

MILITARY MEDICAL HISTORY

MILITARY MEDICINE, 00, 00:1 2020

Stale Air in the Trenches: War, Influenza and Global Mask Race of a Century Ago

François Lechanoine, MD

It was around 5 p.m. on the 22nd of April 1915, a yellow greenish cloud invaded the trenches from eastern side on a 3.7 miles front, in the north of Ypres, in Belgium.

“The cloud was advancing towards us, pushed by the wind. Almost immediately, we were literally suffocating (...) and we felt the following discomforts: very violent tingling in the throat and eyes, beating in the temples, respiratory discomfort and irresistible cough (...) the soldiers collapsed and kept coughing and vomiting”

(Lieutenant Jules-Henri Guntzberger, commander of the 2nd company of the 73rd territorial infantry regiment)

Allied troops had just been the victims of the first massive gas attack in history. About 160 tons of pressured chlorine was released by the German Army. Within 10 minutes, almost 15,000 men were poisoned and about 7% of them died that day.

Three years later, at breakfast time on March 11, 1918, Private Albert Gitchell, cook of the U.S. Army at Fort Riley in Kansas, complained of coughing, sore throat, 104 °F fever, myalgia, and headaches. By noon, 107 soldiers presented similar symptoms, establishing likely the first cases of the so-called Spanish influenza. Within 3 weeks, 1,127 soldiers were admitted to Camp Fuston Hospital, 237 developed pneumonia and 46 died. The first outbreak of the influenza was just started and travelled with allies over the Atlantic in April.

After a summer lull, the second wave struck the trenches from western so fast and more viciously than the gas had. The mortality rate raised up to 2% to 3%, and the massacre of the pandemic started.

About 100,000 deaths (1%) of the Great War were attributed to chemical weapons (chlorine, mustard gas, phosgene, cyanide, bromine, and arsine) on about a million total gassed people. The pandemic killed another 100,000 soldiers and more than 50 million people worldwide.

Department of Neurosurgery, Centre Hospitalier Universitaire de Grenoble Alpes, Grenoble, France
doi:10.1093/milmed/usaa263

© The Association of Military Surgeons of the United States 2020. All rights reserved. For permissions, please e-mail: journals.permissions@oup.com.

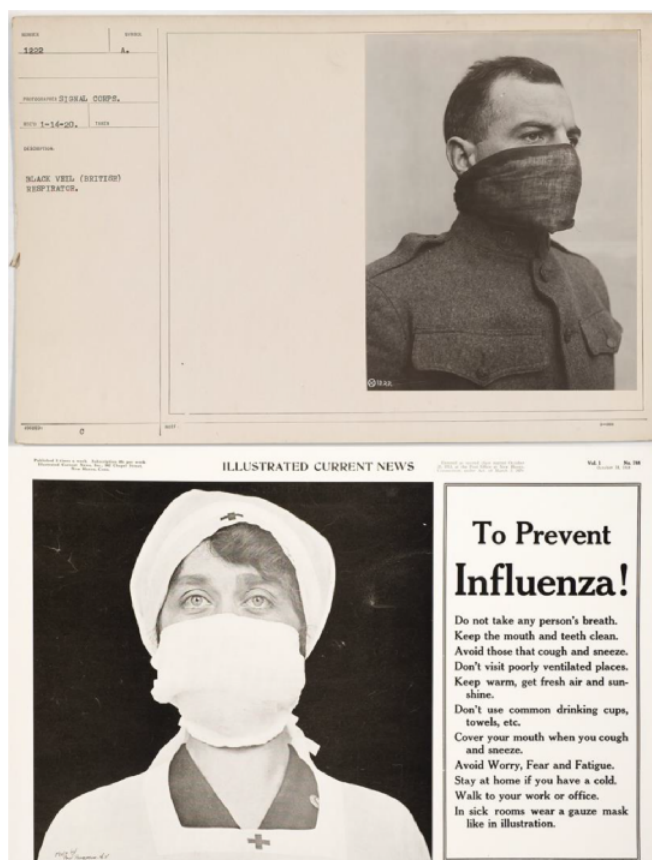


FIGURE 1. Gas and Influenza protective masks. a) British black veil respirator used to fight gas attacks, Photographer Signal Corps, 1920, U.S. National Archives and Records Administration. b) Red Cross nurse with a gauze mask and tips to prevent influenza, New Haven, Conn.: Illustrated Current News, Photographer Paul Thompson, 1918.

Providing a respiratory protection to every fighter in the battlefield became a priority, and belligerents launched a mask race (Fig. 1).

Gags, thick cloths soaked in water, baked soda, and urine, were first used, the ammonia contained in the latter reacting with chlorine, until the manufacture of special respiratory devices.

Hundred years ago, these two major events decimated the world population, more than any other war or disease,

including the Black Death of the fourteenth century. The socioeconomic consequences that followed were disastrous.

The irony is that the Great War was a main vector of the influenza through troop movements. Humanity got over it but forgot.

CONFLICT OF INTEREST STATEMENT

The author declares to have no conflicts of interest and have received no financial support for this publication. He has complied with all ethical and reporting guidelines and has received ethical approval from the relevant committee. He contributed to the entire work.