



College of Physicians and Surgeons of British Columbia

Position Statement

Heating, Ventilation and Air Conditioning (HVAC) in Non-Hospital Facilities

DETAILS

Department/program: Non-Hospital Medical and Surgical Facilities Accreditation Program

Date: June 28, 2019

PURPOSE

Position statements from the College provide background information and express or clarify the College's intent on a particular matter. They are intended as guidance for stakeholders in areas where events are evolving or changing rapidly, the implementation of processes and procedures may be premature, the implementation of a guideline or standard may not be necessary, another credible body (i.e. professional association) has already established guidelines or standards, or it is timely to communicate the College's broad intent before or as policies and procedures are developed.

This document addresses heating, ventilation and air conditioning (HVAC) in accredited non-hospital medical and surgical facilities.

BACKGROUND

Heating, ventilation and air conditioning systems support several vital functions in health-care facilities including infection prevention and control and life safety. Proper air quality, air volume changes and air flow direction are all key to reducing infection and protecting the health and safety of patients, staff and visitors. In addition, the HVAC system provides essential life safety functions such as the early warning, suppression and containment of fire and smoke.

Over the years as accreditation processes became more robust, it became evident that many non-hospital facilities did not comply with the Canadian Standards Association (CSA) Z317.2 *Special requirements for heating, ventilation and air conditioning (HVAC) in health care facilities* standard applicable at the time of their original construction. Therefore in 2011 as a requirement of accreditation, new and/or renovated facilities were required provide a letter of assurance from a professional engineer confirming conformance with the Canadian Standards Association (CSA) Z317.2 *Special requirements for heating, ventilation and air conditioning (HVAC) systems in health care facilities*, in effect at time of build.

To address HVAC system non-conformance issues in facilities built prior to 2011, a consultation was undertaken in 2016 to determine the potential impact of requiring all non-hospital facilities to meet current CSA HVAC standards. One of the known challenges was that many facilities are located in

commercial office buildings that were never purposely built as surgical facilities (i.e. operating rooms) and therefore may never be able to meet the CSA HVAC standard in effect at time of original build let alone the more rigorous current standards.

Following the consultation, the NHMSFAP Committee recommended to the Board that existing non-hospital facilities not be denied accreditation on the basis of non-compliance with CSA HVAC standards for the following reasons:

- there have been no reported infection outbreaks or increased incidence of infection in BC non-hospital facilities that can be attributed to non-compliant HVAC systems
- temporary closure of facilities for renovations or the permanent closure of facilities due to financial hardship would negatively impact the health authority's ability to contract out public cases into the non-hospital setting as well as patient access to uninsured non-medical services plan (MSP) cases (e.g. cosmetic and fertility procedures)

POSITION

The Non-Hospital Medical and Surgical Facilities Accreditation Program (NHMSFAP) Committee is responsible for establishing accreditation standards, policies, rules, procedures and guidelines for the NHMSFAP to ensure the delivery of high-quality and safe services in non-hospital facilities.

Accreditation

In 2017 (and as amended in 2018), the Board resolved that existing non-hospital facilities not be denied accreditation on the basis of non-compliance with CSA HVAC standards with the following provisos:

1. Existing facilities must complete a risk assessment to determine whether their HVAC system should be upgraded, and if so, to what extent.
2. Existing facilities must advise third party contractors (e.g. health authorities, WorkSafeBC) of any non-compliance with CSA HVAC standards.
3. Existing non-hospital facilities be grandparented only until a renovation or change of ownership occurs.
4. Any facility that is new, renovated or changes ownership must meet current CSA HVAC standards and maintain their HVAC system to current standards as they are revised over time.

*an existing facility is defined as a non-hospital facility built prior to 2011

New construction, major renovation and change of ownership

New non-hospital facilities and existing non-hospital facilities that undergo major renovation or change of ownership are required to:

- meet current CSA Z317.2 *Special requirements for heating, ventilation and air conditioning (HVAC) systems in health care facilities*
- provide a letter of assurance from their professional engineer confirming conformance with the current CSA HVAC standard

For further information, see the NHMSFAP Bylaw Policy *Renovations and New Construction to a Facility*.

Detailed design criteria

Class 1 General Anesthesia facilities are required to have air-handling unit redundancy (i.e. parallel air-handling units) for critical areas (i.e. operating/procedure rooms, post-anesthesia recovery).

Class 2 IV Sedation and Class 3 Local Anesthesia Only facilities are not required to have air-handling unit redundancy (i.e. parallel air-handling units) provided the following additional criteria are met:

1. All procedures performed at the facility are less than or equal to 30 minutes (skin-to-skin time).
2. In the event of HVAC system failure, any procedure not in progress at time of failure is cancelled until the HVAC system is repaired and able to provide suitable ventilation control.

REFERENCES

American Society of Heating, Refrigerating and Air-conditioning Engineers (ASHRAE). HVAC design manual for hospital and clinics. 2nd ed. Atlanta, GA: ASHRAE; 2013. 314 p.

Canadian Standards Association. Operation and maintenance of health care facilities. Toronto: Canadian Standards Association; 2014. [reaffirmed 2018]. CSA Standard: Z8002:14.

Canadian Standards Association. Special requirements for heating, ventilation and air-conditioning (HVAC) systems in health care facilities. Toronto: Canadian Standards Association; 2015. CSA Standard: Z317.2-15.

CONTACT

For further information, please contact the Non-Hospital Medical and Surgical Facilities Accreditation Program at nhmsfap@cpsbc.ca.