4 levels of sleep studies that is funded by the public payer.<br>9. Number of diagnostic tests covered in given time period (e.g., once in a lifetime), for each of the 4 levels of sleep studies that is funded by the public payer<br>10. Details of the any copayments (if any), for each of the 4 levels of sleep studies that is funded by the public payer<br>**Objective 3: Other considerations such as out-of-pocket costs, wait times, patient prioritization criteria**<br>11. The cost and details of alternate funding mechanisms for each of the 4 levels of diagnostic sleep studies (e.g., out-of-pocket, private insurance, or reduced/no fee if patient's purchases CPAP machine, and so forth), if the provincial or territorial public plan does not cover the cost of the diagnostic sleep studies or if a patient is not eligible for coverage under provincial or territorial public plan.<br>12. Wait time to meet with a sleep specialist/any health care professional who orders the sleep studies<br>13. Wait times for the different levels of diagnostic sleep studies that are covered by the public plan, once they have been ordered by sleep specialist/any health care professional who orders the sleep studies.<br>14. Details of any patient prioritization criteria based on the severity of symptoms for sleep studies. |

CPAP = continuous positive airway pressure; HSAT = home sleep apnea test; PSG = polysomnography.

# Appendix 2: Survey Questions

Please note that this appendix has not been copy-edited.

Canada's Drug Agency (CDA-AMC) is conducting an ES on *Provincial and Territorial Coverage of Diagnostic Sleep Studies* across Canada. The ES aims to gather information on:

- Details of public plans' coverage of diagnostic sleep studies, including name of public plan covering the tests, eligibility criteria, and reimbursement models (e.g., copayments)
- Cost of diagnostic sleep studies in Canadian provinces and territories
- Other considerations, such as wait times, out-of-pocket costs, prioritization based on the severity of symptoms.

The ES intends to gather information on all levels of diagnostic sleep studies:

- Level I — polysomnography (PSG), in-lab attended
- Level II — polysomnography (PSG), at-home unattended
- Level III — home sleep apnea test (HSAT)
- Level IV — sleep apnea screening with oximetry

The following survey is designed to gather information on if and how diagnostic sleep studies (level I, II, III, and IV) are reimbursed by federal, provincial, or territorial public plans across Canada. The survey will take approximately 15 to 20 minutes to complete.

### Definitions

**Public payer** refers to federal, provincial, or territorial government bodies that reimburse the full or partial cost of the sleep studies.

**Provider**, for the ES, refers to sleep clinics or sleep labs that perform sleep studies. These studies may be conducted at the clinic's facility or at patient's home with the necessary machine/devices provided by the sleep clinic. The sleep clinic may be privately operated independent health care facilities or publicly funded facilities which operate within a hospital, health authority, or a health region.

### Public Payers

1. Name of province/ territory:
    - British Columbia
    - Alberta
    - Saskatchewan
    - Manitoba
    - Ontario
    - Quebec

- ◦ Nova Scotia
- ◦ New Brunswick
- ◦ Prince Edward Island
- ◦ Newfoundland and Labrador
- ◦ Nunavut
- ◦ Northwest Territories
- ◦ Yukon
- ◦ Federal Public Plan

Name of your public plan (provides coverage for sleep studies): [Free TEXT]

*Public Drug Plan Coverage of Sleep Diagnostic Studies*

1. Does your public plan in your province or territory cover the cost of any of the following levels of diagnostic sleep study:
   - ◦ Level I — Polysomnography (PSG), in-lab attended
   - ◦ Level II — Polysomnography (PSG), at-home unattended
   - ◦ Level III — home sleep apnea test (HSAT)
   - ◦ Level IV — Sleep Apnea Screening with Oximetry
2. What are the specific requirements for a sleep clinic to receive reimbursement under your public plan (Select all that apply):
   - ◦ Sleep clinic at a hospital
   - ◦ Private clinics accredited by a licensing body
   - ◦ Private clinics approved by the public plan
   - ◦ Others [Please specify — Free TEXT — you may also use this space to provide relevant details about the requirements for the sleep clinic to be eligible for reimbursement e.g., name of accreditation body, name of specific sleep clinics that have partnership agreements with the public plan, and so forth]

*Cost and Related Details of the Diagnostic Sleep Studies*

1. How are the sleep tests funded?
   - ◦ **Level I — Polysomnography (PSG), in-lab attended:**
     - ▪ Global budget
     - ▪ Fee-for-service
     - ▪ Others [Please specify — Free TEXT]
   - ◦ **Level II — Polysomnography (PSG), at-home unattended:**
     - ▪ Global budget
     - ▪ Fee-for-service

        - Others [Please specify — Free TEXT]
    - **Level III — home sleep apnea test (HSAT):**
        - Global budget
        - Fee-for-service
        - Others [Please specify — Free TEXT]
    - **Level IV — Sleep Apnea Screening with Oximetry:**
        - Global budget
        - Fee-for-service
        - Others [Please specify — Free TEXT]
2. Please provide billing codes and its dollar value, including details of professional fee, technical fee, or cost in other units and its dollar value (e.g., medical service units [MSUs])
    - **Level I — Polysomnography (PSG), in-lab attended** [Billing Code- Free TEXT]:
        - Professional Fee [$- Free TEXT]
        - Technical Fee [[$, Free TEXT], or
        - Other units and its dollar value [Name of units — Free Text; $ Free TEXT]
    - **Level II — Polysomnography (PSG), at-home unattended** [Billing Code- Free TEXT]:
        - Professional Fee [$- Free TEXT]
        - Technical Fee [[$, Free TEXT], or
        - Other units and its dollar value [Name of units — Free Text; $ Free TEXT]
    - **Level III — home sleep apnea test (HSAT)** [Billing Code- Free TEXT]:
        - Professional Fee [$- Free TEXT]
        - Technical Fee [[$, Free TEXT], or
        - Other units and its dollar value [Name of units — Free Text; $ Free TEXT]
    - **Level IV — Sleep Apnea Screening with Oximetry** [Billing Code- Free TEXT]:
        - Professional Fee [$- Free TEXT]
        - Technical Fee [[$, Free TEXT], or
        - Other units and its dollar value [Name of units — Free Text; $ Free TEXT]
3. Please provide the following details of the public plans' funding mechanism for the level I sleep study (Polysomnography (PSG), in-lab attended), including:
    - Patient eligibility criteria for coverage (e.g., test must be ordered by a specialist, low-income status, on social assistance, and so forth) [Free TEXT]
    - Number of diagnostic tests covered for each individual in given time period (e.g., once in a lifetime): [Free TEXT]

    - Details of the any copayments (i.e., if the full cost of the sleep study covered or is there a cost that must be paid by the client) [Free TEXT]
4. Please provide the following details of the public plans' funding mechanism for level II (Polysomnography (PSG), at-home unattended), in-lab attended), including:
    - Patient eligibility criteria for coverage [Free TEXT]
    - Number of diagnostic tests covered for each individual in given time period (e.g., once in a lifetime): [Free TEXT]
    - Details of the any copayments (i.e., if the full cost of the sleep study covered or is there a cost that must be paid by the client) [Free TEXT]
5. Please provide the following details of the public plans' funding mechanism for level III — home sleep apnea test (HSAT), including:
    - Patient eligibility criteria for coverage [Free TEXT]
    - Number of diagnostic tests covered for each individual in given time period (e.g., once in a lifetime): [Free TEXT]
    - Details of the any copayments (i.e., if the full cost of the sleep study covered or is there a cost that must be paid by the client) [Free TEXT]
6. Please use the space below to provide any relevant details regarding the cost and billing, funding mechanism, and other additional details of publicly funded sleep studies. [Free TEXT]

*Wait Times and Prioritization Criteria*

1. How long do clients typically have to wait to meet with a sleep specialist/any health care professional who orders the sleep studies?
    - no wait time
    - less than 3 months
    - 3 to 6 months
    - 6 months to 1 year
    - more than 1 year
2. How long do clients typically have to wait for the different levels of diagnostic sleep studies that are covered by your drug plan, once they have been ordered by a sleep specialist/any health care professional who orders the sleep studies
    - **Level I — Polysomnography (PSG), in-lab attended:**
        - no wait time
        - less than 3 months
        - 3 to 6 months
        - 6 months to 1 year
        - 1 to 1.5 years

- 1.5 to 2 years
- more than 2 years

- **Level II — Polysomnography (PSG), at-home unattended:**
  - no wait time
  - less than 3 months
  - 3 to 6 months
  - 6 months to 1 year
  - 1 to 1.5 years
  - 1.5 to 2 years
  - more than 2 years
- **Level III — home sleep apnea test (HSAT):**
  - no wait time
  - less than 3 months
  - 3 to 6 months
  - 6 months to 1 year
  - 1 to 1.5 years
  - 1.5 to 2 years
  - more than 2 years
- **Level IV — Sleep Apnea Screening with Oximetry:**
  - no wait time
  - less than 3 months
  - 3 to 6 months
  - 6 months to 1 year
  - 1 to 1.5 years
  - 1.5 to 2 years
  - more than 2 years

3. Given the wait time, are clients prioritized based on the severity of symptoms for sleep studies? If yes, please provide details of the prioritization criteria.
   - Patients are prioritized for sleep studies based on the severity of symptoms:
     - Yes
     - No
   - Details of the prioritization criteria, please also specify the level of sleep study (level I to IV) for the prioritization criteria [Free TEXT]

4. Please provide any other considerations you would like to share about diagnostics sleep studies to help us better understand the current and future Canadian landscape of these services, for example, out-of-pocket cost for patients (e.g., transportation, childcare), set up required at home (level II to IV), barriers and inequity in accessing the tests and so forth, policy or guidelines related to sleep clinics operating in Canada (e.g., requirement for accreditation, wait time benchmarks, and so forth). You may also use this space to share links to any relevant publication. [Free TEXT]

Thank you for your input. Do you agree to being contacted by CDA-AMC by email should there be a need for follow-up questions or clarification? Agreement is completely optional.

- Yes
- No

## Sleep Clinics — Providers

*Details of Sleep Clinic*

1. Name of province/territory:
    - British Columbia
    - Alberta
    - Saskatchewan
    - Manitoba
    - Ontario
    - Quebec
    - Nova Scotia
    - New Brunswick
    - Prince Edward Island
    - Newfoundland and Labrador
    - Nunavut
    - Northwest Territories
    - Yukon

Name of your sleep clinic (and name of hospital/ health authority or region, if applicable): [Free TEXT]

1. What levels of sleep testing does your facility provide? [Select all that apply]:
    - Level I — polysomnography (PSG), in-lab attended
    - Level II — polysomnography (PSG), at-home unattended
    - Level III — home sleep apnea test (HSAT)
    - Level IV — sleep apnea screening with oximetry
2. Which of the following describes your sleep study testing facility:

- ◦ Sleep clinic at a hospital, publicly funded
- ◦ Sleep clinic (independent health facility) and publicly funded
- ◦ Privately owned and publicly funded
- ◦ Privately owned and not publicly funded
- ◦ Other, please specify [Free TEXT]

3. Is your sleep clinic accredited? If yes, please provide the name of the accrediting/licensing body.
    - ◦ Accreditation:
        - ▪ Yes
        - ▪ No

Name of accreditation standard or licensing body: [Free TEXT]

*Public Drug Plan Coverage of Sleep Diagnostic Studies*

1. Does any public plan in your province or territory cover the cost of any of the following levels of diagnostic sleep study:
    - ◦ Level I — Polysomnography (PSG), in-lab attended
    - ◦ Level II — Polysomnography (PSG), at-home unattended
    - ◦ Level III — home sleep apnea test (HSAT)
    - ◦ Level IV — Sleep Apna Screening with Oximetry
2. Please provide the name(s) of the public plan in your province or territory that covers any of the following level of diagnostic sleep study (if applicable) (e.g., Hospital global budget or fee-for-service, Veterans Affairs Canada, Ontario Aids to Daily Living, Saskatchewan Aids to Independent Living, Régie de l’Assurance Maladie du Québec, WSIB, and so forth).
    - ◦ Level I — Polysomnography (PSG), in-lab attended: [Free TEXT]
    - ◦ Level II — Polysomnography (PSG), at-home unattended: [Free TEXT]
    - ◦ Level III — home sleep apnea test (HSAT): [Free TEXT]
    - ◦ Level IV — Sleep Apnea Screening with Oximetry: [Free TEXT]

*Cost and Related Details of The Diagnostic Sleep Studies (For Publicly Funded Sleep Studies)*

1. For publicly funded sleep studies, how are the sleep tests funded?
    - ◦ **Level I — Polysomnography (PSG), in-lab attended:**
        - ▪ Global budget
        - ▪ Fee-for-service
        - ▪ Others [Please specify — Free TEXT]
    - ◦ **Level II — Polysomnography (PSG), at-home unattended:**
        - ▪ Global budget

        - Fee-for-service
        - Others [Please specify — Free TEXT]
    - **Level III — home sleep apnea test (HSAT):**
        - Global budget
        - Fee-for-service
        - Others [Please specify — Free TEXT]
    - **Level IV — Sleep Apnea Screening with Oximetry:**
        - Global budget
        - Fee-for-service
        - Others [Please specify — Free TEXT]
2. Please provide billing codes and its dollar value, including details of professional fee, technical fee, or cost in other units and its dollar value (e.g., medical service units [MSUs]).
    - **Level I — Polysomnography (PSG), in-lab attended** [Billing Code- Free TEXT]:
        - Professional Fee [$ Free TEXT]
        - Technical Fee [ $Free TEXT], or
        - Other units and its dollar value [Name of units — Free Text; $ Free TEXT]
    - **Level II — Polysomnography (PSG), at-home unattended** [Billing Code- Free TEXT]:
        - Professional Fee [$ Free TEXT]
        - Technical Fee [ $Free TEXT], or
        - Other units and its dollar value [Name of units — Free Text; $ Free TEXT]
    - **Level III — home sleep apnea test (HSAT)** [Billing Code- Free TEXT]:
        - Professional Fee [$ Free TEXT]
        - Technical Fee [ $Free TEXT], or
        - Other units and its dollar value [Name of units — Free Text; $ Free TEXT]
    - **Level IV — Sleep Apnea Screening with Oximetry:**
        - Professional Fee [$ Free TEXT]
        - Technical Fee [$Free TEXT], or
        - Other units and its dollar value [Name of units — Free Text; $ Free TEXT]
3. Please provide the following details of the public plans' funding mechanism for a level I sleep study (Polysomnography (PSG), in-lab attended), including:
    - Patient eligibility criteria for coverage [Free TEXT]
    - Number of diagnostic tests covered for each individual in a given time period (e.g., once in a lifetime): [Free TEXT]

- ◦ Details of the any copayments (i.e., if the full cost of the sleep study covered or is there a cost that must be paid by the client) [Free TEXT]

4. Please provide the following details of the public plans' funding mechanism for a level II (polysomnography [PSG], at-home unattended), in-lab attended), including:
    - Patient eligibility criteria for coverage [Free TEXT]
    - Number of diagnostic tests covered for each individual in a given time period (e.g., once in a lifetime): [Free TEXT]
    - Details of the any copayments (i.e., if the full cost of the sleep study covered or is there a cost that must be paid by the client) [Free TEXT]
5. Please provide the following details of the public plans' funding mechanism for level III — home sleep apnea test (HSAT), including:
    - Patient eligibility criteria for coverage [Free TEXT]
    - Number of diagnostic tests covered for each individual in a given time period (e.g., once in a lifetime): [Free TEXT]
    - Details of the any copayments (i.e., if the full cost of the sleep study covered or is there a cost that must be paid by the client) [Free TEXT]
6. Please use the space below to provide any relevant details regarding the cost and billing, funding mechanism, and other additional details of publicly funded sleep studies. [Free TEXT]

*Privately Funded Sleep Diagnostic Studies*

1. If your provincial or territorial public plan does not cover the cost of the diagnostic sleep studies or if a patient is not eligible for coverage under provincial or territorial public plan, please provide the cost and details of alternate funding mechanisms for each of the 4 levels of diagnostic sleep studies (e.g., out-of-pocket, private insurance, or reduced/no fee if patient's purchases CPAP machine, and so forth)
    - **Level I — Polysomnography (PSG), in-lab attended:** [$ (cost of test) and details of alternative funding mechanism]
    - **Level II — Polysomnography (PSG), at-home unattended:** [$ (cost of test) and details of alternative funding mechanism]
    - **Level III — home sleep apnea test (HSAT):** [$ (cost of test) and details of alternative funding mechanism]
    - **Level IV — Sleep Apnea Screening with Oximetry:** [$ (cost of test) and details of alternative funding mechanism]

*Wait Times and Prioritization Criteria*

**Average wait times (publicly covered)**

1. How long do clients typically have to wait to meet with a sleep specialist/any health care professional who orders the sleep studies?

  - no wait time
  - less than 3 months
  - 3 to 6 months
  - 6 months to 1 year
  - more than 1 year
2. How long do clients typically have to wait for the different levels of diagnostic sleep studies that are covered by your drug plan, once they have been ordered by a sleep specialist/any health care professional who orders the sleep studies
   - **Level I — Polysomnography (PSG), in-lab attended:**
     - no wait time
     - less than 3 months
     - 3 to 6 months
     - 6 months to 1 year
     - 1 to 1.5 years
     - 1.5 to 2 years
     - more than 2 years
   - **Level II — Polysomnography (PSG), at-home unattended:**
     - no wait time
     - less than 3 months
     - 3 to 6 months
     - 6 months to 1 year
     - 1 to 1.5 years
     - 1.5 to 2 years
     - more than 2 years
   - **Level III — home sleep apnea test (HSAT):**
     - no wait time
     - less than 3 months
     - 3 to 6 months
     - 6 months to 1 year
     - 1 to 1.5 years
     - 1.5 to 2 years
     - more than 2 years
   - **Level IV — Sleep Apnea Screening with Oximetry:**
     - no wait time

        - less than 3 months
        - 3 to 6 months
        - 6 months to 1 year
        - 1 to 1.5 years
        - 1.5 to 2 years
        - more than 2 years

3. Given the wait time, are clients prioritized based on the severity of symptoms for sleep studies? If yes, please provide details of the prioritization criteria.
    - Patients are prioritized for sleep studies based on the severity of symptoms:
        - Yes
        - No
    - Details of the prioritization criteria, please also specify the level of sleep study (level I to IV) for the prioritization criteria [Free TEXT]
4. Please provide any other considerations you would like to share about diagnostics sleep studies to help us better understand the current and future Canadian landscape of these services, for example, out-of-pocket cost for patients (e.g., transportation, childcare), set up required at home (level II to IV), barriers and inequity in accessing the tests, and so forth, policy or guidelines related to sleep clinics operating in Canada (e.g., requirement for accreditation, wait time benchmarks, and so forth). You may also use this space to share links to any relevant publication. [Free TEXT]

Thank you for your input. Do you agree to being contacted by CDA-AMC by email should there be a need for follow-up questions or clarification? Agreement is completely optional.

Yes

No

# Appendix 3: Information on Survey Respondents

Please note that this appendix has not been copy-edited.

## Table 6: Information on Survey Respondents

| Jurisdiction | Number of respondents | Details of survey respondents | | |
|---|---|---|---|---|
| | | Type of respondent | Name of organization | Name of sleep clinic |
| **Alberta** | Payer: 0<br>Provider: 10 | Provider | University of Calgary, Alberta Health Service | Foothills Medical Centre Sleep Clinic |
| | | Provider | Alberta Health Services[a] | University of Alberta Hospital Sleep Laboratory |
| | | Provider | University of Alberta | Edmonton General Hospital Sleep Laboratory, Alberta Health Services |
| | | Provider | University of Calgary | Foothills Medical Centre Sleep Centre, Alberta Health Services (Calgary Zone) |
| | | Provider | University of Calgary | Foothills Medical Centre, Medpro Respiratory, Rebel Sleep Company |
| | | Provider | Alberta Health Services | Foothills Medical Centre Sleep Centre |
| | | Provider | University of Alberta | Stollery Children's Hospital Sleep Laboratory |
| | | Provider | University of Calgary | Foothills Medical Centre Sleep Centre |
| | | Provider | Alberta Health Services | Foothills Medical Centre Sleep Centre |
| | | Provider | University of Calgary | Foothills Medical Centre Sleep Centre |
| **British Columbia** | Payer: 1<br>Provider: 4 | Provider | Interior Health | NA |
| | | Provider | University of British Columbia | UBC Hospital |
| | | Provider | University of British Columbia and Vancouver Coastal Health | UBC Hospital Vancouver Coastal Health |
| | | Provider | SkeenaGraphics LLC | CPSBC — Diagnostic Accreditation Program |
| | | Payer | Ministry of Health, British Columbia | NA |
| **Manitoba** | Payer: 0<br>Provider: 1 | Provider | University of Manitoba | Sleep Disorders Centre |

| Jurisdiction | Number of respondents | Details of survey respondents | | |
|---|---|---|---|---|
| | | Type of respondent | Name of organization | Name of sleep clinic |
| **New Brunswick** | Payer: 0<br>Provider: 1 | Provider | Saint John Regional Hospital, Horizon Health Network | Atlantic Sleep Centre |
| **Newfoundland and Labrador** | Payer: 0<br>Provider: 1 | Provider | Western Health | Dr. Aiden Brazil clinic |
| **Non-Insured Health Benefits** | Payer: 2<br>Provider: NA | Payer | Non-Insured Health Benefits | NA |
| | | Payer | Non-Insured Health Benefits[a] | NA |
| **Nova Scotia** | Payer: 1<br>Provider: 0 | Payer | Nova Scotia Department of Health and Wellness | NA |
| **Northwest Territories** | Payer: 0<br>Provider: 0 | NA | NA | NA |
| **Nunavut** | Payer: 0<br>Provider: 0 | NA | NA | NA |
| **Ontario** | Payer: 2<br>Provider: 13 | Provider | Montfort Hospital[a] | Montfort Hospital |
| | | Provider | McMaster University[a] | St Joseph's Health care Hamilton[a] |
| | | Provider | Sunnybrook Health Sciences Centre and University of Toronto | Sunnybrook Sleep Laboratory and Clinics |
| | | Provider | Unity Health Toronto | St. Michael's Hospital Sleep Lab |
| | | Provider | Children's Hospital of Eastern Ontario | Children's Hospital of Eastern Ontario |
| | | Provider | Oshawa Durham Sleep Laboratory | Oshawa Durham Sleep Laboratory |
| | | Provider | McMaster Children's Hospital | McMaster Children's Sleep Clinic |
| | | Provider | The Ottawa Hospital | The Ottawa Hospital |
| | | Provider | The Hospital for Sick Children | The Hospital for Sick Children |
| | | Provider | Private sleep clinic[a] | Not Reported |
| | | Provider | University Health Network, and Women's College Hospital[a] | Toronto Sleep and Pulmonary Centre |
| | | Provider | University of Toronto | University Health Network |
| | | Provider | University of Toronto | Sleep and Alertness Clinic |
| | | Payer | NA[a] | NR |
| | | Payer | Ontario Health Insurance Plan | NA |

| Jurisdiction | Number of respondents | Details of survey respondents | | |
|---|---|---|---|---|
| | | Type of respondent | Name of organization | Name of sleep clinic |
| **Prince Edward Island** | Payer: 0<br>Provider: 0 | NA | NA | NA |
| **Quebec** | Payer: 0<br>Provider: 6 | Provider | CIUSSS Saguenay-Lac-St-Jean | Hôpital de Chicoutimi |
| | | Provider | Institut universitaire de cardiologie et de pneumologie de Québec[a] | Institut universitaire de cardiologie et de pneumologie de Québec |
| | | Provider | McGill University Health Centre, McGill University | Montreal Children's Hospital Sleep Laboratory |
| | | Provider | Clinic ASC and PSG Lab QC Inc. | Clinic ASC and PSG Lab QC Inc. |
| | | Provider | Centre intégré de santé et de services sociaux (CISSS) de la Montérégie-Est | Hôpital Pierre-Boucher |
| | | Provider | Somnocor[a] | NA |
| **Saskatchewan** | Payer: 1<br>Provider: 2 | Provider | Prairie Oxygen, (Airliquide)[a] | NA |
| | | Payer | Ministry of Health | NA |
| | | Provider | University of Saskatchewan | Jim Pattison Children's Hospital of Saskatchewan |
| **Veterans Affairs Canada** | Payer: 1<br>Provider: NA | Payer | Veterans Affairs Canada | NA |
| **Yukon** | Payer: 0<br>Provider: 0 | NA | NA | NA |

NA = not applicable; NR = not reported.

[a]Respondents answering at least 1 question in the survey, in addition to identifying themselves as payer or provider, but who did not "submit" the survey.

# Appendix 4: Details of Accrediting Bodies of Diagnostic Sleep Tests

## Table 7: Details of Accrediting Bodies of Diagnostic Sleep Tests

| Jurisdiction | Accredited Sleep clinic | Name of accreditation standard or licensing body | Levels of sleep testing provided by the facility | | | | Type of sleep testing facility |
|---|---|---|---|---|---|---|---|
| | | | Level I | Level II | Level III | Level IV | |
| **Alberta** | Yes[31] | Not reported | Level I | — | Level III | — | Sleep clinic at a hospital, publicly funded |
| | Yes | Not reported | Level I | — | Level III | — | Sleep clinic at a hospital, publicly funded |
| | Yes | Not reported | Level I | — | Level III | — | Sleep clinic at a hospital, publicly funded |
| | Yes | College and Physicians and Surgeons of Alberta (diagnostics) | Level I | — | Level III | — | Sleep clinic at a hospital, publicly funded |
| | Yes | College of Physicians and Surgeons of Alberta | Level I | — | Level III | — | Other (Multiple facilities hospital and private clinics) |
| | Yes | Not Reported | Level I | — | Level III | — | Sleep clinic at a hospital, publicly funded |
| | Yes | College of Physicians and Surgeons of Alberta | Level I | — | — | Level IV | Sleep clinic at a hospital, publicly funded |
| | Yes | Not reported | Level I | — | Level III | — | Sleep clinic at a hospital, publicly funded |
| | Yes | Accreditation Canada | Level I | — | Level III | — | Sleep clinic at a hospital, publicly funded |
| | Yes | Not reported | Level I | — | Level III | — | Sleep clinic at a hospital, publicly funded |
| **British Columbia** | No | Not reported | — | — | — | Level IV | Other (regional hospital pulmonary function lab) |
| | Yes | Diagnostic Accreditation Program, College of Physicians and Surgeons of British Columbia | Level I | — | Level III | Level IV | Sleep clinic at a hospital, publicly funded |
| | Yes | Diagnostic Accreditation Program, College of Physicians and Surgeons of British Columbia | Level I | — | Level III | Level IV | Sleep clinic at a hospital, publicly funded |

| Jurisdiction | Accredited Sleep clinic | Name of accreditation standard or licensing body | Levels of sleep testing provided by the facility | | | | Type of sleep testing facility |
|---|---|---|---|---|---|---|---|
| | | | Level I | Level II | Level III | Level IV | |
| | Yes | Diagnostic Accreditation Program, College of Physicians and Surgeons of British Columbia | Level I | Level II | Level III | Level IV | Oher (involved in the oversight and regulation of sleep clinics in British Columbia) |
| **Manitoba** | Yes | Not reported | Level I | — | Level III | — | Sleep clinic at a hospital, publicly funded |
| **New Brunswick** | No | Not reported | Level I | — | Level III | — | Sleep clinic at a hospital, publicly funded |
| **Newfoundland and Labrador** | No | Not reported | –— | — | Level III | — | Privately owned and not publicly funded |
| **Ontario** | Yes | Not reported | Level I | — | — | Level IV | Sleep clinic at a hospital, publicly funded |
| | No | Not reported | Level I | — | — | — | Sleep clinic at a hospital, publicly funded |
| | No | Not reported | Level I | — | Level III | — | Sleep clinic at a hospital, publicly funded |
| | No | Not reported | Level I | — | — | Level IV | Sleep clinic at a hospital, publicly funded |
| | No | Not reported | Level I | — | — | Level IV | Sleep clinic at a hospital, publicly funded |
| | Yes | Independent Health Facility | Level I | — | — | — | Sleep clinic (independent health facility) and publicly funded |
| | No | Not reported | — | — | — | Level IV | Other (work with surrounding sleep labs to obtain studies) |
| | Yes | Not reported | Level I | — | — | — | Sleep clinic at a hospital, publicly funded |
| | Yes | College of Physicians and Surgeons of Ontario | Level I | — | — | Level IV | Sleep clinic at a hospital, publicly funded |
| | Yes | Not reported | Level I | — | — | — | Sleep clinic (independent health facility) and publicly funded |
| | Yes | Independent Health Facility standards, Ministry of Health, Ontario | Level I | — | — | — | Sleep clinic (independent health facility) and publicly funded |
| | Yes | Hospital accreditation body | Level I | — | — | — | Sleep clinic at a hospital, publicly funded |
| | Yes | College of Physicians and Surgeons of Ontario | Level I | — | Level III | Level IV | Sleep clinic (independent health facility) and publicly funded |

| Jurisdiction | Accredited Sleep clinic | Name of accreditation standard or licensing body | Levels of sleep testing provided by the facility | | | | Type of sleep testing facility |
|---|---|---|---|---|---|---|---|
| | | | Level I | Level II | Level III | Level IV | |
| **Quebec** | No | Not reported | Level I | Level II | Level III | Level IV | Sleep clinic at a hospital, publicly funded |
| | Yes | Not reported | Level I | — | Level III | Level IV | Sleep clinic at a hospital, publicly funded |
| | No | Not reported | Level I | — | Level III | Level IV | Sleep clinic at a hospital, publicly funded |
| | No | Not reported | Level I | Level II | Level III | — | Privately owned and not publicly funded |
| | No | Not reported | Level I | — | Level III | Level IV | Sleep clinic at a hospital, publicly funded |
| | No | Not reported | Level I | Level II | Level III | — | Privately owned and not publicly funded |
| **Saskatchewan** | No | Not reported | — | — | Level III | — | Privately owned and not publicly funded |
| | Yes | Not reported | Level I | — | Level III | Level IV | Sleep clinic at a hospital, publicly funded |

Note: This table has not been copy-edited.

Canada's Drug Agency
L'Agence des médicaments du Canada
Drugs. Health Technologies and Systems. Médicaments, technologies de la santé et systèmes.

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