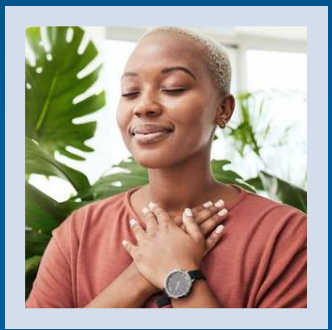
CSA 2024

Healthcare Facility Standards: An Executive Briefing

For Architects, Contractors, and Healthcare Leaders on Canada's New Healthcare Facility Mandates

Self-Disinfecting Rooms



Continuous Air Disinfection

Self-Disinfecting Sinks

Antimicrobial Surfaces

smarter. faster. further.

Prescientx provides the expert project management and validated EIP systems essential for the new era of healthcare facility design.

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Foreword

Canada's New Healthcare Facility Mandates

As leaders in the design and construction of Canada's healthcare infrastructure, you stand at the forefront of a critical mission. The upcoming updates to the Canadian Standards Association (CSA) codes for healthcare facilities represent the most significant regulatory shift our industry has seen in a generation.

Driven by the hard-won lessons of a global pandemic, these new standards move beyond simple guidelines to become a complex, integrated framework for safety, resilience, and performance.

This executive briefing has been prepared to provide you with a condensed, high-value analysis of these changes. Our goal is to translate the dense language of the new standards into a clear-eyed assessment of the risks and opportunities they present, helping you navigate this new landscape with confidence.

The 2024 CSA Update

The Post-Pandemic Imperative & Regulatory Convergence

The evolution of healthcare facility standards in Canada is a direct response to global events that have exposed critical vulnerabilities in our infrastructure.

The new generation of standards from the CSA Group codifies these hard-won lessons, with a focus on pandemic preparedness, flexible building design, and the need to mitigate pathogen transmission.

This shift is defined not by a single update, but by a **convergence of multiple, interconnected standards** that form a new "rulebook." A design decision guided by one standard now has direct implications under several others, demanding a holistic approach. Key standards include **CSA Z8000:24**, which serves as the master planning document and frequently references the **CSA Z317 series** for specific systems and **CSA Z8001** for commissioning and validation.

The 2024 CSA Update

From Best Practice to Prerequisite: The New Reality of Compliance

The most significant change is the shifting status of these standards from **"best practice" to a critical component of regulatory compliance**. Non-conformance is rapidly moving from a design choice to a potent source of project risk.

CSA standards are frequently adopted by governments into regulations. In many jurisdictions, conformance with CSA Z8000 is now a non-negotiable condition of accreditation and funding.

For architects and contractors, demonstrating expertise in these standards is a critical differentiator, while failure to execute can lead to lost contracts, costly rework, and significant liability.

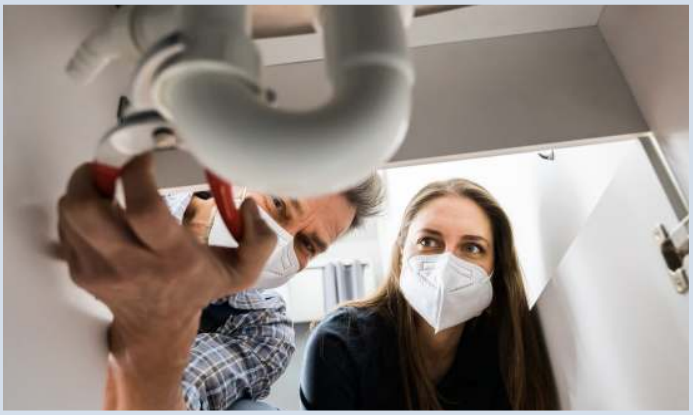
New Mandate

Mandate: The Re-Engineering of Hand Hygiene Infrastructure

The new CSA Z8000 standard establishes comprehensive requirements for hand hygiene stations. It mandates that sinks must be both **conveniently located to encourage use** (Clause 8.2.3.2.2) and **designed to minimize transmission of pathogens** (Clause 7.5.12.2.3)**.**

Technical Insight:

The new CSA Z8000 standard now requires mitigation of a specific, critical failure mode: the **sink drain itself** becoming a source of contamination.



Biofilm Amplification & Aerosolization

Standard P-traps are proven reservoirs for biofilm. The new CSA standards acknowledge that water flow aerosolizes these pathogens from the drain, contaminating the basin, the surrounding environment, and the user's freshly washed hands.

Active Drain Disinfection & Compliant Hydrodynamics

The new CSA Z8000 standard requires sinks to prevent bioaerosol release and biofilm growth. To achieve these outcomes, engineering strategies include using compliant hydrodynamics (e.g., anti-splash geometry, offset drains) and automated technologies like self-disinfecting p-traps.

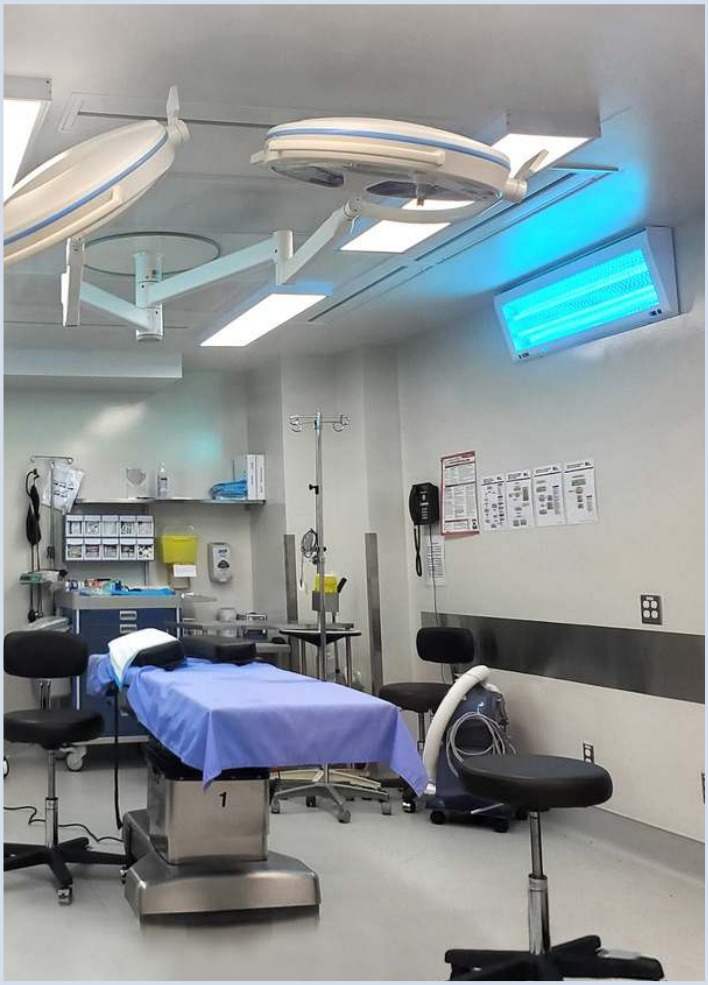
New Mandate

Mandate: The Shift to Validated, Automated Disinfection

As directed by Clause 4.5.6, which mandates the consideration and integration of supplemental disinfection technologies, CSA Z317.12 now formally codifies the industry's move toward **automated environmental disinfection systems**, acknowledging the limitations of manual cleaning.

Technical Insight:

The key driver is the move to **auditable, outcome-based evidence**. The question is no longer "Was the room cleaned?" but "Can you provide a report proving a 3-log reduction of pathogens was achieved?" This is further supported by analyses from organizations like Canada's Drug Agency (CADTH), which have recognized systems like **UVGI as key technologies** for Canadian hospitals.



New Mandate

Mandate: The Rise of "EIP Qualified Personnel"

The new standards require a multidisciplinary team approach for the design, installation, and commissioning of complex systems. This team must include **EIP (Engineered Infection Prevention) Qualified Personnel** to design, install, and **commission** these complex systems (see Clause 4.2.2 for team composition and Clause 1.6 for commissioning requirements).

Technical Insight:

What is Commissioning (Cx)?

Commissioning is a formal process defined by the CSA as ensuring that all building systems **"perform interactively in accordance with the design documents and the owner's project requirements"** (Clause 3).

Why it Matters: For a disinfection system, this means using scientific measurement (e.g., a radiometer for UV-C) to prove that the system is delivering the germ-killing dose it was designed for. It is the official, evidence-based validation that the system works as intended.

The Prescientx Framework

From Risk to Resilience

The complexity of the standards demands an integrated "system of systems."

Prescientx acts as your EIP Qualified Personnel to implement a holistic framework where every component is designed to work in harmony.

Pillar 1: The Integrated Hand Hygiene System

The CSA Challenge

The new CSA Z8000 standard mandates a fundamental re-engineering of the simple sink. It states, **“Measures shall be taken to prevent the propagation and transmission of infectious microorganisms from sink drains”** (Clause 7.5.12.2.3). Traditional sinks, which have long been recognized as sources of contamination, can no longer meet this standard of care.

The Prescientx Solution: An Engineered, Compliant System

We solve this by providing the **Franke SmartFLO3™** , a sink engineered specifically to meet and exceed the new CSA mandate by disrupting these transmission pathways. Every feature is designed to prevent biofilm growth and bioaerosol release:

Prevents Aerosolization & Splashback

The sink features an offset drain that moves the P-trap away from the direct impact of the water stream. This, combined with a central anti-splash rib in the angled basin, dramatically reduces the release of pathogens into the environment.

Actively Eliminates Biofilm

The system uses multiple automated features to prevent biofilm growth. The water stream is infused with dissolved ozone and mixed oxidants, proven sanitizers that disinfect the basin and drain with every use. A post-wash cycle clears residue, and a daily purge cycle flushes the drain and trap to prevent water stagnation.

The Prescientx Solution

The Prescientx Solution: Enables a Truly Integrated System

As industry builders, Prescientx identified the need for total system compatibility and worked directly with Franke to engineer a solution. The result is the **SmartFLO3™**, a sink designed for seamless integration with automated UV-C room disinfection systems like the **ASEPT-1X MAX™**. Its proprietary, co-developed UV-resistant coating prevents the cosmetic yellowing that affects standard fixtures under UV exposure. This collaboration ensures long-term aesthetic integrity and creates a single, pre-validated system where all components work in concert, solving a critical challenge for facilities adopting a layered EIP strategy.

Pillar 2: Validated Automated Disinfection for Air & Surfaces

The CSA Challenge

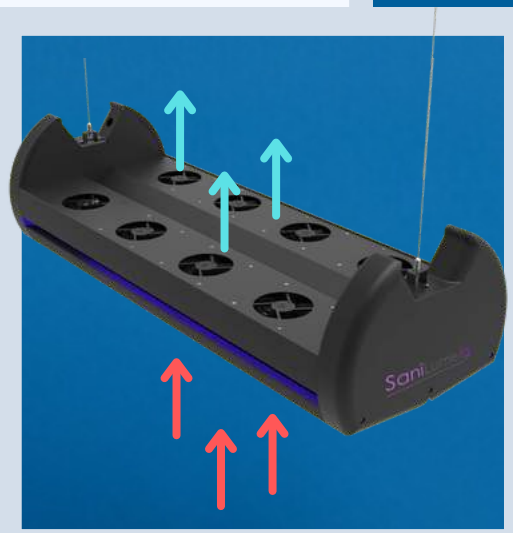
The new standard fundamentally shifts the focus of infection control to include the air we breathe. It mandates that air systems must be engineered to actively **"control the migration of airborne contaminants"** (Clause 6.5.1). This is a clear directive: a validated air disinfection strategy is no longer a best practice, but a required layer of defense in modern healthcare design

The Prescientx Solution

This requires a multi-layered approach that addresses both surfaces and the air.

Continuous Air Disinfection

While the room is occupied, the **Sanilume® Upper Air GUV** system works continuously and safely. It creates a disinfection zone in the upper portion of the room, using natural air circulation and built-in fans to constantly draw in airborne pathogens and neutralize them with **UV-C light.** This directly addresses the standard's focus on mitigating airborne transmission in real-time, something terminal disinfection alone cannot do, and is a critical component of a comprehensive EIP strategy for high-risk areas.



Pillar 2: Validated Automated Disinfection for Air & Surfaces

The Prescientx Solution

Terminal Surface Disinfection

After a contamination event, the **ASEPT.1X MAX™** provides validated, whole-room surface disinfection.

As your EIP Qualified Personnel, Prescientx delivers the **Certificate of Performance**. Our experts use calibrated radiometers post-installation to measure the germicidal dose on every critical surface, providing the auditable report that proves the system is performing to standard.

Pillar 3: Continuously Active Antimicrobial Surfaces

The CSA Challenge

Addressing the reality of dynamic recontamination by specifying advanced materials that actively combat microbial growth, in alignment with the material and surface selection requirements of Clause 8.2.2.3.

The Prescientx Solution

Antimicrobial Copper

We integrate **EOSCU® Antimicrobial Copper surfaces** into high-touch areas. This material provides a continuous, passive layer of protection that that kills bacteria on contact—24/7.

It supplements both manual cleaning and automated disinfection, creating a truly resilient environment.

Unlike coatings, its antimicrobial properties are integral and never wear away, providing durable, long-term protection that meets the standard's focus on material integrity.

The Path to Compliance

Your Project's Next Step

Proactive assessment is the only prudent strategy to avoid costly rework, schedule delays, and critical compliance failures.

A Complimentary CSA Project Readiness Assessment

To help you navigate this transition, we are offering a complimentary, no-obligation **CSA Project Readiness Assessment**. This is a 30-minute strategic consultation with an EIP specialist designed to provide immediate, tangible value to your project team. We will review the scope of your project and identify the top areas of potential risk based on the new standards.

Prescientx is Canada's leader in Engineered Infection Prevention. We are an engineering partner with a legacy of co-developing patented solutions and exclusive partnerships.

Prescientx is the only firm in Canada to offer a fully integrated system of patent-protected technologies, guaranteed to be commissioned for full compliance with the new CSA standards. We allow our clients to build the future of Canadian healthcare with confidence and certainty.