COLLEGE OF PHYSICIANS AND SURGEONS OF BRITISH COLUMBIA

Diagnostic Accreditation Program

MANUAL

Home Sleep Apnea Testing Quality Control Program

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Introduction

The home sleep apnea testing (HSAT) accreditation standards came into effect January 20, 2021 and include standards specific to participation in a quality control program to evaluate and improve the quality of service. Monitoring performance throughout the assessment cycle provides objective evidence of HSAT facility conformance to the DAP home sleep apnea standards. Additionally, the HSAT quality control (QC) program includes medical peer review, as the DAP home sleep apnea standards do not address medical peer review during the onsite assessment.

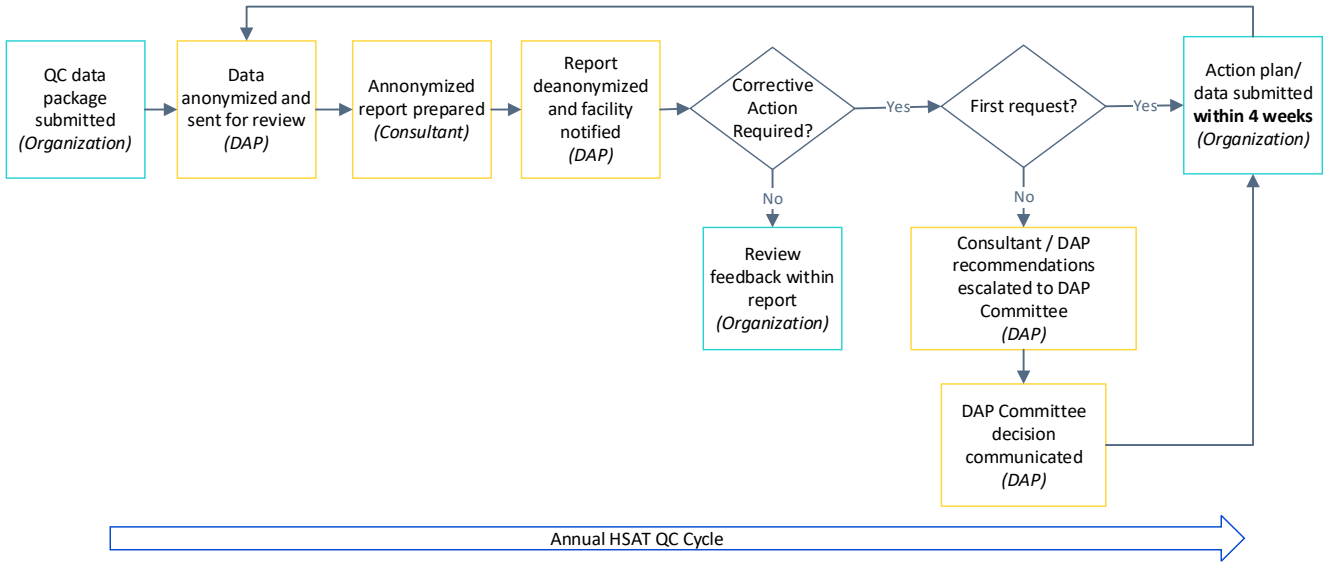
The goal of the DAP HSAT QC program is to monitor three aspects of performance:

1. registered polysomnographic technologists (RPSGT) participation in interscorer reliability programs;
2. conformance to technical reporting criteria in the DAP HSAT standards; and
3. quality of medical interpretations.

HSAT QC program overview

The DAP HSAT QC program requires annual evaluations of evidence submitted by HSAT organizations, encompassing all individuals scoring and interpreting HSAT studies. The submission must include examples representative of the individual facilities within a single HSAT organization.

The evidence submitted will be reviewed by DAP assessors and consulting physicians with specialization in sleep medicine. The grading system will encourage constructive feedback to support continuous improvement. QC performance found to be below standard is referred to the DAP Committee, who decides any follow-up actions that are required for the organization to maintain its accreditation award.



What is an organization?

To minimize the duplication of evidence submissions, while still monitoring all individuals scoring and interpreting HSAT, the DAP has adopted the approach to monitor HSAT organizations. The two factors used to determine what constitutes an organization are facility/business name and medical leadership. An organization can be either basic or complex. Below are examples of different organizational structures.

Example 1: Single facility with single medical director

In this example the organization will submit 10 cases from each interpreting physician at this facility.

Example 2: Multiple facilities with single medical director

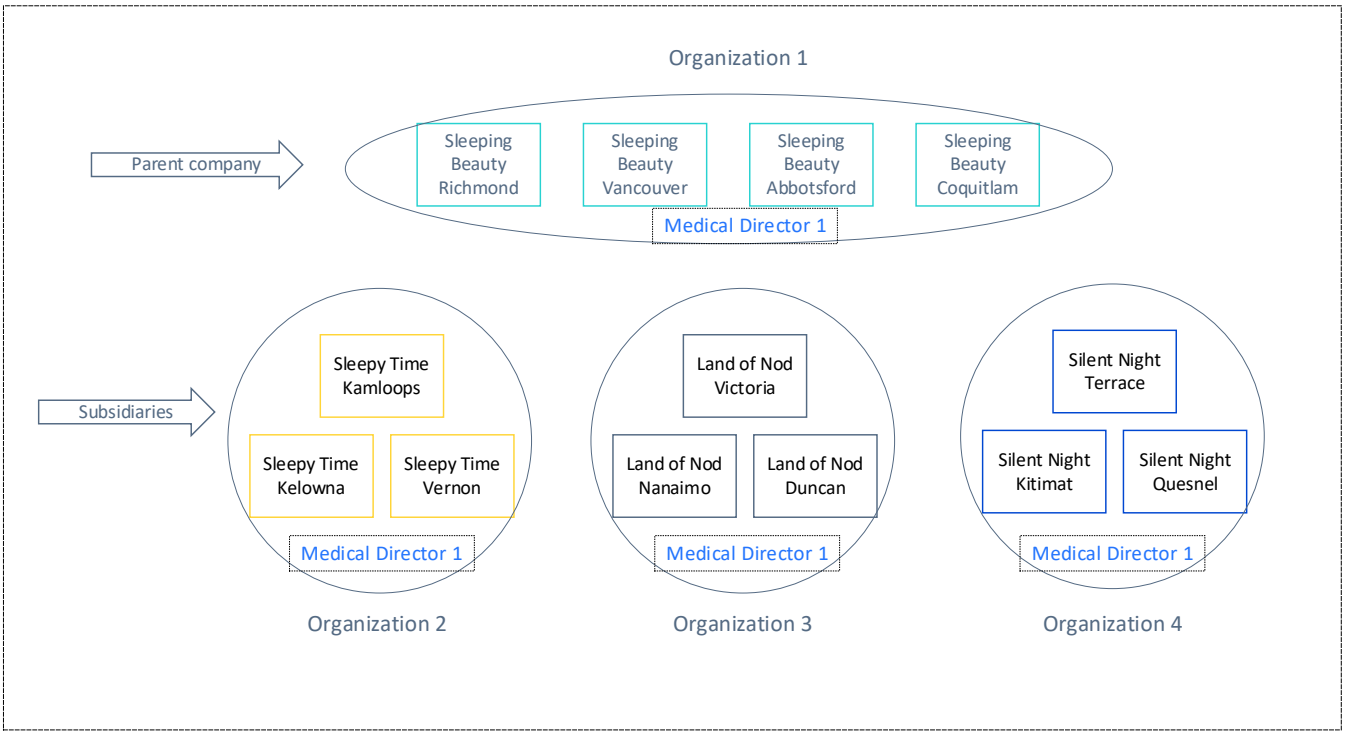
In this example the organization will submit 10 cases from each interpreting physician, with a sampling from each facility.

For example, interpreter A only works with the Vancouver facility, so 10 cases will be submitted from that facility for interpreter A. While interpreter B works at all four locations, thus cases will be submitted from each facility for a total of 10 cases.

Example 3: Multiple facilities with single medical director

In this example there is a parent company and three subsidiary companies making up a total of four organizations. Each organization will submit 10 cases from each interpreting physician, with a sampling from each facility.

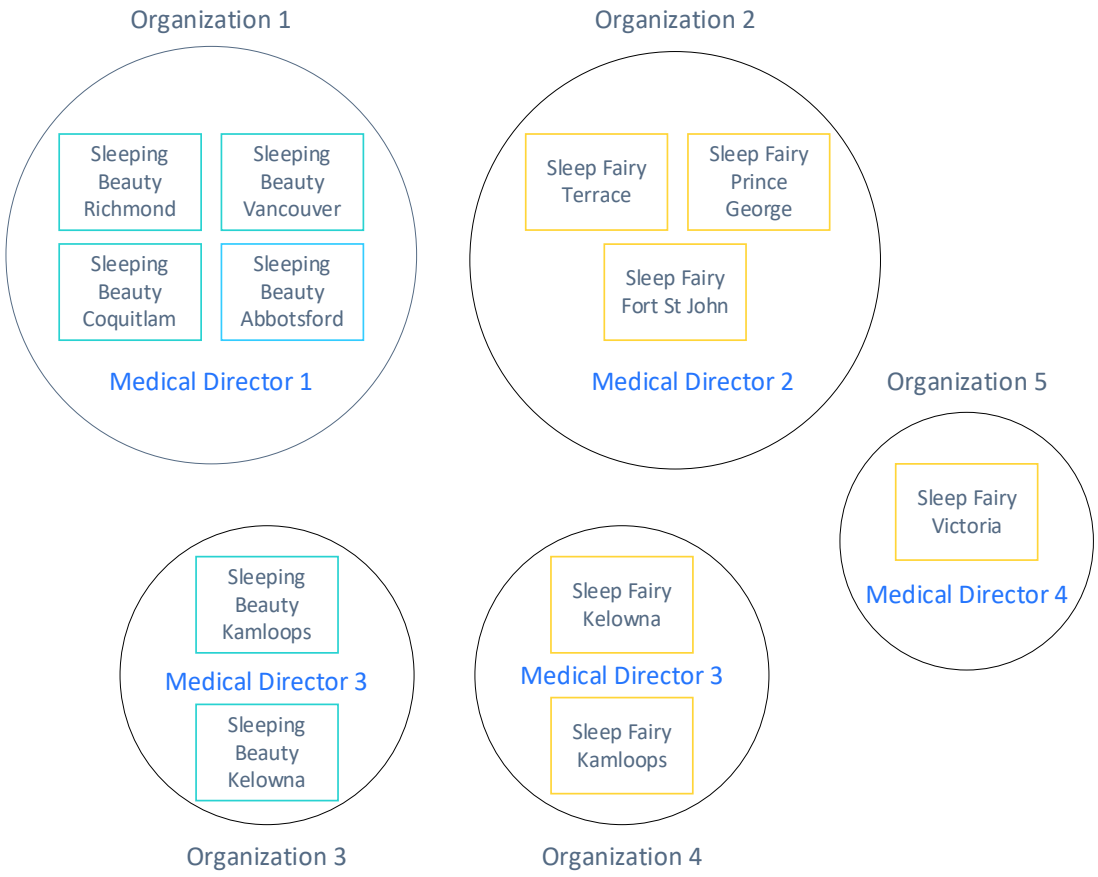
For example, interpreter A works with all four organizations and will submit 10 cases from each organization, with a sampling from each facility they support in each organization.



Example 4: Multiple facilities with multiple medical directors

In this example there are two businesses with four medical directors, which makeup five organizations for the purposes of the HSAT QC program. Each organization will submit 10 cases from each interpreting physician, with a sampling from each facility.

If interpreter A works with all four organizations, they will submit 10 cases from each organization, with a sampling from each facility they support in each organization.



What does sampling mean?

In the DAP HSAT QC program sampling refers to the selection of clinical cases to be submitted for review. The intent is to submit 10 anonymized cases from each interpreting physician each year, while covering the full cohort of facilities within the organization over several years.

Submission requirements

Every HSAT organization is required to submit an evidence package annually. QC due dates will be based on the anniversary dates of the on-site assessments. The DAP will notify organizations in advance with details of the specific QC due dates. The evidence submission consists of three components:

1. Organizational information (list of scorers, list of locations, list of interpreting physicians);
2. An attestation of successful participation in an interscorer reliability (ISR) program (attestation from medical director); and
3. Ten anonymized clinical cases from each interpreting physician (referral form, patient questionnaires, technical summary, final interpreted report including any letters sent to referring physicians).

Criteria to be assessed

The criteria being assessed have been selected from the DAP HSAT standards and represent criteria for interscorer reliability, technical reporting and medical interpretations. These are summarized in the tables below.

Table 1: Interscorer reliability program

Interscorer reliability program criteria - mandatory	
HHR3.2.4	All staff providing scoring services participate in an interscorer reliability program
HHR3.2.3	Outsourced scoring services must be conducted by an RPSGT, located in Canada, have a QA program in place and be approved by the medical director

Table 2: Technical reporting

Technical reporting criteria - mandatory	
HSAT2.1.8	A minimum of four hours of data are obtained prior to interpretation
HSAT2.3.1	HSAT data is scored manually by an RPSGT
HSAT2.5.1	Technical summary includes the type of recording device
HSAT2.5.5	Technical summary includes number of hypopneas
HSAT2.5.6	Technical summary includes number of obstructive and central apneas
HSAT 2.5.7	Technical summary includes Apnea Hypopnea Index (AHI)
HSAT 2.5.8	Technical summary includes heart rate (average, highest, lowest)
HSAT2.5.9	Technical summary includes oxygen desaturation index (ODI) derived from monitoring time
HSAT2.5.10	Technical summary includes oxygen saturation (mean, maximum, minimum)
HSAT2.5.11	Technical summary includes oxygen saturation % time ≤88% or other thresholds as defined by the diagnostic service
HG5.1.1	Final report includes patient's first and last name

Technical reporting criteria - mandatory	
HG5.1.2	The final report includes a unique personal identifier number (e.g. Personal Health Number)
HG5.1.3	The final report includes the date of birth
HG5.1.6	The final report includes the name or identification of the individual scoring the test, as well as any comments made by the scorer
HG5.1.8	The final report includes the name of the interpreting physician
HG5.1.10	The final report includes date of the test
HG5.1.11	The final report includes date of interpretation

Technical reporting criteria – best practice	
HG5.2.1	Standardized report templates are used
HSAT2.5.4	Technical summary includes number of snoring events

Table 3: Medical interpretation

Medical interpretation criteria - mandatory	
HSAT2.4.4	If Cheyne-Stokes breathing is identified by the scorer, it is noted in the comments
HG5.2.2	Report includes the procedures performed (description of the study, medications, equipment used, relevant patient preparation and positioning details)
HG5.2.3	Report includes the findings
HG5.2.5	Report includes the clinical issues or concerns (answers any specific clinical questions)
HG5.2.6	Report includes the impression (e.g. conclusion or diagnosis)
HG5.3.3	Verified reports are signed by the reporting physician

Medical interpretation criteria – best practice	
HSAT2.2.5	Monitoring of HSAT testing includes body position
HSAT2.2.6	Monitoring of HSAT testing includes snoring
HG5.3.8	The use of abbreviations or acronyms is limited to avoid ambiguity
AASM 2.6, p.71	Severity of snoring is described
AASM 2.6, p.71	Suggestions for further investigation and management are included

Grading QC submissions

The following tables describe how HSAT QC is graded and when required escalated to the DAP Committee. Please note, the performance criteria were developed in conjunction with sleep medicine specialists.

Note: Failure to submit HSAT QC data will result in automatic escalation to the DAP Committee.

Table 4: Interscorer reliability program

DAP grade	Definition	Potential risks	Escalation criteria	Escalation action
Satisfactory	Written attestation from the medical director that all individuals scoring HSAT studies have participated in an interscorer reliability program and shown competency	None	N/A	N/A
Unsatisfactory	Evidence of interscorer reliability program not provided	Medical director not providing adequate oversight of the diagnostic service	One QC cycle	Escalate to the DAP Committee

Table 5: Technical reporting

DAP grade	Definition	Potential risks	Escalation criteria	Escalation action	
A	100% of cases are acceptable	None	N/A	N/A	
B	≥70% of cases are acceptable	None	N/A	N/A	
C	≥50% to <70% of cases are acceptable	Inconsistent results with potential impact on patient results	One QC cycle	Written action plan must be submitted within four weeks of the report	
D	<50% of cases are acceptable	Severe inconsistency with strong potential on patient results	One QC cycle	Request five new case	
				If	Then
				Grade A or B	Finalize report
				Grade C or D	Request consulting sleep medicine specialist complete risk assessment to be escalated to the DAP Committee

Table 6: Medical interpretation

DAP grade	Definition	Potential risks	Escalation criteria	Escalation action
A	Complete agreement with interpretation	None	NA	NA

<table>
<tr><th>DAP grade</th><th>Definition</th><th>Potential risks</th><th>Escalation criteria</th><th colspan="2">Escalation action</th></tr>
<tr><td>B</td><td>Slight variation, unlikely to affect patient care</td><td>None</td><td>NA</td><td colspan="2">NA</td></tr>
<tr><td rowspan="4">C</td><td rowspan="4">Interpretation varies, slight effect on patient care</td><td rowspan="4">Reporting a lesser or greater degree of abnormality than is warranted by the data</td><td rowspan="4">≥30% of cases</td><td colspan="2">Request five additional cases</td></tr>
<tr><td>If</td><td>Then</td></tr>
<tr><td>Grade A or B</td><td>Finalize report</td></tr>
<tr><td>Grade C or D</td><td>Request consulting sleep medicine specialist complete risk assessment to be escalated to the DAP Committee</td></tr>
<tr><td rowspan="4">D</td><td rowspan="4">Significant variation with immediate effect on patient care</td><td rowspan="4">Severe inconsistency with strong potential on patient results</td><td rowspan="4">One or more cases</td><td colspan="2">Request facility provide evidence of corrective actions taken with case(s).
Request five additional cases.</td></tr>
<tr><td>If</td><td>Then</td></tr>
<tr><td>Grade A or B</td><td>Finalize report</td></tr>
<tr><td>Grade C or D</td><td>Request consulting sleep medicine specialist complete risk assessment to be escalated to the DAP Committee</td></tr>
</table>

Reporting and escalation process

The evidence submitted will be reviewed by DAP assessors and consulting physicians with specialization in sleep medicine. Organizational information, including interpreting physician names, will be redacted from data submissions, prior to being shared with consulting physicians. The redacted data submissions will be assigned unique identifiers. This process of anonymization will reduce the potential for biases in the review process.

The consulting physicians will assess to the defined grading criteria and provide constructive feedback to support continuous improvement. The anonymized report will be reviewed by the DAP to identify instances that meet the escalation criteria. The DAP will deanonymized reports and make them available to organizations in a timely manner. Organizations are expected to review their HSAT QC report and address any nonconformances within four weeks of receiving the report.

When QC performance meets the escalation criteria for referral to the DAP Committee, the committee will review recommendations from consulting physicians and the DAP assessors then decide any follow-up actions that are required for the organization to maintain its accreditation award.

Related documents

Home sleep apnea testing QC submission requirements

Home sleep apnea testing QC program organizational information form

References

1. College of Physicians and Surgeons of BC. Diagnostic accreditation program accreditation standards: home sleep apnea testing. (version 1.0); 2021
2. BCGuidelines.ca: Obstructive sleep apnea (OSA): assessment and management in adults. (2021). https://www2.gov.bc.ca/assets/gov/health/practitioner-pro/bc-guidelines/doctorsbc-sleepapneaguideline-2021-v2.pdf