Dark remedies: Gruesome tales from medicine's past

With Halloween approaching, October invites us to indulge in ghost stories. And although we pride ourselves on practising evidence-based medicine, history reminds us that our profession has seen its share of creepy cures and ghastly guidelines. Here are some of the spookiest examples that haunt medicine's past.

Bloodletting

Dating back to the time of Hippocrates (c. 460–370 BC), bloodletting was promoted as a cure for the imbalance of humors—blood, phlegm, black bile, and yellow bile. Through venesection, arteriotomy, scarification, cupping, and leeches, it was used for seizures, pneumonia, and fevers of all kinds.[1] George Washington's death in 1799, following the removal of 2.5 L of blood alongside blistering and laxatives, is now thought to have been caused by acute epiglottitis.[2] Today, therapeutic phlebotomy has a narrow role in conditions such as hemochromatosis and polycythemia vera, and medicinal leeches are used in reconstructive surgery, but the practice is no longer the grisly staple it once was.[2,3]

Trepanation

One of the oldest neurosurgical operations, trepanation involved making holes in the skull with the intention of releasing evil spirits. For centuries, the practice was likely driven by religion and mysticism but eventually evolved into a systematic approach to brain trauma in Hippocratic medicine.[4,5] While not a direct ancestor of the modern burr hole, the eerie similarity in principle—gaining access to the intracranial space—remains.

Lobotomy

Intended to reduce the symptoms of mental illness, frontal lobotomy was a type of "psychosurgery" introduced by Portuguese neurologist António Egas Moniz and neurosurgeon Almeida Lima. The procedure severed the white matter connections of the prefrontal cortex, sometimes with an ice pick–like instrument in a transorbital approach.[6] Egas Moniz won the Nobel Prize in 1949 for this "innovation" he called leucotomy, but it is now one of the most criticized medical procedures.[7] Patients were left with profound and enduring changes in function and personality, including apathy, disinhibition, and loss of initiative.[6]

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Arsenic and mercury treatments

Arsenic trioxide, traced back to 2000 BC, has the unique distinction of being both medicine and poison. Odorless and tasteless, it became infamous as "inheritance powder," a favored tool of royal assassins and wives wishing to rid themselves of their husbands.[8] It was prescribed for ulcers, fevers, malaria, psoriasis, and syphilis, and later inspired organoarsenic compounds such as atoxyl, which laid the groundwork for arsenic trioxide's modern use in leukemia chemotherapy.[8] Arsenic exposure is a double-edged sword, however, as therapeutic margins can be perilously thin, and chronic exposure, whether through groundwater or pharmaceuticals, increases the risk of cancers, neuropathy, and organ damage.[8]

Mercury's medicinal history is also grim. Once used for a variety of ailments, including syphilis, skin diseases, and diuretics, we now know of the neuropsychiatric consequences of mercury that made felt workers "mad as a hatter" and the toxic global impacts such as through fish exposure.[9]

Is the future of medicine less scary?

Bygone examples of medicine's horrors abound—asylums and straitjackets, radium cures, and maternal and surgical care without anesthesia or antisepsis. How were we once so confident in practices that now seem so gruesome?

The uncomfortable truth is that we still offer treatments that will, in hindsight, prove unhelpful or even harmful. Not out of malice, but because best practices evolve; sometimes the right questions are elusive, or studies are too costly or impractical. As physicians quip, not everything can be tested in a randomized trial—no one has yet randomized parachutes for skydiving.[10]

This Halloween, as ghosts and ghouls wander our streets, it's worth remembering that medicine, too, has its hauntings, and the scariest thing may be believing we've finally outgrown them. ■

—Caitlin Dunne, MD

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Elbows up for evidence, science, and health in Canada

On 28 August 2025, dozens of scientists with the United States Centers for Disease Control and Prevention (CDC) walked off the job in protest. This action, unprecedented in the history of one of the world's foremost public health institutions, was a direct response to the dismissal of CDC director Susan Monarez, who had served less than one month before being fired by the Trump administration. Immediately following Monarez's dismissal, three other senior CDC officials resigned in protest, sparking a publicized walkout by dozens of staff in solidarity.[1]

These remarkable events at the CDC represent a tipping point and reflect larger patterns: public health programs and related sciences are under fire. The late-summer CDC walkout followed months of rollbacks across several US health and scientific institutions. In addition to the CDC, the US federal administration has imposed financial cuts and restricted mandates across organizations, including the National Institutes of Health. This pattern has had significant implications and echoes worldwide, including in Canada.

The Public Health Agency of Canada (PHAC) has recently stated plans to cut approximately 10% of staff from the already-shrinking organization.[2] The federal government has described this downsizing as a "post-pandemic recalibration," following the PHAC's growth during the first 2 years of the COVID-19 pandemic. Meanwhile, the PHAC has operated without a permanent chief public health officer for several months, with no replacement yet named for Dr Theresa Tam following her June resignation.

The experience of many medical and public health practitioners during the pandemic suggests a need for reflection and strategic growth in our public health institutions, not a retreat from hard-won gains. If there has been a common lesson from issues such as the pandemic and related misinformation worldwide—from heat waves and mass casualties in British Columbia, and from wildfire smoke and asthma surges across entire regions—that lesson has been that the health emergencies we face are increasingly complex, intense, and interrelated. There is a saying among emergency planners that the best time to prepare for an emergency is when there isn't one; emergency preparedness and response are an ongoing cycle, not optional activities to be ramped up and down when politically or fiscally expedient.

Upheaval to the south highlights the necessity of a strong public health backbone for our health system.

Amid the ongoing dismantling of US health agencies, Canada can and should support our own renowned institutions. For example, vaccination is a hotly politicized issue among US health agencies, and the US CDC's globally respected Advisory Committee on Immunization Practices has seen a dangerous sequence of political firings and appointments,[3] losing public trust and further polarizing vaccine-related sentiment. In this moment, the strength of the PHAC's National Advisory Committee on Immunization is crucial, promoting evidence-based practices and influencing health systems across the country (and in some cases globally).

In British Columbia, the provincial government is conducting a review of our own health system, including regional health authorities and programs of the Provincial Health Services Authority, such as the British Columbia Centre for Disease Control and BC Cancer. The stated aim of this review is "minimizing unnecessary administrative spending and ensuring resources support frontline patient care."[4] Few will argue against adequate support for frontline care. However, health care providers know the importance of scientific guidance on emerging public health threats, including climate change; clinical research closely linked with local practice; and upstream programs to prevent illness and promote health. Upheaval to the south highlights the necessity of a strong public health backbone for our health system.

We may not be able to affect or anticipate the actions of international leaders, even when their decisions wreak havoc and harm on health outside their borders. But our own leaders in Canada can choose to move in another direction, one that continues to support the well-being of organizations that support our health. ■

—Michael Schwandt, MD, MPH, FRCPC

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improve efficiency. In BC, physician assistants are limited to Ministry of Health–operated clinics; all other clinic types lose out on efficiencies that can double the number of patients per family physician and reduce costs per disorder managed.[6] By fiscal year 2013–2014, family physicians had reached a relatively stable average of 5000 visits per physician annually, but in 2014–2015, there was an unexplained 13.5% decrease in visits, which was never regained **[Table 2]**.[1] In 2014, the *UBC Medical Journal* reported that most family physicians in BC had adopted electronic medical records (EMRs),[7] drawing attention to published reports that using EMRs takes more time.[8] The increased time per visit decreased opportunity, further reducing fee-for-service remuneration, and caused anxiety, depression, and burnout. The additional hardware and software that was required increased operating costs.

The motivation "to want to perform a task"[3] began to diminish slowly but relentlessly, the three domains interacting to produce a vicious cycle of ever-decreasing morale, motivation, and lost productivity. Proposed alternative explanations for decreased family physician performance, such as feminization, aging, and lifestyle balance, are inconsistent with consulting specialists' sections not experiencing similar losses of productivity.[1]

A review of BC family physicians' working conditions, going back to the inception of publicly funded health care in Canada, explains the current crisis in access to primary care. The solution is self-evident.

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Time to change the way physicians are trained in Canada

Dr Deena Case's letter [*BCMJ* 2025;67:198] about the high rate of infertility among physicians emphasized that this situation arises from the length of time it takes to train to be a physician in Canada. Consequently, the ova of female doctors are likely to exceed their best-before date prior to the time they are professionally ready to conceive.

She raises a valid observation: Is it *really* necessary that the training to become an effective physician involves so much of a person's adult life? The experience for a member of my family was 4 years to obtain an undergraduate degree and 2 years for a master's degree before acceptance into 4 years of medical school. That was followed by 5 years of specialty training and then over 2 years of subspecialty training, with 1 year out for serious health problems. That is 18 years (well over one-third of one's earning lifetime), paid for out of pocket after high school, before significant earnings begin, as well as putting oneself years behind in the housing market, with no pension to compensate at the end of a career working for the government system. Can such a setup provide the physician workforce for our country?

Next month, my niece's son enters medical school in Denmark, with nothing more than a high school diploma. No wonder the Danes are such a well-provided-for nation. Time for Canada to cut prerequisites and catch up.

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