

The 1917 Halifax Explosion: the first coordinated local civilian medical response to disaster in Canada

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SUMMARY

The 1917 Halifax Explosion was an unfortunate but predictable tragedy, given the sea traffic and munitions cargo, resulting in sudden large-scale damage and catastrophic injuries, with 1950 dead and 8000 injured. Although generous support was received from the United States, the bulk of the medical work was undertaken using local resources through an immediate, massive, centrally coordinated medical response. The incredible care provided 100 years ago by these Canadian physicians, nurses and students is often forgotten, but deserves attention. The local medical response to the 1917 disaster is an early example of coordinated mass casualty relief, the first in Canada, and remains relevant to modern disaster preparedness planning. This commentary has an appendix, available at canjsurg.ca/016317-a1.

In retrospect, the remarkable feature of the Halifax Explosion is that a collision of its kind did not occur earlier, given the volume of military marine traffic entering the Bedford Basin. In 1917, the fourth year of the First World War, hundreds of Allied ships lay protected in the natural harbour by the narrow body of water between the cities of Halifax and Dartmouth, NS. One hundred years ago, on December 6 at 9:04 am, an accidental collision between the SS *Imo* (Norway) and the SS *Mont Blanc* (France) detonated in the Halifax Harbour, resulting in the world's largest man-made, non-nuclear explosion. The immediate casualty toll was 1600 dead and 7500 wounded, and it eventually rose to 1950 dead and 8000 injured.¹ Casualties were mainly on the Halifax side of the harbour because of the location and drift of the munitions-laden SS *Mont Blanc*, which caught fire, smoke rising 2000 feet into the sky, and exploded 17 minutes later.² There was a reflex suspicion of espionage, as would be expected today, and all Germans in the area were arrested. In reality, the accidental collision and secondary explosion destroyed the city of Halifax, leaving unprepared health care providers to respond to a catastrophe of unprecedented proportions.³

Two events dominate the retold story of the Halifax Explosion: the heroic messaging by dispatcher Vincent Coleman to halt trains coming to Halifax — “Hold up the train. Ammunition ship afire in harbor making for Pier 6 and will explode. Guess this will be my last message. Good-bye boys.”⁴ — and the generous rescue response from the United States. The disaster could not have occurred at a worse time for Halifax, as many medical and nursing staff in the the No. 7 Canadian Stationary Hospital had been deployed to France;⁵ all remaining local physicians, nurses and medical students mobilized immediately to treat the injured. Delayed by snow storms, American medical units arrived between Dec. 9 and 12 from the Massachusetts State Guard, Maine National Guard, Red Cross (Boston) and Red Cross (Rhode Island).¹ The immediate care and the bulk of care thereafter was provided by Nova Scotian physicians, nurses and students, supplemented by an extraordinarily fast mobilization of physicians and nurses from the other Maritime provinces. Despite the remarkable local response, a tendency to believe that all the medical care of the wounded was

provided by the United States started early and has persisted⁶ (Appendix 1, available at canjsurg.ca/016317-a1).

The walking wounded went to the nearest point of care. Dr. John Cameron and the patient he was examining in his office were shielded by a large flower pot from the window glass that was blown in by the explosion.⁷ His clinic was quickly overwhelmed with patients, as was that of Dr. Lewis Thomas on Brunswick Street. Dr. Thomas was told by patients in the line that Dr. Murdoch Chisholm next door was probably dead. Thomas immediately went

to Chisholm and found him alive but unconscious, bleeding from a head wound.⁸ He provided first aid and arranged for Chisholm's transfer to the Victoria General Hospital (VGH). In all, 90 physicians in Halifax and Dartmouth treated the wounded either in their clinics or local hospitals (Appendix 1).

Although the No. 7 Canadian Stationary Hospital (Dalhousie University) had deployed several of its finest staff, VGH responded with skill and resilience. Dr. George Murphy described the VGH entrance as quickly "jammed

with autos, wagons, and every conveyance capable of carrying a sufferer. The hallways, offices, and every bit of floor space was littered with human beings suffering with all degrees and manners of wounds and injuries."¹

With general surgery colleagues Drs. John MacDougall and Henry MacDonald, ophthalmologists Drs. Everind Kirkpatrick and Evatt Mathers, and anesthetist Dr. Frederick Lessel, Murphy operated for 72 hours without a break. The VGH used its 200 beds to look after 575 injured and burned patients (Appendix 1).²

In all, 10 hospitals were used during the emergency: VGH, The Halifax Infirmary, The Children's Hospital, The Nova Scotia Hospital, The Cogswell Street Military Hospital, Camp Hill Military Hospital, Pier 2 Military Hospital, Dr. Courtenay Ligouere's Private Hospital, Dr. Anthony Mader's Private Hospital and Pine Hill Convalescent Hospital.¹ In addition, treatment centres were improvised at the YMCA, Bellevue House, St Mary's College, Halifax Ladies College, the Waegwoltic Tennis Club and ships in the harbour. Dalhousie medical students were pressed into service at several of these sites, overseen by surgeons, such as Dr. Murphy, who constantly travelled from one site to another.² The Canadian Army Medical Corps supplied 56 doctors and 136 nurses from ships in the harbour. American teams set up in these improvised hospitals, including Dr. Ernest Codman, who though critical of hospitals in his native Boston was complimentary of the medical arrangements in the YMCA. The Halifax Relief Committee was established within hours of



Fig. 1. Unidentified doctor and nurses, in the Nova Scotia Hospital dressing burns on children injured in the 1917 Halifax Explosion. Archives Nova Scotia.



Fig. 2. YMCA where Ernest Codman and a team from Boston set up an emergency hospital as part of the relief effort for the 1917 Halifax Explosion. Nova Scotia Archives and Records Management, Lola Henry Collection, No. 1979-237.8.

the explosion in order to coordinate the complex medical response. Later the committee would oversee reconstruction and compensation of victims (Appendix 1).⁹

An unintended consequence of Vincent Coleman's heroic telegraphing was the immediate notification about the disaster to all communities along the railway lines. From around the Maritimes, 153 physicians and 174 nurses immediately made their way to Halifax by train to help. Such an extraordinary mobilization was possible because 90% of medical personnel was still at home, despite the fact that Nova Scotia deployed 2 wartime hospitals, unlike some newer provinces where more than 50% had volunteered for overseas service.¹⁰ Many of these volunteers undertook general surgery, including Dr. David Hartigan from New Waterford.¹¹ Others provided specialist care.

Penetrating eye injuries were extraordinarily prevalent in the Halifax Explosion because of flying glass shards.¹² The smoke cloud of the ignited SS Mont Blanc rose high in the air, and women, men and children stopped to watch through windows not knowing that minutes later the vessel would explode, shattering every window in the city.¹³ Dr. George Cox came from New Glasgow and, with 12 other ophthalmologists, operated on 592 eyes, enucleating 249 eyes, with 16 double enucleations.¹⁴ Other physicians, such as Dr. Avery DeWitt of Wolfville, were asked to care for patients on hospital trains evacuating wounded out of Halifax (see the film "Halifax Explosion: The Aftermath and Relief Efforts (1917)," available at www.youtube.com/watch?v=5PImhLMxTXc; caring for the wounded on trains begins at 4:48 of the film). DeWitt, with only the help of his 75-year-old father Dr. George DeWitt and his sister Nurse Nellie Anderson DeWitt, looked after a trainload of dying and injured patients in an improvised hospital in Truro because all of the town's doctors had gone to Halifax.¹

The medical response to the 1917 disaster is the first example of local coordinated civilian mass casualty relief in Canada, and many features of the successful response are echoed in modern disaster preparedness planning.³ Despite a final death toll of 1950, about 8000 of the injured sur-

vived. One hundred years later we pay tribute to the Canadian physicians, nurses and students who successfully coordinated the impressive local medical response so rarely emphasized in reviews of the Halifax Explosion.

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